

of the Commander-in-Chief, local commanders must bear this in mind and reduce each diversion to a minimum. They must also, within the limits of the information available to them, and as permitted by the urgent local situation, so direct any action taken by Fleet units under their temporary command, as to further the broad operating plan in effect.

(d) To obviate to a maximum the difficulties which are inherent in the command and communication relationships at such bases, it will be necessary to insure that all interested commanders, including the commanders of bases concerned, are made information addressees of all appropriate plans, orders, and reports of enemy forces. Commanders of all forces within the area will ensure that the base or station commander, as well as the Senior Officer Present, is familiar with the general nature of their orders and with their general operations (unless specifically directed otherwise).

(e) In general, the question of command in such circumstances is covered by articles 801 and 1486, U. S. Navy Regulations.

(f) The shifting of vessels, squadrons, or other units within an area may result in consequent changes in seniority among those actually present.

3. (a) A Base Defense Plan and a supporting Communication Plan will be prepared under the direction of the Commander Hawaiian Naval Coastal Frontier. They must provide for the Fleet units present participating in the defense, and for adequate communications among the various fixed and mobile forces, both local and Fleet. Commander Hawaiian Naval Coastal Frontier will furnish copies of such plans to appropriate fleet force commanders. [IV-5] The latter will, whenever practicable, supply copies to units of their command prior to departure for operations at the outlying base. A unit commander arriving in the area without receiving the plans in advance, however, will obtain them as soon as possible after arrival.

(b) The Base Defense Plan should be analogous to the one currently in effect for the Pearl Harbor area. The Senior Officer Present, in exercising his function of command (paragraph 2 (c) of this Annex) should normally conform to the Base plans.

(c) The Communication Plan should include provisions for:

(1) Inter-communication between units of the local defense forces, and between such forces and the local defense commander.

(2) Communication between local defense commanders and fleet task organization commanders.

(3) An area radio frequency which may be used within that area for both (1) and (2) above and for inter-communication between the fleet task organization commanders present.

EXHIBIT No. 6

CONFIDENTIAL

JOINT ACTION OF THE ARMY AND THE NAVY

Prepared by the Joint Board, 1927; revised by the Joint Board, 1935. [J. B. No. 350 (Serial No. 514)] (Confidential)

[SEAL] Approved by the Acting Secretary of War, September 16, 1935.

[SEAL] Approved by the Secretary of the Navy, September 19, 1935.

[iii] 1. The policies and procedure enunciated herein are published for the information and guidance of the Army and the Navy.

2. It is vital to success in war that the Army and the Navy so coordinate their action as to produce the most effective mutual support. To accomplish this, it is essential that both services have a common, definite understanding of their respective functions in national defense and of the approved methods for attaining coordination in operations.

3. The aim of this publication is to assemble in one volume all joint policies, agreements, or instructions which have been approved by the War and Navy Departments, with a view to securing effective coordination. It is divided into two parts:

PART I.—Policies to govern joint action of the Army and the Navy.

PART II.—Policies, agreements, and joint instructions which, by providing effective organization and agencies for coordination, and by enunciating standard practice, promote harmonious joint action.

4. The loose-leaf form is adopted, in order to facilitate revision and to permit the addition of new subject matter.

5. This publication supersedes "Joint Action of the Army and the Navy" published April 23, 1927, which is rescinded. The pamphlets entitled "Joint Overseas Expeditions" and "Regulations, Maneuver Rules and Umpire Instructions for Joint Army and Navy Exercises" are incorporated in this publication as Chapters VI and VII, respectively, and their classification changed to "Confidential."

GEORGE H. DERN,
Secretary of War.

CLAUDE A. SWANSON,
Secretary of the Navy.

SEPTEMBER 11, 1935.

[V]

CONTENTS

PART I

POLICIES TO GOVERN JOINT ACTION OF THE ARMY AND THE NAVY

- CHAPTER I—Policy Governing the Respective Functions of the Army and of the Navy.
II—The Principles Governing Coordination of Operations of the Army and of the Navy.
III—Operations Requiring Coordination.
IV—Functions of Army and Navy Air Components.

PART II

POLICIES, AGREEMENTS, JOINT INSTRUCTIONS, AND JOINT AGENCIES

- CHAPTER V—Coastal Frontier Defense.
VI—Joint Overseas Expeditions.
VII—Regulations, Maneuver Rules, and Umpire Instructions for Joint Army and Navy Exercises.
VIII—Agencies for Effecting Coordination.
IX—Communications.

[VII]

PART I

POLICIES TO GOVERN JOINT ACTION OF THE ARMY AND THE NAVY

CONTENTS

Para-graph	Subject	Page ¹
	CHAPTER I.—POLICY GOVERNING THE RESPECTIVE FUNCTIONS OF THE ARMY AND OF THE NAVY	
1	Purpose of statement of policy.....	1
2	Constitutional basis.....	1
3	Common mission of Army and Navy.....	1
4	General functions of the Army and the Navy.....	1
5	General functions of the Army.....	2
6	General functions of the Navy.....	3
	CHAPTER II.—THE PRINCIPLES GOVERNING COORDINATION OF OPERATIONS OF THE ARMY AND OF THE NAVY	
7	Coordination—General considerations.....	5
8	Paramount interest.....	6
9	Coordination by the exercise of unity of command.....	6
10	Coordination by the exercise of limited unity of command.....	7
11	Joint basic war plans, joint operation plans, and joint operation orders to state method of coordination.....	8
12	Coordination of air operations.....	8
13	Coordination in coastal frontier defense.....	8
14	Coordination in joint overseas expeditions.....	9
15	Coordination in special situations.....	9
	CHAPTER III.—OPERATIONS REQUIRING COORDINATION	
16	Types.....	11
17	Tasks of Army and Navy forces in joint operations.....	11
18	Joint overseas expeditions.....	11
19	Coastal frontier defense.....	13
	CHAPTER IV.—FUNCTIONS OF ARMY AND NAVY AIR COMPONENTS	
20	General functions.....	17
21	Primary functions.....	17
22	Secondary functions.....	18
23	Provisions to minimize duplication.....	18

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

POLICY GOVERNING THE RESPECTIVE FUNCTIONS OF THE ARMY AND OF THE NAVY

1. *Purposes of statement of policy.*—The purpose of this statement of policy is to distinguish between the functions of the Army and the Navy in such a manner as to establish an authoritative and adequate basis for developing, planning, procurement, and training of each service; and for their guidance in joint operations.

2. *Constitutional basis.*

a. The Army and Navy are maintained to secure the objectives stated in the Preamble to the Constitution:

"* * in insure domestic Tranquility, provide for the common defence, promote the general Welfare * * *"

They are required by the national need for political and territorial security; for the support of our national policies; and for the assurance of the supply of materials vital to the existence of the Nation.

b. The Army and Navy together constitute the Nation's military power of which, under the Constitution, the President is the Commander in Chief; therefore their acts derive authority from the direction of the President, either expressed or implied, and are directed to a common end.

3. *Common mission of Army and Navy.*—Conjointly and in cooperation, to defend the territory of the United States against all enemies, foreign or domestic; to protect and promote the interests and policies of the United States in peace and in war.

4. *General functions of the Army and the Navy.*

a. To accomplish the above mission, the Army performs functions that normally pertain to land operations, the Navy performs functions that normally pertain to sea operations. The air forces of the Army are an integral part of the land forces. The air forces of the [2] Navy are an integral part of the sea forces. The Marine Corps is likewise an integral part of the sea forces. Land and sea operations each include air operations connected and coordinated therewith. The President has the power to make exceptions to any general allocation of functions; and, in some cases, due to the nature of the forces available, the functions of one service may be performed temporarily by the other service; but sea operations by the Army are proper only when immediately auxiliary to or in support of normal Army functions, and, similarly, land operations by the Navy are proper only when immediately auxiliary to or in support of normal Navy functions.

b. The Army and the Navy have joint responsibilities in joint operations. In such operations, it is the duty of the commander of the service which is not invested with the primary responsibility for the conduct of an operation, to render every possible assistance to the commander of the service which is invested with such primary responsibility, to the end that ultimate success will rest with our arms. The spirit of this paragraph should also govern in the preparation of war plans.

c. In order that the most effective cooperation may be attained, the following general principles will govern:

(1) Neither service will attempt to restrict in any way the means and weapons used by the other service in carrying out its functions.

(2) Neither service will attempt to restrict in any way the area of operations of the other service in carrying out its functions.

(3) Each service will lend the utmost assistance possible to the other service in carrying out its functions.

5. *General functions of the Army.*

a. *General functions of the Army in peace and war.*

(1) To provide for and to prepare the land forces necessary for the effective prosecution of war to include provisions for the expansion of the peace components of the land forces to meet the needs of war.

(2) To defend the continental United States and its overseas possessions, to include the defense of all permanent naval bases.

[3] (3) To support the national policies of the United States and to furnish land forces for the occupation of foreign territory in protection of the interests of the United States.

(4) To protect the United States from internal disorder or insurrection.

b. *Additional general functions of the Army in war.*

(1) To conduct effective military operations.

(2) To conduct operations in support of the Navy for the establishment and defense of naval bases.

(3) To provide such forces as may be necessary for joint overseas expeditions.

6. *General functions of the Navy.*

a. General functions of the Navy in peace and war.

(1) To provide for and to prepare the sea forces necessary for the effective prosecution of war to include provisions for the expansion of the peace components of the sea forces to meet the needs of war.

(2) To guard the continental and overseas possessions of the United States.

(3) To support the national policies and commerce of the United States.

(4) To assist the Army in the suppression of internal disorder or insurrection.

b. Additional general functions of the Navy in war.

(1) To conduct effective naval operations.

(2) to gain and maintain command of vital sea areas and to protect the sea lanes vital to the United States.

[5]

CHAPTER II

THE PRINCIPLES GOVERNING COORDINATION OF OPERATIONS OF THE ARMY AND OF THE NAVY

7. *Coordination—General considerations.*

a. Effective utilization of the military power of the Nation is essential to success in war and requires that the efforts of the Army and the Navy be properly coordinated.

b. The method employed for coordinating the operations of forces of the Army and of the Navy depends upon the geographical location of the theaters of operations, the character and relative strength of our own and enemy forces, and the consequent nature of the contemplated operations, whether these be independent or joint operations.

c. Independent operations of forces of the Army and of the Navy are those in which the forces of one service can give no tactical support to the forces of the other service. When independent operations are conducted by both services simultaneously within the same or strategically interdependent theaters of operations, coordination may be required in the assignment of missions or objectives, or in timing the operations.

d. Joint operations are those usually requiring tactical coordination of forces of the Army and of the Navy for the accomplishment of a common mission.

e. Under all conditions, coordination is primarily ensured by assigning missions in the joint basic war plan to the Army and to the Navy.

f. When coordination is required in the conduct of independent operations, it will be effected by the commander of each service working in close cooperation with the commander of the other service.

[6] *g.* Under conditions requiring joint operations, coordination is effected either by the exercise of unity of command, or by the exercise of limited unity of command, as determined by paramount interest.

8. *Paramount interest.*

a. The service whose operations are of the greater importance for the accomplishment of a joint mission in a joint operation has paramount interest in such an operation.

b. The fact that one service has paramount interest in a joint operation does not automatically confer paramount interest upon that service in all subordinate operations thereunder. The senior officer of the service having paramount interest in the main operation shall designate the service to have paramount interest in subordinate operations as far as the necessity for this designation can be foreseen. In case paramount interest has not been determined and announced for subordinate or local operations, the senior officer present of the service which has paramount interest in the operation to which such subordinate or local operation is immediately subordinate shall determine and announce it.

c. The commander of the force invested with paramount interest in a joint operation is charged with the authority and responsibility for coordinating the operation of the forces employed therein. Coordination under paramount interest will be effected as outlined below.

9. *Coordination by the exercise of unity of command.*

a. Unity of command in a joint operation vests in one commander the authority and responsibility for designating the missions and for controlling the action of the Army and the Navy forces participating.

b. The President as Commander in Chief may appoint an Army or a naval officer to exercise unity of command over forces of the Army and the Navy engaged in joint operations.

c. Where the magnitude and character of the operations warrant, a commander exercising unity of command shall have a headquarters separate and distinct from those of the commanders of the forces of the two services, and shall deal with these forces as coordinate elements of his command.

[7] d. Unity of command empowers the commander to coordinate the operations of the forces of both services assigned to his command, by the organization of task, forces, the assignment of missions, the designation of objectives, and the provision of logistic support; and to exercise such control during the progress of the operations as will insure the most effective effort toward the accomplishment of the common mission.

e. Unity of command does not contemplate the issue by the commander of instructions as to dispositions for, or methods of, operation in the accomplishment of missions assigned solely to forces of the service to which the commander does not belong, nor control of the administration, discipline, or technique of the operations of such forces.

f. The appointment of a commander authorized to exercise unity of command carries with it the power further to delegate this authority, whenever in the opinion of such commander such action is necessary. When this is the case, such commander will determine which service has paramount interest in subordinate joint operations under his control and will appoint a subordinate commander, either Army or Navy, to exercise unity of command or limited unity of command over task forces organized for the purpose of conducting the subordinate joint operations.

10. *Coordination by the exercise of limited unity of command.*

a. Limited unity of command in a joint operation vests in the commander of the force having paramount interest, the authority and responsibility for designating the missions of the Army and the Navy forces participating. It does not include the authority and responsibility to control the action of the forces of the service not having paramount interest.

b. In the exercise of limited unity of command in a joint operation:

(1) The commander of the force of the service having paramount interest is authorized and required to designate the missions of the Army force and the Navy force participating in the joint operation.

(2) The commander of the force of the service not having paramount interest is required to execute the mission assigned by the commander of the service having paramount [8] interest and to render all possible assistance to that commander. In executing such mission the commander of the service not having paramount interest does not yield the actual command of his force. He shall, however, be held responsible by the next superior in command in his own service for properly and wholeheartedly coordinating his activities with those of the commander having paramount interest.

11. *Joint basic war plans, joint operation plans, and joint operation orders to state method of coordination.*—Each joint basic war plan, joint operation plan or joint operation order shall assign paramount interest and shall prescribe for each phase of a campaign or phase of an operation how the operations of the forces of the Army and the Navy are to be coordinated. Where unity of command is specified, the plan or order will state whether an Army officers or a naval officer is to be designated to exercise such command.

12. *Coordination of air operations.*

a. When a force of one service supports by aircraft only a force of the service having paramount interest in the particular operation, unity of command for the conduct of the participating air forces shall be immediately vested in the commander of the force to be supported.

b. In other cases, when air units of the Army and the Navy are combined into one task force for the accomplishment of a common mission, the commander assigning the mission shall determine paramount interest and shall designate an officer to exercise unity of command over such task force during the conduct of the operation.

13. *Coordination in coastal frontier defense.*

a. In coastal frontier defense the Navy is responsible for the patrol of the coastal zone and for the control and protection of shipping therein; the Army is responsible for the direct defense of the coast. Subject to the provisions of

subparagraphs *b*, *c*, *d*, and *e* below, the Army's responsibility for the direct defense of the coast includes the operations necessary to repel attacks directed against the land frontiers or coasts of the continental United States or against its overseas possessions; and to repel enemy movements directed against adjacent foreign territory on the continent from which such attacks could be launched.

[9] *b*. In operations against enemy forces approaching the coast, but still outside of defensive coastal areas, paramount interest will be vested initially in the Navy, but will pass to the Army when it is apparent that the enemy forces intend to attack a shore objective.

c. In operations within a defensive coastal area, paramount interest will be vested in the Army, except when it is apparent that the objective of the enemy force is shipping within the coastal zone.

d. When the Fleet, as distinguished from naval local defense forces, is strategically present and free to act, paramount interest in operations at sea rests with the Navy. If any Army air force joins in such operations, it will be in conjunction with and under the temporary command of the naval commander as outlined in paragraph 12.

e. When enemy forces approach close enough to threaten or to launch a direct attack against our territory, and the Fleet, as distinguished from naval local defense forces, is not strategically present, or is not free to act, paramount interest shifts to the Army and the function of the Navy is to support the Army. In this case, except in joint air operations connected therewith, coordination will be under limited unity of command. Coordination of joint air operations will be as outlined in paragraph 12.

14. *Coordination in joint overseas expeditions.*—The method of coordination, whether under unity of command or limited unity of command, for joint overseas expeditions will be prescribed in joint Army and Navy basic war plans or by the authority ordering a joint overseas expedition under the principles outlined above.

15. *Coordination in special situations.*

a. Special situations may arise in which the forces of one service will be acting tactically with forces of the other service in operations, the character of which would normally make them distinctive operations of but one service. These special situations would include such operations as:

(1) The operations of Army forces in a country in which the character and extent of waterways make it practicable and desirable to utilize naval means in support of the Army operations.

(2) Employment of air forces of the Army in support of naval forces engaged in operations such as those connected with the control of coastal zones and sea lanes.

[10] *b*. In such special situations the organization of the forces of the assisting service should be maintained intact and the operations coordinated by the exercise of unity of command. The commander who exercises unity of command should be selected from the service which is conducting the operation.

[11]

CHAPTER III

OPERATIONS REQUIRING COORDINATION

16. *Types.*

a. Independent operations.

b. Joint operations which are generally of two classes:

(1) Joint overseas expeditions.

(2) Coastal frontier defense.

17. *Tasks of Army and Navy forces in joint operations.*—The normal Army and Navy tasks enumerated below are to serve as guides in the planning and execution of operations in which Army and Navy forces jointly participate. This statement of tasks also indicates in which service authority for coordination should be vested for various forms of joint operations. When Army forces participating in joint operations move overland, tactical coordination of the Army and Navy forces will be exercised when the forces of the two services approach the objective to within supporting distance of each other.

18. *Joint overseas expeditions.*

a. *Joint overseas expeditions include:*

(1) Joint overseas movements.

(2) Landing attacks against shore objectives.

b. *Joint overseas movements.*

(1) The normal Army tasks in joint overseas movements are:

(a) To provide and operate all vessels for the Army, except when naval opposition by the enemy is to be expected, in which case they are provided and operated by the Navy.

(b) To assemble the Army troops, together with their equipment and supplies, at designated ports of embarkation.

[12] (c) To provide and operate the Army ports of embarkation.

(d) To load transports, whether these are provided by the Army or the Navy, for the transportation of Army personnel, equipment, and supplies, subject to Navy approval as to stability of vessels.

(e) To load in readiness for operation such aircraft and armament as can be made available to assist the Navy during the movement at sea or in landing operations.

(f) To organize and operate shore installations used primarily for debarkation of Army personnel, equipment, and supplies.

(2) The normal Navy tasks in joint overseas movements are:

(a) To maintain sea lines of supply.

(b) When naval opposition by the enemy is to be expected—

1. To procure, man, equip, and operate the vessels necessary to transport Army personnel, equipment, and supplies.

2. To assemble the necessary transports at designated ports of embarkation at the times specified by the commanders of the ports of embarkation.

3. To provide for security of transports at sea.

4. To provide in outlying ports means for the embarkation, or debarkation, of Army troops, equipment and supplies, when such means cannot be provided or obtained by the Army.

c. *Landing attacks against shore objectives.*

(1) The normal Army tasks in landing attacks directed from the sea against shore objectives are:

(a) The deployment into boats used for landing, these boats being operated by the Navy.

(b) The delivery of rifle and machine-gun fire from landing boats, except from such machine guns as are parts of the naval equipment of the boats.

[13] (c) The deployment from the landing boats and the gaining of a foothold on shore.

(d) The organization of a beachhead.

(e) The organization and conduct of operations to extend the beachhead.

(f) The conduct of operations beyond the beachhead for the accomplishment of the mission.

(2) The normal Navy tasks in joint attacks directed from the sea against shore objectives are:

(a) Naval forces.

1. To provide adequate reconnaissance.

2. To provide the defense against enemy naval forces during landing operations.

3. To provide, man, equip, and operate the small craft required for landing operations.

4. To cover the landing by mine sweeping, gunfire, aircraft, and screening operations.

5. To provide signal communications between ships and shore.

6. To organize and operate the necessary sea lines of supply for forces on shore.

(b) *Marine forces.*—Marines organized as landing forces perform the same functions as above stated for the Army, whether operating with the Navy alone or in conjunction with the Army and Navy.

19. *Coastal frontier defense.*

a. Attacks against our coastal frontiers may be classified as follows:

(1) Major operations, i. e., those executed for the purpose of invasion; and

(2) Minor operations, i. e., raids against shipping or shore objectives.

b. The general function of the Army in coastal frontier defense is to conduct military operations in direct defense of United States territory.

[14] c. The specific functions of the Army in coastal frontier defense are:

(1) To provide and operate the mobile land and air forces required for the direct defense of the coast.

(2) To provide, maintain, and operate essential harbor defenses.
d. In carrying out these functions, the Army will provide and operate or maintain—

(1) Guns on land, both fixed and mobile, with necessary searchlights and fire-control installations.

(2) Aircraft operating in support of harbor defenses; in general coastal frontier defense; in support of or in lieu of naval forces.

(3) A communication and intelligence system to include an aircraft warning service, among the elements of the land defense, with provision for the prompt exchange of information or instructions with the Navy.

(4) Controlled mines and their appurtenances, including the vessels necessary for their installation and maintenance.

(5) A system of underwater listening posts.

(6) Beach defense, together with vessels necessary for its installation, maintenance, and patrol.

(7) Fixed underwater obstructions in connection with controlled mine barrages.

(8) Additional mobile forces required in accordance with the situation.

e. The general function of the Navy in coastal frontier defense is to conduct naval operations to gain and maintain command of vital sea areas and to protect the sea lanes vital to the United States, thereby contributing to the defense of the coastal frontiers.

f. The specific functions of the Navy in coastal frontier defense are:

(1) To control and protect shipping in the coastal zones.

(2) To conduct naval operations directed toward the defeat of any enemy force in the vicinity of the coast.

(3) To support the Army in repelling attacks on coastal objectives.

[15] *g.* In carrying out these functions the Navy will:

(1) Provide and operate—

(*a*) A system of offshore scouting and patrol to give timely warning of an attack, and, in addition, forces to operate against enemy forces in the vicinity of the coast.

(*b*) A communication and intelligence system among the elements of the sea defense, with provisions for the prompt exchange of information or instruction with the Army.

(*c*) Contact mines, nets, and booms, including the vessels necessary for their installation and maintenance.

(*d*) Inshore patrols for the protection of mine fields and underwater obstructions other than beach defenses; for the control and protection of shipping in passage through defensive sea areas; for the control of shipping in defensive coastal areas, and for the prevention of enemy mining and submarine operations.

(*e*) Underwater listening posts for naval use where this service cannot be obtained from Army listening posts.

(*f*) Through the Lighthouse Service, when turned over to the Navy, coastal lights, buoys, and aids to navigation, and to change them as necessary.

(*g*) An information system through the Coast Guard stations when turned over to the Navy, and through lighthouses and light vessels.

(*h*) Necessary mine-sweeping vessels.

(2) Provide and maintain such fixed underwater obstructions as are component parts of Navy barrages; including the vessels necessary for their installation and maintenance.

(3) Operate gates through nets.

(4) Conduct shipping through channels in mine fields or obstructions.

[17]

CHAPTER IV

FUNCTIONS OF ARMY AND NAVY AIR COMPONENTS

20. *General functions.*

a. It is the general function of Army and Navy air components, respectively, to conduct the air operations derived from the approved respective functions of the Army and Navy stated in chapter I, Policy Governing the Respective Functions of the Army and of the Navy. Under this policy:

(1) The air component of the Army conducts air operations over the land and such air operations over the sea as are incident to the accomplishment of Army functions.

(2) The air component of the Navy conducts air operations over the sea and such air operations over the land as are incident to the accomplishment of Navy functions.

b. Aircraft, by their nature, are capable to a degree, dependent upon their design and upon the skill and training of their personnel, of performing either Army or Navy air functions. Available air strength should therefore be used whenever possible by either service in support of the other.

c. Army aircraft may temporarily execute Navy functions in support of or in lieu of Navy forces. Conversely, Navy aircraft may temporarily execute Army functions under like conditions.

21. *Primary functions.*

a. The air component of each service has a primary function to which its principal efforts are to be directed, both in peace and in war.

b. These primary functions are:

(1) The Army air component to operate as an arm of the mobile Army, both in the conduct of air operations over the land in support of land operations and in the conduct of air operations over the sea in direct defense of the coast.

[18] (2) The Navy air component to operate as an arm of the Fleet.

22. *Secondary functions.*

a. Second functions of the air component of the Army are:

(1) Reconnaissance and observation of fire for harbor defenses.

(2) Air operations in connection with the defense of important industrial centers and military and naval installations.

(3) Air operations in support of or in lieu of naval forces.

b. Secondary functions of the air component of the Navy are:

(1) Air operations, by aircraft forming part of naval local defense forces, for the patrol of the coastal zones and for the protection of shipping therein.

(2) Air operations in support of or in lieu of Army forces.

23. *Provisions to minimize duplication.*

a. The functions assigned to the Army air component require the Army to provide and maintain all types of aircraft primarily designed for use in support of military operations, or in the direct defense of the land and coastal frontiers of continental United States and its overseas possessions, or in repelling air raids directed at shore objectives or at shipping within our harbors, or in supporting naval forces to assure freedom of action of the fleet.

b. The functions assigned to the Navy air component require the Navy to provide and maintain all types of aircraft primarily designed and ordinarily used in operations from aircraft carriers or other vessels, or based on aircraft tenders, or for operations from shore bases for observation, scouting and patrolling over the sea, and for the protection of shipping in the coastal zones.

c. Projects of the Army and Navy relating to their respective air components shall, in peace time, with a view to insuring the minimum of overlap and duplication, be considered by the Aeronautical Board prior to being used as a basis for action.

d. When estimated aircraft production and procurement do not meet the requirements of the Army and the Navy under any specific war plan, The Joint Board will make allocation in numbers and priorities of airplanes to the Army and Navy, respectively.

[19] e. Allocations of production and procurement facilities for airplanes to meet the needs of any joint war plan shall be made to the Army and Navy, respectively, by The Joint Board upon the recommendation of the Army and Navy Munitions Board. Allocations may be proposed to the Army and Navy Munitions Board by the Aeronautical Board.

[21]

PART II

POLICIES, AGREEMENTS, JOINT INSTRUCTIONS, AND JOINT AGENCIES

CONTENTS

CHAPTER V—Coastal Frontier Defense.

VI—Joint Overseas Expeditions.

VII—Regulations, Maneuver Rules, and Umpire Instructions for Joint Army and Navy Exercises.

VIII—Agencies for Effecting Coordination.

IX—Communications.

[23]

CHAPTER V

COASTAL FRONTIER DEFENSE

CONTENTS

Para-graph	Subject	Page ¹
	SECTION I—INTRODUCTION AND DEFINITIONS	
24	Purpose of publication.....	27
25	Purpose of coastal frontier defense.....	27
26	Definitions:	
	A coastal frontier.....	28
	Coastal frontier defense.....	28
	The naval district.....	28
	Naval local defense forces.....	29
	A naval base.....	29
	An army.....	29
	A corps area.....	29
	A coast artillery district.....	29
	A sector.....	30
	A subsector.....	30
	Coastwise sea lanes.....	30
	The coastal zone.....	30
	A defensive sea area.....	30
[24]	A defensive coastal area.....	30
	The outer harbor area.....	31
	The harbor channel area.....	31
	The inner harbor area.....	31
	An inshore patrol.....	31
	An offshore patrol.....	31
	An escort force.....	31
	A coastal force.....	31
	A harbor defense.....	31
	A beach defense.....	31
	Army outpost or covering forces.....	32
	Army reserves.....	32
	An aircraft warning service.....	32
	SECTION II—POSSIBLE ENEMY OPERATIONS	
27	Major operations.....	32
28	Minor operations.....	34
29	General.....	34
	SECTION III—CATEGORIES OF DEFENSE AND REQUIREMENTS AND MEANS TO BE PROVIDED	
30	Degree of preparation.....	38
31	Categories of defense:	
	Category A.....	38
	Category B.....	39
	Category C.....	39
	Category D.....	39
	Category E.....	40
	Category F.....	40
	General.....	40
32	Requirements and means to be provided:	
	General requirements.....	41
	Defensive operations required.....	41
[25]	Means available.....	42
	The Fleet.....	42
	Naval local defense forces.....	42
	The Army forces.....	42
	Mobile forces.....	42
	Harbor-defense forces.....	42
	Relation of the Fleet to coastal frontier defense.....	42
	Relation of Army mobile forces to coastal frontier defense.....	43
	Relation of Army air forces to coastal frontier defense.....	43
	Naval local defense forces.....	45
	The inshore patrol.....	45
	The offshore patrol.....	47
	The escort force.....	47
	A coastal force.....	48
	Defensive coastal areas.....	48
	Extent.....	48
	Harbor defenses.....	48
	Communications.....	50
	General.....	51
	Defensive sea areas.....	51
	Defense against landing attacks.....	52
	Measures and operations demanded of the defense.....	52
	Steps in the joint organization and operations against landing attack.....	52

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

COASTAL FRONTIER DEFENSE—continued

CONTENTS—continued

Para- graph	Subject	Page ¹
	SECTION III—CATEGORIES OF DEFENSE AND REQUIREMENTS AND MEANS TO BE PROVIDED—Continued	
32	Requirements and means to be provided—Continued	
	Obstacles—types.....	54
	General.....	54
	Obstructions.....	54
	Torpedo-defense nets.....	54
	Antisubmarine nets.....	55
	Booms.....	55
	Mines.....	55
	SECTION IV—ORGANIZATION AND COMMAND	
33	Joint organization and command.....	55
34	North Atlantic coastal frontier:	
	Boundaries.....	55
	Commanders.....	56
	Sectors.....	56
[26] 35	Southern coastal frontier:	
	Boundaries.....	57
	Commanders.....	58
	Sectors.....	58
36	Pacific coastal frontier:	
	Boundaries.....	58
	Commanders.....	58
	Sectors.....	58
37	The Great Lakes coastal frontier:	
	Boundaries.....	59
	Commanders.....	59
	Sectors.....	59
38	Defensive coastal areas.....	60
39	Defensive sea areas.....	61
	SECTION V—PLANNING	
40	Means to facilitate joint planning.....	61
41	Collaboration in joint planning.....	62
42	Details of joint coastal frontier defense plans.....	63

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

[27]

CHAPTER V

COASTAL FRONTIER DEFENSE

Section I

Introduction and Definitions

24. *Purpose of publication.*—The purpose of this publication is to present the principles and measures necessary for the effective joint organization and conduct of operations in coastal frontier defense and the method of planning involved and the responsibilities of the two services in connection therewith, in order to insure the most effective cooperation and coordination between Army and Navy forces participating therein. (See pars. 13 and 19, pt. I, Joint Action of the Army and the Navy.)

25. *Purpose of coastal frontier defense.*

a. A coastal frontier is a geographical division of our coastal area established defense is to provide more effectively for our national defense.

b. Specifically, the measures and operations in coastal frontier defense are for the purpose of:

- (1) Protecting shipping in the coastal zones;
- (2) Protecting our military and civil installations and facilities;
- (3) Preventing invasion of United States territory from overseas;
- (4) Insuring the security of those portions of our coastal frontiers which are vital to military, industrial, and commercial operations.

[28] 26. *Definitions.*—In order to provide a common basis of understanding between the Army and the Navy in the employment of forces in coastal frontier defense, the following definitions of terms employed are hereby established:

a. A coastal frontier is a geographical division of our coastal area established for organization and command purposes, in order to insure the effective coordination of Army and Navy forces employed in coastal frontier defense. The coastal frontier of a group of islands shall completely surround such group or shall include that part of the group which can be organized for defense and command purposes. Within each coastal frontier an Army officer and a naval officer will exercise command over all Army forces and Navy forces, respectively, assigned for the defense of these divisions. Coastal frontiers are subdivided for command purposes into sectors and subsectors.

b. Coastal frontier defense is the organization of the forces and matériel of the Army and the Navy assigned to provide security for the coastal frontiers of continental United States and its overseas possessions.

c. The naval district is a military and administrative command ashore established for the purpose of decentralizing the Navy Department's functions with respect to the control of shipping in the coastal zones and the shore activities outside the Navy Department proper, and for the further purpose of centralizing under one command within the district and the waters thereof:

(1) For military coordination, all naval activities; and

(2) For administrative coordination, all naval activities with specific exceptions.

The primary purpose in view is to provide for naval mobilization and logistic support of the Fleet and to utilize the district naval forces in the joint organization to provide security for the coast and for shipping in the coastal zones. The limits of the naval districts are laid down in the Navy Regulations. These limits extend to seaward so as to include the coastwise sea lanes. Each naval district is commanded by a designated commandant who is the direct representative of the Navy Department, including its bureaus and offices, in all matters affecting district activity.

[29] d. Naval local defense forces consist of naval forces, including Coast Guard and Lighthouse Service, afloat and ashore, attached to a naval district and under the command of the commandant of the district. These forces are not a part of the Fleet.

e. A naval base is a center from which men-of-war can operate and be maintained.

f. An army is a military organization or unit composed of a headquarters, a body of auxiliary troops and trains called army troops, and two or more corps temporarily assigned, the number of corps depending upon the nature of the service required. To these may be added a special assignment of GHQ aviation, GHQ reserve artillery, cavalry divisions, and other troops varying in number and composition according to the task assigned. As thus constituted, an army has both territorial and tactical functions. It is the largest self-contained military unit and may act independently or may form part of a group of armies or other higher organization.

g. A corps area is a territorial and administrative command within the continental area of the United States, established for purposes of administration, training, and tactical control during peace time and for the conduct of mobilization and other functions of the zone of the interior in war.

h. A coast artillery district is a military command within a certain corps area which contains harbor defenses. It is established for the purpose of decentralizing the corps area commander's functions of discipline, instruction, and routine training of the coast artillery troops within the corps area. When frontier commands, sectors, and subsectors come into active existence, coast artillery districts as such cease to exist and all coast artillery troops, including the district staff, located within the frontier, sector, or subsector automatically become part of the frontier, sector, or subsector command as the case may be. The coast artillery district commander automatically becomes a coastal frontier or sector commander, as prescribed in section IV of this chapter and/or in specific war plans. As frontier commander, he is responsible to the army commander as long as the latter retains tactical responsibility within the area. Upon departure of the army commander, the frontier commander is responsible directly to the commanding general of the field forces.

[30] A sector is one of the subdivisions of a coastal frontier command.

j. A subsector is one of the subdivisions of a sector command.

k. Coastwise sea lanes are the water areas adjacent to the seacoast that include all the usually traveled routes of coastwise shipping.

l. The coastal zone is the whole area of the navigable waters adjacent to the seacoast and extends seaward to cover the coastwise sea lanes and focal points of shipping approaching the coast.

m. A defensive sea area is a portion of the coastal zone, usually including the approach to an important port, harbor, bay, or sound, within which, if such area be publicly proclaimed and neutrals notified, international practice tacitly permits the belligerent to extend his jurisdiction with a view to the protection of neutral shipping from minefields, obstructions, or the danger of being considered hostile. A defensive sea area is established by proclamation of the President and by notification to neutrals. The limits of the defensive sea area must be contained in the proclamation, and should be such that control of shipping in the area is within the capacity of the available naval local defense forces.

n. A defensive coastal area is a part of a coastal zone and of the land and water area adjacent to and inshore of the coast line within which defense operations will involve both Army and Navy forces, and in consequence require effective coordination. A defensive coastal area pertaining to a fortified harbor includes the *outer harbor area*, the *harbor channel area*, and the *inner harbor area*; its outer limits, which are specified in each case by joint plans, are the outer limits of the ranges of the shore defense batteries. When a defensive sea area and a defensive coastal area coexist in any one locality, the water area of the defensive coastal area which lies between its outer limits and the inner limits of the harbor channel area, shall be considered superimposed upon a like portion of the defensive sea area, without in any way detracting from the Army's responsibility for the direct defense of the coast. Defense activities in that portion of a defensive sea area not included within a defensive coastal area, are essentially naval in character but are of immediate interest to the Army as by such means are disclosed the presence and indicated objectives of enemy forces.

[31] *o. The outer harbor area* is the water area which extends to seaward from the outer exits of the entrance channels to a fortified harbor and lies within the range of the harbor defense batteries.

p. The harbor channel area is the water area which lies between the outer harbor area and the inner harbor area, and which comprises all the entrance channels to the harbor.

q. The inner harbor area is the entire water area of a fortified harbor inside the entrance of all the entrance channels to the harbor.

r. An inshore patrol is a part of the naval local defense forces operating generally within a defensive coastal area and controlling shipping within a defensive sea area.

s. An offshore patrol is a part of the naval local defense forces operating and patrolling the coastal zone outside of those areas assigned to the inshore patrol.

t. An escort force is a part of the naval local defense forces charged with the duty of protecting convoys within the naval district waters.

u. A coastal force is a naval force which may be organized to operate within the coastal zone to meet a special situation in which naval local defense forces are inadequate to carry out the Navy's functions in coastal frontier defense.

v. A harbor defense is an administrative and tactical Army command, comprising the armament and accessories, including anti-aircraft armament, controlled mines and supporting aircraft, with the personnel for manning, provided for the defense of a harbor or other water area. Harbor defenses exist to provide on the outbreak of war an effective seaward defense of important strategic points, such as large centers of population, important commercial centers, navy yards, coaling or fueling stations, locks and dams; to deny the enemy entrance to or occupation of a harbor or other waters which might serve as a base for land or naval operations, or both; and to keep the enemy at such distance from the entrance to a waterway that our naval forces may debouch therefrom and take up a battle formation with the least hostile interference.

w. A beach defense is that part of the Army ground organization for defense against landing attacks which is located at or near the beach for resistance at the water's edge. It consists of a series [32] of organized tactical localities in rear of those sections of the shore line where landings are likely to be made, and includes barbed-wire entanglements and other obstacles below and above the water line. Beach defenses may be organized both within and outside of defensive coastal areas.

x. Army outpost or covering forces are mobile Army forces allotted to sub-sectors or frontiers, to provide security against raiding operations, and to cover the points of landing in a direct attack prior to the assembly of Army reserves, or additional forces.

y. Army reserves are mobile Army forces drawn from any available source and held in readiness to be sent to any part of the frontier or frontiers that may be threatened by an enemy attack.

z. An aircraft warning service is a communication and intelligence service which forms part of the communication and intelligence service of the frontier defense. Its purpose is to warn centers of population, industrial plants, public utilities, and military and naval establishments of the approach of hostile aircraft, and to alert Air Corps units and antiaircraft artillery units. It consists essentially of observers, of information centers for plotting the courses and distributing information of approaching hostile planes, and of the necessary communications.

Section II

Possible Enemy Operations

27. Major operations.

a. When control of vital sea areas cannot be maintained due to our inferiority in naval power, destruction of our Fleet, or to its absence in distant waters, serious attacks against our coastal frontiers are possible and may be expected against strategically important areas when the enemy possesses the requisite force and marine transportation. These attacks may be of major proportions and may have as their object any one or more of the followings:

- (1) The securing of a beachhead as a point of departure for an invasion;
- (2) The securing of an area for use in conjunction with other military operations or in connection with the destruction [33] of our shipping and/or our military and/or industrial installations and facilities;
- (3) The securing of an area for use as a naval base;
- (4) The securing of an area in order to deny its use to our forces;
- (5) The securing of an area for use as an air base, for air raids or for the establishment of local air superiority;
- (6) The blockading of our seacoast against shipping and/or against our naval forces.

b. Landing attacks in force—namely, those involving large invading forces—presuppose that the attacker has local control of the sea area, and also that he has the power to establish locally and for the necessary period of time a definite air superiority. The aviation with the enemy fleet may be insufficient for this purpose, so that the enemy may have to resort to the establishment of air bases and the concentration thereof of the necessary land-based aircraft. The enemy will, however, endeavor to make the maximum use of tactical surprise; he may further be expected to avoid fortified areas so far as may be consistent with his mission and objective.

c. Where a landing attack in force involves operations against fortified areas, the following steps, either distinct or merged together, may be anticipated, although the desirability for tactical surprise may cause complete omission of any preliminary reconnaissance:

(1) Reconnaissance in force, in which all types of ships may be employed with carrier-based aviation either to determine what defense elements are manned and what resistance is to be expected, or to clear the way for heavier ships. It will be a period of intensive reconnaissance, possibly accompanied by mine sweeping, minor raids with limited objectives, and feints.

(2) Bombardments by aircraft and long-range armament of the heavier ships to neutralize such land artillery as may be effective in opposing the landing.

(3) Support of the landing by the fire of naval ships, assisted by aviation, to cover debarkation from the transports, approach to the beach and landing thereon.

[34] (4) Employment of the requisite force to secure harbor facilities suitable for the debarkation of the heavy troop equipment and for the establishment of a base.

d. When a landing attack in force does not involve operations against a fortified area, the enemy may be expected to make the maximum use of tactical surprise, in order to allow his troops to reach the beach with a minimum concentration against them. Such reconnaissance as the enemy may decide to make will probably be on a wide front and be followed without loss of time by debarkation and the attack of the beaches under such supporting fire as may be available. The attacker may be expected to land on a broad front in several waves in an endeavor to establish, as quickly as possible, a beachhead to a depth of the effective range of light artillery.

28. Minor operations.—So long as our Fleet retains command of the sea, or so long as such command remains in dispute, our coastal frontiers bordering upon the sea areas in which our Fleet is operating may be regarded as protected against a major attack. However, neither command of the sea nor

superiority of our air forces, in any given locality, can be counted upon to prevent surprise attacks or raids by minor naval forces for the accomplishment of minor missions. These hostile operations may have as their objectives the following:

- a. Destruction of military and industrial installations and facilities.
- b. Destruction of shipping in the coastal zones.
- c. The gaining of minor advantages incident to controlling the sea, or for reconnaissance, bombardment, mining, countermining, demolition, or in operations preliminary to joint major operations.
- d. The observation or blockade of our naval forces while they are lying under the shelter of fortifications.

29. *General.*

a. The execution of naval missions or the performance of functions of navies in war may lead to offensive operations from the sea against land areas. Such operations will usually be in the nature of joint expeditions of Army and Navy forces.

b. Operations by naval forces against shipping may involve a blockade of certain localities and attacks on shipping in the coastal zone, in approaches to harbors, and even in harbors.

[35] c. The employment of naval forces alone in minor operations against our coastal frontiers, and not incident to joint operations, will, in general, be limited to bombardment from ships or by aircraft of positions not well covered by defensive means, small landing raids for demolition purposes, and feints.

d. The employment of naval forces alone in operations preliminary to joint operations may include all forms of reconnaissance; the seizure of land bases for aviation fields preparatory to supporting a landing; blockading, mining, and countermining operations; attacks on outer defense elements of a fortified area; and feints.

e. Bombardments of land positions by gunfire of naval forces may be undertaken under special circumstances, but any naval force engaging in such bombardment accepts hazards which are so obvious that they have to be justified by circumstances. The employment of capital ships, for instance, in the bombardment of fortified land positions is not likely to be undertaken if such action jeopardizes in any appreciable degree the ability of the bombarding force later to meet on terms of at least equality the enemy naval forces. Ships and their personnel are much more vulnerable to artillery fire than the corresponding material and personnel of land artillery and other defensive shore installations are to fire from ships. The ammunition normally carried by ships is not well suited to the attack of land targets. In addition to the hazards incident to land artillery fire directed against ships engaged in bombarding shore positions, there is the added hazard of attack by land-based aircraft, of submarines, and of mines. Special opportunity is given for the efficient use of these added weapons against the bombarding ships by the fact that the operation is a localized one. Under modern conditions, in an attack upon a fortified harbor, no naval force of capital ships will attempt to force the passage of, or to run by, the fortifications except under most unusual circumstances, when the end in view is vital to the success of the campaign. This applies whether or not enemy land forces are operating on shore against such a fortified harbor.

f. In a discussion of possible enemy naval operations and of possible defensive and offensive air operations, the circumstances of the season and the weather must not be lost sight of, since varying conditions of these two elements have a marked effect on the powers and limitations of naval attacks. During the period of heavy storms, [36] enemy naval operations will probably come to a standstill. Northern winter weather will, as a rule, considerably restrict naval operations, limiting them in the general case to observation and reconnaissance, and to ineffective offensive action against the obstacles of the defense, and precluding any but very minor landing operations. Thick weather may be advantageous to the enemy in covering minor operations against outlying elements of the defense; but heavy fog will generally suspend enemy offensive operations.

g. During periods of heavy storm, low visibility, or low ceiling, air patrol and air observation will probably be unreliable, offensive air operations may be impossible, and air operations may even have to be suspended entirely.

h. Consideration of the preceding paragraphs indicates that the forms of hostile action which an enemy may employ either singly or in combination, against, or in the vicinity of, our coastal frontiers, may include any one or more of the following operations:

- (1) Attacks on shipping in the coastal zone or in approaches to harbors.

(2) Attacks on naval forces of the defender, either off the coast, entering a harbor, while inside the harbor, or while debouching therefrom.

(3) Air bombardments of the seacoast and contiguous areas from forces well out to sea.

(4) Blockading of the seacoast against shipping and/or against our naval forces.

(5) Mine laying off the seacoast or the entrance of harbors.

(6) Naval raids on undefended or lightly defended coastal areas, primarily for demolition purposes and involving air or gun bombardments, or landings with limited objectives of forces composed of sailors and marines without intent to occupy any part of the frontier for any considerable period of time.

(7) Feints, involving part or all of the operations of (3), (4), (5), and (6) above.

(8) A broad general reconnaissance, especially by aircraft, to determine the nature, extent, and location of defending forces.

[37] (9) Local reconnaissance, either—

(a) To determine the practicability of taking advantage of surprise and an unprepared state of defense, in order to secure an area before the defending forces are ready;

(b) As part of an attempted landing; or

(c) In force against a fortified area to determine its state of preparedness, or to clear the way for a major attack.

(10) Seizure of land bases for air fields preliminary to further operations.

(11) Bombardment by gunfire and by aircraft for the neutralization of land artillery and for the destruction of important shore objectives.

(12) Minor attacks, possibly involving small landings, against outlying elements of the defense.

(13) Mine sweeping, countermining, and attempts to destroy nets or other obstacles.

(14) Torpedo fire into harbors.

(15) Blocking action against harbor entrances.

(16) Penetration by naval vessels into a harbor or water area.

(17) Major landing operations supported by rapid-fire guns on ships and by aviation.

(18) Seizure of harbor facilities for debarkation of heavy equipment and for the establishment of a base.

i. The parts played by the different types of naval craft in the above operations include:

(1) *By surface craft.*—Information and reconnaissance; seizure or destruction of shipping; combat with naval vessels; mining or countermining; mine sweeping; launching air operations; blockade; closing harbors or channels; clearing under-water obstacles; attacking nets; cutting cables; torpedo attacks on ships outside or inside harbors; laying smoke screens; gun bombardment; making feints; forcing a passage; and making and covering landings either for demolition purposes or for minor raids or raids in force.

[38] (2) *By submarines.*—Attacks on combatant vessels; information and reconnaissance; blockade; raids on nets or other obstacles; cutting cables; mining; minor bombardments; making feints; and minor landings.

(3) *By aircraft.*—Information and reconnaissance; attacking ships and shore objectives with machine-gun fire and/or high-explosive bombs; destroying obstacles; landing observers or spies; gaining superiority in the air; spotting gun-fire; and laying smoke screens.

Section III

Categories of Defense and Requirements and Means To Be Provided

30. *Degree of preparation.*—The degree of preparation in coastal frontier defense and the frontier defense measures to be taken, including the strength of the forces to be provided, depend upon the enemy and the character of the enemy operations to which coastal frontiers may be subjected in the early stages of a war. For the purpose of indicating the extent of the frontier defense measures to be taken under specific situations, categories of defense are established as listed below. Decisions as to the "category of defense" required for each coastal frontier are included in all joint basic war plans except those for wars of a minor nature. These decisions constitute a directive to the Army and Navy commanders of the joint organization for coastal frontier defense as to the extent of the frontier defense measures to be taken. They likewise constitute a directive to

the War and Navy Departments as to the allocation of the means required for this defense. Defensive sea areas will be proclaimed in time of actual or impending war as necessitated by the nature of the war and the probable enemy.

31. *Categories of defense.*

a. Category A.—Coastal frontiers that probably will be free from attack, but for which a nominal defense must be provided for political reasons. Under this category, only a sufficient part of the gunfire elements of harbor defenses will be manned in the strength required to create a show of preparedness. The strength required will be that [39] considered necessary to repel small naval raids. A nominal offshore patrol will be maintained.

b. Category B. Coastal frontiers that may be subject to minor attacks. Under this category, the harbor defenses will be provided with one manning relief, and a part of the obstacles will be prepared but not put in place. Certain defensive sea areas may be established and a limited offshore patrol may be instituted, with a limited control of shipping entering and leaving harbors.

c. Category C.—Coastal frontiers that in all probability will be subject to minor attack. Under this category, the coastal defense area should be provided, in general, with the means of defense, both Army and Navy, required to meet the following enemy naval operations: those incident to controlling the sea; those against shipping; and minor attacks against land areas. The harbor defenses should be fully manned and air support arranged. Long range air reconnaissance will be provided, if practicable. If sufficient forces are available, outposts will be established outside of harbor defenses along the sensitive areas of the shore line. The inner mine barrages will, in general, be established; a full inshore patrol and complete control of shipping will, as a rule, be instituted; and certain outer mine barrages and defensive sea areas may be established, and a limited offshore patrol instituted.

d. Category D.—Coastal frontiers that may be subject to major attack. Under this category, the coastal defense areas should, in general, be provided with the means of defense, both Army and Navy, required to meet enemy naval operations preliminary to joint operations. All available means of defense will generally find application, and a stronger outpost and a more extensive patrol, inshore and offshore, than for Category C, will be required. Under this category certain defensive sea areas will be established. In addition, an anti-aircraft gun and machine-gun defense of important areas outside of harbor defenses should be organized; general reserves should be strategically located so as to facilitate prompt reinforcement of the frontiers; and plans should be developed for the defense of specific areas likely to become theaters of operations. Long range air reconnaissance will be provided and plans made for use of the GHQ air force.

[40] *e. Category E.*—Coastal frontiers that in all probability will be subject to major attack. Under this category, in addition to the measures required for Category D, there will be required generally the concentration of the troops necessary to defend the area against a serious attack in force, together with additional naval forces to provide intensive inshore and offshore patrols. Defensive sea areas will be established. Air defense will be provided as in Category D. All or a part of the GHQ air force may be ordered to the threatened area to operate either under direct control of Army GHQ or under that of the Army commander of the theater of operations or frontier.

f. Category F.—Possessions beyond the continental limits of the United States which may be subject to either minor or major attack for the purpose of occupation, but which cannot be provided with adequate defense forces. Under this category, the employment of existing local forces and local facilities will be confined principally to the demolition of those things it is desirable to prevent falling into the hands of the enemy.

g. General.

(1) Where Categories D and E are applicable initially, local defense plans should provide for the initial employment of such forces of the Army and the Navy as may be required in addition to those forces which are ordinarily available for the initial defense of the coastal frontier in question, and which can be diverted from the mobilization and concentration of the Army forces, from the United States Fleet, and from other naval forces, during the period of mobilization and concentration, without materially interfering with or seriously delaying the operations to be undertaken in the principal theater of operations.

(2) Under all categories of defense, the Army coastal frontier or Army sector commander is responsible for the anti-aircraft defense within the corps area and naval district extending inland from the frontier or sector, such anti-aircraft defense to include an aircraft warning service. Cases involving the anti-aircraft

defense of Army GHQ airdromes and those where one corps area borders on two coastal frontiers, will be specifically covered in appropriate Army strategical plans.

[41] 32. *Requirements and means to be provided.*

a. *General requirements.*

(1) The proximity of important cities and industrial areas to certain of our seacoast and lake frontiers and the consequent vulnerability of these places to attack, as well as the importance to the Nation of our shipping and its related industries, and the fact that our coastal bases are the mainsprings of naval action, make the protection of these frontiers in time of war a highly important part of the national defense.

(2) Positive security, to include harbor defenses, has been provided for certain areas, the fixed armament of which has been or is being installed during peace time. Depending upon the liability of these areas to attack, and upon the character of such attack, defensive coastal areas have been designated and defensive sea areas should be designated in order to ensure the security of these important areas and the security of the shipping within their waters.

(3) In other respects, a minimum land and sea defense should be contemplated for our whole coastal frontier on the outbreak of war, and should involve the employment of only such parts of the means of defense as are required under the situation. In some situations, involving only minor enemy operations, it may be necessary to organize the beach defense for certain localities. Other situations involving more serious enemy attacks will require that the means of defense be successively augmented.

b. *Defensive operations required.*—From a study of possible enemy operations, it appears that the defense of our coastal frontiers should take into consideration the following:

(1) The observation of the coastal frontier and the sea beyond as far as circumstances permit or seem to demand.

(2) The protection of shipping in waters adjacent to the seacoast.

(3) The attack on enemy vessels in waters adjacent to the seacoast.

(4) The resistance to enemy approach to the seacoast.

[42] (5) The protection of the seacoast, and especially strategic harbors, against raids.

(6) The defeat of enemy landing attacks on the seacoast, including the provision of defensive installations on shore and in the waters adjacent thereto.

(7) The initiation of counteroffensive operations to eject a landed enemy.

c. *Means available.*—Under the above conception of defensive operations that may be required for coastal frontier defense, the means that may be made available in time of war include—

(1) *The Fleet*, the employment of which, in accordance with the strategic situation, may keep the enemy away from our coastal frontiers.

(2) *Naval local defense forces*, which control the water areas within a naval district, conduct naval operations against enemy forces in the naval district waters, and cooperate with and support the Army in repelling attacks on coastal objectives.

(3) *The Army forces.*

(a) *Mobile forces*, including air forces, to provide the covering or outpost forces for the initial coastal frontier defense organization and likewise the additional forces necessary to defeat landing attacks and air attacks and to carry out the Army functions specified in paragraph 13a.

(b) *Harbor defense forces* for maintenance and operation of essential harbor defenses designed to prevent ingress into areas, including the air space thereof covered by these defenses.

d. *Relation of the Fleet to coastal frontier defense.*—The strategic freedom of action of the Fleet must be assured. This requires that coastal frontier defense be so effectively conducted as to remove any anxiety of the Fleet in regard to the security of its bases. In the case of hostile major overseas movements directed against our coasts, the Fleet, if present and free to act, will be a powerful factor for ensuring the security of its bases and our coasts, and, if it engages the enemy, should be supported by all the land-based aircraft available.

[43] e. *Relation of Army mobile forces to coastal frontier defense.*—The Army, in its responsibility for the direct defense of the coast, must be prepared to meet successfully any attack directed against any part of our coastal frontiers. This responsibility and the possibility that naval strategy may demand the presence of the Fleet in another theater of operations make it necessary for the Army to provide mobile forces, not only those to be used as covering or outpost

forces in the initial coastal frontier defense organization, but also the additional forces required to defeat enemy landing or air attacks directed against any part of the coast. When any part of a coastal frontier is threatened, these additional mobile forces will be concentrated with a view to defeating the enemy in the affected area.

f. Relation of Army air forces to coastal frontier defense.—In operations against enemy attacks along our coast and in the waters adjacent thereto, the operations of Army and Navy aviation will overlap to a certain extent. That is, Army aircraft will necessarily have to operate over the sea and Navy aircraft may at times have to operate over the land. In any case, no restrictions will be placed upon the complete freedom of either service to utilize against the enemy the full power of all aircraft available and any and all facilities that may be necessary to make that power effective. Army air forces are a part of the mobile Army forces engaged in the direct defense of the coast. Their functions and operations will be governed by the principles outlined in paragraphs 12, 13, 15, 20, 21, and 22. Joint Action of the Army and the Navy, and the following quoted paragraphs from J. B. No. 349 (Serial No. 539) subject, "Doctrines for the Employment of the GHQ Air Force":

"(b) When any sector of a frontier is threatened, units of all arms, including units of the Air Corps, will be concentrated in support of the covering forces and the operations of all components will be in accordance with the general plan and the specific decisions of the frontier and sector commander. The Army Air Corps operates along the coast under the same conditions as in other operations except that occasions may arise when the GHQ air force or units thereof may act in conjunction with naval air forces under temporary direction of naval commanders; or similarly when naval air forces may operate in conjunction with and under temporary direction of Army commanders.

"(c) The Army is responsible for the direct defense of the coast. This responsibility and the possibility that naval strategy may demand [44] the presence of the Fleet in another theater require that joint plans for coastal frontier defense be drawn without counting upon the assistance of the Fleet as distinguished from naval local defense forces. But it should be borne in mind that, when the Fleet is so situated that it can and does operate effectively against enemy forces afloat that are approaching some sector of the coast, the security of such sector against major attack is ensured for the time being.

"(d) In addition to a radio communication system, the Navy maintains shore stations at strategic centers, where scouting and patrolling seaplanes may be concentrated to meet naval situations. These naval forces are important elements in the communications and information service, and would normally be the source of the first notice of the approach of an enemy by the sea. When the Army GHQ air force operates along the coast, it maintains such reconnaissance as is essential to its combat efficiency. The coordination and cooperation of these two sources of information are secured by joint plans prepared by frontier, sector, overseas department, and naval district authorities. Such plans should provide for augmentation of one service by the other in gaining and disseminating information of enemy movements offshore.

"(e) When the Fleet as distinguished from naval local defense forces is strategically present and free to act, paramount interest in operations at sea rests with the Navy. If the GHQ air force joins in such operations, it will be in conjunction with and under the temporary command of the naval commander. In the absence of the Fleet, the primary responsibility of securing information of hostile fleet movements rests with naval district forces supplemented by Army Air Corps units. However, in either situation the GHQ air force retains the responsibility for such reconnaissance as is essential to its combat efficiency.

"(f) In the absence of sufficient naval forces to engage the enemy at sea, a major attack upon the coast may develop so as to require the utilization of the GHQ air force in three phases as follows:

"1st phase—The conduct of reconnaissance over the sea approaches to the coast and (when favorable opportunity presents itself) the attack of enemy elements.

"2d phase—The support of artillery involving both fixed and mobile guns and mines, by aircraft conducting observation, reconnaissance, and offensive operations, from the time the enemy comes within range of ground weapons, until he is driven off or the operation enters the third phase.

"3d phase—Air operations in connection with the use of all arms on our coastal frontier.

Reconnaissance, as outlined for the first phase, will be continued to the extent possible throughout the later phases.

"(g) *War plans.*—In peace-time planning for war-time use under any of our existing war plans, each coastal frontier plan, and where necessary, each sector and subsector plan will include plans for the employ- [45] ment of such air units as may be assigned under the particular war plan involved. In the preparation of these plans, consideration will be given to the category of defense as defined in chapter V, part X (sec. III of 1935 revision), Joint Action of the Army and the Navy, and specified in the particular war plan in question. Each specific war plan prepared by the War Department will set forth the initial missions assigned the GHQ air force and, in general terms, the operations to be undertaken. Based upon these missions, the GHQ air force commander will prepare his plan covering the details of concentration, the missions, and the general plan of initial operations to be undertaken by the various elements of the GHQ air force.

"(h) *Defense projects.*—Harbor defense projects will contain a statement of the minimum observation aviation needed for reconnaissance and observation of fire for the harbor defense artillery included in such project.

"(i) *Installations and facilities.*—The most important of these are communications, airdromes, and landing fields. Of the first, the radio systems of the naval districts and of the Coast Guard are available, and joint plans contemplate their utilization in connection with any additional stations found necessary and installed by either service. Harbor defense projects and the plans of coastal frontier commanders will make provision for the airdrome areas and installations and the communications and supply arrangements for the effective operation in war of the air organizations assigned. In addition, the plans of each coastal frontier commander will contemplate and provide, in consultation with the GHQ air force commander, for the possibility of the operation of the entire GHQ air force within the limits of such coastal frontier command, by including in such plans logistical provisions for the entire GHQ air force, should it so operate. Civilian installations and establishments will be utilized to the fullest extent practicable. Where facilities do not exist, all work possible under current appropriations should be done to prepare them so as to permit M-day operation.

"(j) In overseas departments, the utilization of the aviation component of the garrison will be as directed by the department commander."

g. Naval local defense forces.

(1) The naval local defense forces are furnished by naval districts from such surface, subsurface, and aircraft as may be made available, including small submarines, old destroyers, mine vessels, and aircraft tenders, with such local vessels as are taken over in time of war for naval district use.

(2) The naval local defense forces of a naval district may comprise any or all of the following task forces:

(a) *The inshore patrol*, which may be composed of section bases, submarine bases, destroyer bases and air [46] stations; coastal lookout system, including lightships, lighthouses, Coast Guard stations, and special lookout stations; motor boats, submarine chasers, yachts, aircraft, mine sweepers, guard ships, aircraft tenders, and additional task forces in special cases, with the following duties:

1. To execute the Navy's part of all joint plans for defensive coastal areas.
2. To search for, locate, report, and attack enemy vessels operating close in to the coast and off harbor entrances.
3. To sweep such channels close in to the coast and off harbor entrances as are necessary for our naval forces and merchant shipping, and to clear mine fields laid by the enemy.
4. To patrol the outer limits of defensive coastal areas in order to convey to the harbor defense commander prompt and full information of the approach of friendly or hostile vessels, including all those of the offshore patrol. This information is to be conveyed directly to the nearest elements of the Army communication system.
5. To patrol the areas of obstacles, especially during thick weather or darkness, to protect the obstacles, and to prevent light craft from going over them.
6. To operate a system of control including piloting in the defensive sea and defensive coastal areas.
7. To maintain a guard ship at or near harbor entrances to see that all vessels leaving or entering port give the proper recognition and clearance signals and to transmit orders to shipping as directed.
8. To furnish with routing instructions all merchant vessels departing without escort.

[47] 9. To maintain a coastal-lookout system along the district coast line by use of the Coast Guard stations and Lighthouse Service, and special look-out stations to prevent communication between persons on shore and the enemy.

10. To maintain, through the Lighthouse Service in the district, the system of buoyage, lights, and other aids to navigation regularly established, with such modifications and changes as military necessity may require.

11. To render prompt assistance to merchant shipping and naval units in case of collision, breakdown, or other accident in port or along the coast.

12. To exercise naval control of harbors through the captain of the port, when the Treasury Department requests the Navy to exercise such control.

(b) *The offshore patrol*, which may be composed of destroyers, submarines, mine sweepers, gunboats, eagle boats, yachts, aircraft tenders, aircraft, and additional types in special cases, with the following duties:

1. To patrol systematically the coastal zone outside of those parts assigned to the inshore patrol.

2. To develop information of, report, and attack enemy forces sighted, in accordance with the doctrine of the patrol.

3. To supplement and support the main armament gunfire of the harbor defenses.

4. To lay mine fields and sweep against enemy mines outside the field of operations of the inshore patrol.

(c) *The escort force*, which may be composed of any suitable and available naval forces charged with the duty of protecting convoys within the naval district waters.

[48] (d) *A coastal force* may be organized to operate within the coastal zone. It will be organized from suitable and available naval forces. Such coastal force will be in addition in the forces required for each naval district.

(e) In view of the paramount interest of the Army in defensive coastal areas involving existing harbor defenses, the commander of the inshore patrol, who will be stationed ashore, should have his headquarters located as conveniently as possible to the headquarters of the harbor defense commander and at the same location if practicable. In any event he should be in direct communication with the harbor defense commander, as well as in direct connection with all naval activities in the defensive coastal area.

h. *Defensive coastal areas.*

(1) *Extent.*—Defensive coastal areas will be delimited by joint agreement between the Army and the Navy. Each defensive coastal area will cover that part of the coastal zone and adjacent seacoast which will require an intensive joint defense by reason of the inclusion therein of valuable harbors, stretches of the coast where hostile landings can be made in connection with attacks on our harbors or on industrial centers on or near the coast which are subject to attack from the sea. Defensive coastal areas will ordinarily include land and water areas in the vicinity of a fortified harbor, in which will be located in time of peace some personnel and usually a considerable amount of matériel pertaining to the harbor defenses.

(2) *Harbor defenses.*

(a) Harbor defenses are highly organized, permanently defended localities within sectors or subsectors of a coastal frontier whose broad mission is to protect important coastal areas (seaports, naval bases, and anchorages) and utilities primarily against attack from the sea. They are an element of the defensive organization of the subsector or sector in which they are located and they operate under subsector or sector control.

[49] (b) The defensive elements of harbor defenses consist of the fixed and mobile seacoast artillery, the anti-aircraft artillery, searchlights, controlled mines, underwater listening posts, subaqueous sound-ranging system, observation and fire-control system, harbor patrol boats and supporting aircraft with personnel for manning the same.

(c) Harbor defenses provide protected anchorages for naval forces and commercial shipping and support their debouchment therefrom.

(d) The Army is responsible for the defense against aerial attack of all military and naval facilities ashore within a harbor area.

(e) War-time personnel of the Army in these areas will consist essentially of harbor defense troops reinforced by Army air elements. In the usual case mobile troops will be limited to those manning reinforcing mobile artillery, railway and tractor, allotted to seacoast defense. The harbor defense troops themselves will thus have the mission of beach defense in the vicinity of the batteries. A limited number of mobile troops may be assigned to the harbor defense for local beach defense; the further reinforcement of the area by mobile troops will, in general,

not take place until the enemy situation indicates an attack in force involving landings and requiring a considerable mobile force for defense against landing attacks.

(f) The peace-time matériel consists of seacoast and antiaircraft guns of various calibers, the fire-control establishments for these guns, together with searchlights and with mine structures when the hydrography and current conditions render a controlled mine project feasible.

(g) In time of war, other obstacles, such as torpedo-defense nets, antisubmarine nets, booms, built-in obstructions, and contact mines may find employment, primarily in the harbor channel areas, to increase the resistance against enemy penetration into the inner har- [50] bor areas. For the purpose of detecting the presence of enemy underwater vessels or of any vessel during the hours of darkness or in fog or thick weather, a system of underwater listening posts, both fixed and on the vessels assigned to harbor defense activities, may be installed.

(h) In the installation and upkeep of obstacles, full use will have to be made of a considerable part of the available local Government-owned and private floating equipment. Where Army and Navy requirements conflict, agreement as to priorities will be reached between the local commanders of the two services and recommendations made to the War and Navy Departments respecting same.

(i) The defense will extend its operations to seaward as far as possible by the use of the local defense forces and aircraft of both the Army and the naval local defense forces

(3) *Communications.*—The system of communication between elements of the Army and the Navy requires most careful consideration because of the intimate relations existing between the elements of both services on land, on the water, and in the air. The system must give consideration to all the forms of communication that may find employment. It is further vitally important that the two services be trained together in time of peace to insure complete understanding of the system. Provision must be made for bringing all incoming information of the enemy by the quickest possible means into the interested headquarters of both the Army and the Navy, and for disseminating such information rapidly and accurately. Reports from elements of the offshore patrol should, as a rule, be sent to the headquarters of both the senior Army and Navy officers in the area. For reports from elements of the inshore patrol, the most direct communication is desirable by all available means from naval elements to batteries, forts, and command posts of the Army. A system of identification signals for all friendly naval craft approaching defensive coastal areas must be established.

[51] (4) *General.*—The Army is responsible for the development, installation, and operation of the equipment of fixed listening posts, of the listening equipment required for defense vessels under its control, and for the immediate transmission of information received by these posts to the Navy units of the defense.

i. Defensive sea areas.

(1) Since the object of establishing defensive sea areas is to control shipping, the proclaiming of such an area obligates the Navy to control shipping therein and puts the burden to enforce this control upon the naval forces. The number and size of defensive sea areas should be reduced to the minimum consistent with security, in order to minimize the burden upon the naval forces, and interference with shipping.

(2) Authority for the establishment of defensive sea areas is vested in the President of the United States by section 44 of the act entitled "An act to codify, revise, and amend the penal laws of the United States, approved March fourth, nineteen hundred and nine", as amended by the act "Making appropriations for the naval service for the fiscal year ending June thirtieth, nineteen hundred and eighteen, and for other purposes", approved March 4, 1917.

(3) When war with a specific power appears probable, the Secretary of the Navy submits recommendations to the President as to the defensive sea areas to be proclaimed and the time when they shall be proclaimed. If and when the development of the war necessitates, he submits recommendations as to additional defensive sea areas to be proclaimed.

(4) The Secretary of the Navy is charged with the preparation, for the signature of the President, of the proclamation designating defensive sea areas, with their outer definite limits, and with the publication thereof. He is further charged with the preparation and publication of regulations pertaining thereto and with the enforcement of such regulations.

(5) Copies of the local regulations for the guidance of the armed forces issued in time of war by the commandants of naval districts for the defensive sea areas within their districts [52] will be furnished to harbor defense commanders and other Army authorities concerned.

j. Defense against landing attacks.

(1) Measures and operations demanded of the defense.

(a) Enemy landing operations in force must be opposed to the utmost. To this end the Army forces within the coastal frontier will be augmented by forces from the strategic or general reserve, the Army GHQ air force, and by other available Army forces. The naval local defense forces will be augmented by any other naval forces available. The successful frustration of the hostile landing operation will depend largely upon the timely concentration of the requisite forces at the locality against which the main attack is being directed. It is therefore of vital importance that everything be done to discover the focal point of this main attack at the earliest possible moment. For this reason the defense must initiate the following operations as early as possible:

1. Location of the hostile force at sea, and maintenance of observation of this force.

2. Interference with the hostile force as far off-shore as practicable to prevent or delay its approach.

3. Resistance in costal zone waters and at the shore, taking advantage of the adverse situation in which the attacker is placed just prior to and during landing.

(b) In general, the enemy may be expected to attempt to make landings at several places. Some of these attempted landings may be mere feints. The coastline should be carefully studied with a view to determine the places which the enemy is most likely to use for landings, principal or secondary.

(2) *Steps in the joint organization and operations against landing attack.* Complete preparation for opposing an enemy landing in force requires the following steps [53] in correctly organizing and employing all possible means of defense:

(a) Organization of a beach defense for important localities.

(b) The selection and organization of the principal defensive positions in rear and on the flanks of the portion of the shore line to be defended.

(c) Preparation of a complete joint system of signal communications to connect with one another all land, air, and water elements, and to insure intelligence of the enemy getting to the shore posts of command. Organization of an aircraft warning service to warn industrial centers and other important areas of the approach of hostile aircraft.

(d) Distant reconnaissance by available air elements and naval vessels of enemy approach in the coastal zone.

(e) An air offensive by all available Army and Navy aircraft in order to secure superiority in the air and to destroy at sea the approaching hostile elements that are vital to the enemy in making a successful landing.

(f) Employment of the available naval forces to seaward to keep contact with and attack the enemy; patrol of the beach defenses and beach obstacles by the Army with outpost detachments, aircraft, and vessels to give warning of actual landing operations; maintenance of these beach obstacles by vessels of the Army.

(g) Bombardment by heavy land-emplaced artillery and by aircraft to hold hostile vessels at a distance, in order to deny the enemy effective artillery preparation of the landing area and to increase the difficulties of his debarkation and approach to the shore.

(h) Determined resistance by the Army to the enemy's movement in small boats in landing waves to the shore, light and medium artillery fire, together with personnel, bombs and machine-gun fire by aircraft, [54] being used in support of the troops occupying the strong points of the beach defenses.

(i) Resolute resistance at the shore line by troops occupying the first defensive position, coupled with the movement of infantry reserves and artillery, in support of these troops, against the hostile main landing effort as soon as it can be determined.

(j) Counterattack by subsector and larger reserves, supported by all available artillery fire, to destroy enemy forces that have landed or, if this be impossible, to confine the enemy's advance to a limited strip along the beach, while continuing the attacks by air and subsurface craft against transports, supply ships, carriers, and small landing boats.

k. Obstacles—types.

(1) *General*.—The term obstacle as herein used includes any object which is placed in the water to interfere with the movement of ships or their torpedoes. Included under this term are nets, booms, piles, sunken ships, and mines. Obstacles are used to close harbor channel areas completely, to bar direct approach to channels, or to force adoption of ship formations and movements unfavorable to the attacker, but favorable to the defense. To be effective, obstacles must be so designed and so well protected that they cannot be removed entirely or destroyed during periods of poor visibility. They are protected by guns capable of delivering rapid fire against the smaller types of craft which the enemy is likely to employ for their removal. Moreover, certain searchlights are located primarily for the illumination of hostile targets in mine fields. Patrol vessels may be needed in the areas containing obstacles during periods of darkness and in thick weather.

(2) *Obstructions*.—Obstructions such as piles, under water barriers, and sunken vessels are fully effective against all classes of vessels and may be used to help close completely channels or other navigable water areas.

(3) *Torpedo-defense nets*.—Torpedo-defense nets may be used to close the inner harbor to torpedoes fired from seaward.

[55] (4) *Antisubmarine nets*.—Antisubmarine nets may be used to close the inner harbor area to submarines.

(5) *Booms*.—Booms are used for blocking water areas against the entrance of surface craft. They find application primarily to arrest the movement of ships running at high speed into areas that cannot otherwise be blocked; they may be used in lieu of antisubmarine nets in shallow entrances which submarines cannot enter submerged.

(6) *Mines*.—Mines are of two types: Controlled and contract. The former are provided and installed by the Army; the latter by the Navy. Mines, both controlled and contact, employed in any one defensive coastal area constitute the mine barrier for that area. The barrier may consist of two barrages—an inner, or essentially controlled mine barrage which is an integral part of the fixed defenses of most of our important harbors, and an outer barrage of contact mines.

Section IV

Organization and command

33. *Joint organization and command*.—Coastal divisions with geographical coterminous boundaries within which an Army officer and a naval officer will exercise command over the Army forces and the Navy forces, respectively, assigned for the defense of these divisions, have been established in order to provide a joint organization and to ensure the effective coordination of Army and Navy forces employed in coastal frontier defense. These coastal divisions comprise coastal frontiers, sectors, and subsectors. The joint organization, together with the commanders responsible for the execution of security measures on and after M-day and the necessary peace-time planning therefor, are as stated below. (See map attached showing coastal frontiers, sectors, subsectors, and defensive coastal areas.)

34. *North Atlantic coastal frontier*.

a. Boundaries.

Northern.—Northern boundary of the United States.

Southern.—Diamond Shoal Lightship, Hatteras Inlet, inclusive, southern and western boundary of Dare County (N. C.), Albemarle [56] Sound, Chowan River, Virginia-North Carolina boundary to the west, all inclusive.

b. Commanders.

Army.—To be designated in specific war plans. The Commanding General, First Army, is responsible for security measures on M-day and for peace-time planning therefor.

Navy.—The commandants of the First, Third, Fourth, and Fifth Naval Districts will command the naval forces assigned to their respective districts. They will arrange for the joint tactical employment in cooperation with the Army, in case of emergency, of the naval forces assigned to their districts.

c. Sectors.—The North Atlantic coastal frontier is divided into the following defense sectors:

(1) *New England sector*.

(a) Boundaries.

Northern.—Northern boundary of the United States.

Southern.—Nantucket Shoals Lightship, exclusive; Block Island, inclusive; Rhode Island-Connecticut boundary.

(b) Commanders.

Army.—First Coast Artillery district commander.

Navy.—Commandant, First Naval District.

(c) This sector is subdivided into the Portland, Boston, and Newport subsectors, with boundaries as follows:

1. Between the Portland and the Boston subsectors: Northern boundary of Massachusetts.

2. Between the Boston and the Newport subsectors: Pollock Rip Slue Lightship, Monomoy Light, Bishop and Clerk's Light, Cotuit Bay, Bourne, Taunton, northern boundary of Rhode Island, all to Boston subsector.

(2) *New York sector.*

(a) Boundaries.

Northern.—Nantucket Shoals Lightship, inclusive; Block Island, exclusive; Rhode Island-Connecticut boundary.

[57] *Southern.*—Point Pleasant, Bordentown, both exclusive; Trenton, inclusive.

(b) Commanders.

Army.—Second Coast Artillery district commander.

Navy.—Commandant, Third Naval District.

(c) This sector is subdivided into the Long Island and New Jersey subsectors with boundary as follows:

Between subsectors: The Sandy Hook Peninsula and lower New York Bay to the Long Island subsector.

(3) *Delaware-Chesapeake sector.*

(a) Boundaries.

Northern.—Point Pleasant, Bordentown, both inclusive; Trenton, exclusive.

Southern.—Diamond Shoal Lightship, Hatteras Inlet, inclusive; southern and western boundary of Dare County (N. C.); Albemarle Sound, Chowan River; Virginia-North Carolina boundary to the west, all inclusive. This sector will be subdivided into the Delaware and the Chesapeake subsectors, with the boundary as Winter Quarter Shoal Lightship (to Delaware subsector), southern and western boundary of Delaware.

(b) Commanders.

Army.—Third Coast Artillery district commander.

Navy.—The commandants of the Fourth and Fifth Naval Districts will command the naval forces assigned to their respective districts. They will arrange for the joint tactical employment in cooperation with the Army, in case of emergency, of the naval forces assigned to their districts.

35. *Southern coastal frontier.*

a. Boundaries

Northern.—Diamond Shoal Lightship, Hatteras Inlet, exclusive; southern and western boundary of Dare County (N. C.); Albemarle Sound, Chowan River; Virginia-North Carolina boundary to the west, all exclusive.

Southern.—The Rio Grande.

[58] b. Commanders.

Army.—Fourth Coast Artillery district commander. The Commanding General, Third Army, is responsible for coordination of security measures on M-day and of supervision of peace-time planning therefor.

Navy.—The commandants of the Sixth, Seventh, and Eighth Naval Districts will command the naval forces assigned to their respective districts. They will arrange for the joint tactical employment in cooperation with the Army, in case of emergency, of the naval forces assigned to their districts.

c. *Sectors.*—This frontier will be subdivided into defense sectors of Carolina, Florida, and Gulf, corresponding territorially to the Sixth, Seventh, and Eighth Naval Districts, respectively.

36. *Pacific coastal frontier.*

a. Boundaries.

Northern.—Northern boundary of Washington except that Alaska is part of the Pacific coastal frontier.

Southern.—Southern boundary of the United States.

b. Commanders.

Army.—Ninth Coast Artillery district commander. The Commanding General, Fourth Army, is responsible for coordination of security measures on M-day and of supervision of peace-time planning therefor.

Navy.—The commandants of the Eleventh, Twelfth, and Thirteenth Naval Districts will command the naval forces assigned to their respective districts within the limits of the Pacific coastal frontier. They will arrange for the joint tactical employment in cooperation with the Army, in case of emergency, of naval forces assigned to their districts.

c. Sectors.—This frontier will be subdivided into the southern California, northern California, and northwestern sectors, with boundaries based on those of the present naval districts as follows:

(1) Boundary between the southern California and northern California sectors, Santa Maria River.

(2) Boundary between the northern California and the northwestern sectors, northern boundary of California.

[59] *d. Sectors* of this frontier are further subdivided into subsectors with boundaries as follows:

(1) San Diego subsector: Mexican boundary to San Mateo Point, inclusive.

(2) San Pedro subsector. San Mateo Point, exclusive, to Santa Maria River, exclusive.

(3) Monterey subsectors: Santa Maria River, inclusive, to Pigeon Point, inclusive.

(4) San Francisco subsector: Pigeon Point, exclusive, to northern boundary of California.

(5) Columbia River subsector: Northern boundary of California to Moclips, Wash., inclusive.

(6) Seattle subsector: Moclips, Wash., exclusive, to northern boundary of Washington.

37. *The Great Lakes coastal frontier.*

a. Boundaries.—The frontier extends from Isle Royal, mouth of Pigeon River, northern shore of Lake Superior, western boundary of Wisconsin, all inclusive, to mouth of Raquette River, N. Y., exclusive.

b. Commanders.

Army.—To be designated in specific war plans. The Commanding General, Second Army, is responsible for security measures on M-day and for peace-time planning therefor.

Navy.—To be designated in specific war plans. The commandant, Ninth Naval District, is responsible for coordination of security measures on M-day and for peace-time planning therefor.

c. Sectors.—The Great Lakes coastal frontier is divided into the following defense sectors:

(1) *Michigan sector.*

(a) Boundaries.

Western.—Isle Royal, mouth of Pigeon River, northern shore of Lake Superior, western boundary of Wisconsin, all inclusive.

Eastern.—Western shore of Lake Erie, southern boundary of Michigan, all inclusive.

(b) Commanders.

Army.—To be designated in specific war plans.

Navy.—Commandant, Ninth Naval District.

[60] (c) The Michigan sector is subdivided into the Sault Ste. Marie and the Detroit subsectors with boundary between subsectors as follows: Drummond Island, Point Detour, northern shore of Lake Huron, northern and western shores of Lake Michigan (all to Sault Ste. Marie subsector).

(2) *Erie sector.*

(a) Boundaries.

Western.—Western shore of Lake Erie, southern boundary of Michigan, all exclusive.

Eastern.—Niagara River, southern shore of Lake Erie, western boundary of New York.

(b) Commanders.

Army.—To be designated in specific war plans.

Navy.—Commandant, Ninth Naval District.

(3) *Buffalo sector.*

(a) Boundaries.

Western.—Niagara River, southern shore of Lake Erie, western boundary of New York.

Eastern.—Mouth of Raquette River, N. Y., exclusive.

(b) Commanders.

Army.—To be designated in specific war plans.

Navy.—Commandant, Ninth Naval District.

38. *Defensive coastal areas.*—Defensive coastal areas have been delimited at the localities named below. Commanders will fit defensive coastal areas into the sector and subsector organizations in such a manner as to provide for efficient coastal frontier defense. These defensive coastal areas are—

Portland	[61] Pensacola
Portsmouth	Mobile Bay
Boston	Mississippi River
New Bedford	Sabine Pass
Narragansett Bay	Galveston
Long Island Sound	San Diego
New York (eastern entrance)	Los Angeles
New York (southern entrance)	San Francisco
Delaware Bay and River	Columbia River
Chesapeake Bay	Puget Sound
Baltimore	Cristobal
Washington	Balboa
Cape Fear River	Honolulu and Pearl Harbor
Charleston	Manila Bay
Savannah River	Subic Bay
St. Johns River	
Key West	
Tampa	

39. *Defensive sea areas.*

a. From a naval viewpoint, and depending upon the specific emergency, defensive sea areas may be important in the approaches to the following water areas:

Portland	Sabine Pass
Portsmouth	Galveston
Boston	Puget Sound
Narragansett Bay	Columbia River
Long Island Sound	San Francisco
New York Bay	San Pedro
Delaware Bay	San Diego
Chesapeake Bay	Cristobal
Charleston	Balboa
Key West	Manila Bay
Pensacola	Subic Bay
Mobile	Waters surrounding the Hawaiian Islands
Mississippi River	

b. In addition to the above, the local Army and Navy commanders of coastal districts concerned will study the relationship of defensive sea areas to the defensive coastal areas that may be needed and, in the event that additional defensive sea areas will, in their opinion, be required to meet any specific situation, they will include such additional defensive sea areas in their plans.

Section V

Planning

40. *Means to facilitate joint planning.*

a. In order to facilitate joint planning, a planning representative will be designated for the Army commander and for the Navy commander of each coastal division. The planning and development chain of command in both the Army and the Navy will follow the same lines as for combat. In selecting such planning representatives, officers will be selected who are located conveniently to the area to be defended and whose headquarters have the personnel and other facilities necessary for planning.

b. In addition to the above, the local Army and Navy commanders of coastal areas whose headquarters are in the same vicinity will appoint from among their immediately available officer personnel not more than three officers from each service to constitute a local joint planning committee. In cases where superior headquarters are widely separated, more than one joint planning committee may be organized.

41. *Collaboration in joint planning.*

a. In the preparation of such joint coastal frontier defense plans as may be required under a joint basic war plan, the following commanders will collaborate:

	Army	Navy
(1) North Atlantic coastal frontier.....	Commanding General, First Army, <i>with</i>	Commandant, Third Naval District.
(2) Southern coastal frontier.....	Commanding General, Third Army, or an officer designated by him, <i>with</i>	Commandant, Sixth Naval District.
(3) Pacific coastal frontier.....	Commanding General, Fourth Army, or an officer designated by him, <i>with</i>	Commandant, Twelfth Naval District.
(4) Great Lakes coastal frontier.....	Commanding General, Second Army, <i>with</i>	Commandant, Ninth Naval District.

b. The sector defense plans of the New England sector and of the Delaware-Chesapeake sector will be forwarded by the commandants of the First and Fifth Naval Districts, respectively, to the commandant of the Third Naval District and will be formulated to support the North Atlantic coastal frontier defense plans.

[63] (c) The subsector or defensive coastal area defense plans of the Delaware subsector or Delaware Bay defensive coastal area will be forwarded by the commandant, Fourth Naval District, to the commandant, Fifth Naval District, and will be formulated to support the Delaware-Chesapeake sector defense plans.

d. The sector defense plans of the Florida sector and of the Gulf sector will be forwarded by the commandants of the Seventh and Eighth Naval Districts, respectively, to the commandant of the Sixth Naval District and will be formulated to support the southern coastal frontier defense plans.

e. The sector defense plans of the southern California sector and of the northwestern sector will be forwarded by the commandants of the Eleventh and Thirteenth Naval Districts, respectively, to the commandant of the Twelfth Naval District and will be formulated to support the Pacific coastal frontier defense plans.

f. The commandant, Ninth Naval District, will confer with the commandants, Third and Fourth Naval Districts, as to the naval means which may be available for defense in the Erie and Buffalo sectors.

42. *Details of joint coastal frontier defense plans.*

a. Each specific war plan will provide for the organization of the defense of the land and coastal frontiers and will designate theaters of operations and the task forces to be employed therein. Actual limiting points and boundary lines between coastal divisions will be modified to the extent necessary to meet the needs of the situation assumed for the specific plan. The covering forces and the initial concentrations made for frontier defense in each plan will be based on the protection of probable objectives of enemy attack, the projected offensive operations, and the combined use of Army and Navy forces. A flexible organization of frontiers is required for tactical operations and the boundaries of coastal divisions may be changed in specific war plans or during the progress of operations.

b. Under the directive of each joint basic war plan and based on the allocation of forces under Army and Navy supporting defense plans, each frontier, sector, and subsector command of the joint organization for coastal frontier defense will develop and will revise annually joint coastal frontier defense plans applicable—

(1) To the defense to be instituted on M-day.

[64] (2) To later defense steps, should such be indicated as desirable to insure frontier defense as the war progresses.

c. Joint coastal frontier, joint sector, and joint subsector defense plans (or defense coastal area plans when joint subsector plans are not required) will, in general, under the specified category of defense, consider what can be done with the means available; these plans may include or refer to a project for a desired development of means which should also be available on the outbreak of war. In the event that other categories have been indicated as probable later steps in coastal frontier defense, these plans should include what can be done with the means of defense then available; they may also include a project for further desired development.

d. Joint coastal frontier, joint sector, and joint subsector (or defensive coastal area) defense plans will be supported by such Army and Navy operating defense plans as may be necessary. Army and Navy supporting operating defense plans will be prepared to support the joint plan of lowest sequence required to be prepared by a joint basic war plan. The joint coastal frontier defense plans will be submitted to both the War and Navy Departments by the commanders under the joint organization for coast defense immediately subordinate to their respective Departments. All joint coastal frontier defense plans will be authenticated by the signatures of the two commanders who submit them. Supporting Army and Navy operating defense plans will be submitted by the commanders who formulate them to their respective next higher commanders within their respective Departments.

e. (1) Joint coastal frontier defense plans for the North Atlantic coastal frontier will be prepared only for situations included under Categories C, D, and E, as indicated under specific war plans. For situations included under Categories A and B, only joint sector plans for this coastal frontier with their supporting plans will be prepared.

(2) I view of the restricted operations contemplated under a Category A or B defense, subsector plans, in general, will not be required for coastal frontiers to which these categories initially apply.

[65] (3) The sequence to be followed in the preparation of joint defense plans is as follows:

(a) Joint coastal frontier plan.

(b) Joint sector plan.

(c) Joint subsector plan or joint defensive coastal area plan.

Generally, the lowest sequence of plans required for the Navy will be that pertaining to a naval district, whether the naval district is a sector or subsector.

f. The plan of higher sequence will contain the directives for the plan of next lower sequence. The lower sequence plan will be formulated to support the plan of next higher sequence.

g. Army and Navy operating defense plans will obtain their directives from the joint plan they are required to support. They will provide the means and organizations and will insure the Army's and/or Navy's effective operation thereunder.

h. Joint coastal frontier and joint sector defense plans will cover the category of defense, the delimitation of areas (including subsector, defensive sea and coastal areas included therein), assignment of missions, allocation of Army forces, to include supporting troops, the air and ground anticraft defense measures to be instituted, the designation of areas of responsibility, paramount interest and method of command, the details of joint communications and intelligence services to include the censorship and supervision of cables and wire lines in accordance with approved policy, and an aircraft warning service. These plans or their supporting projects will also make provision for the Army airdrome areas and installations necessary in connection therewith and the communication and supply arrangements for the effective operation in war of the Army air organization assigned. In addition, the plans of each Army coastal frontier commander will contemplate and provide for the possibility of the operation of the entire GHQ air force within the limits of his command by including in such plans logistic provisions for the entire GHQ air force, should it so operate; civilian installations and establishments will be utilized to the fullest extent practicable. Where facilities do not exist, all work possible under current appropriations should be done to prepare them so that M-day operation will be possible.

[66] i. Joint plans of the lowest sequence, such as joint subsector or joint defensive coastal area plans, should contain, either in the plans proper, in appendices or annexes thereto, or in supporting plans or projects—so much of the following as is appropriate:

(1) The relationship of the defensive coastal area to the subsector organization and/or of the subsector to the sector organization.

(2) The category of defense and such delimitation of the area as may be necessary for the coordination of the Army and the Navy forces operating in the area, to include areas of responsibility and paramount interest.

(3) The assignment of missions and allocation of Army forces, to include supporting troops or additional forces required for later defense steps.

(4) The relationship of the area to such defensive sea areas as have been designated for the vicinity, with special reference to methods of keeping the

Army informed of movements of all vessels in the coastal zone and the composition, mission, and methods of operation of the offshore patrol.

(5) Such general plan of the forts, batteries, searchlights, underwater listening posts, air installations, and areas of gunfire and illumination as may be necessary to define the areas of Army responsibility for defense and naval assistance to the Army in this defense, including areas available to the enemy from which he can deliver bombardment fire without effective interference from the land armament.

(6) Definite assignment to the Navy of responsibility and tasks for offensive action in such areas as are covered by the fire of the land armament.

(7) General plan of the part of the underwater defense to be prepared or installed, including the character of the mine barrages, nets, booms, built-in obstructions, and other obstacles, their location, priority of installation, definite responsibility of the Army and the Navy for their provision, estimate of time of installation, definite indication of free passages through mines and openings in nets, navigation range installations required and responsibility for their establishment. Decisions as to which service and what commander in [67] this service shall determine when these elements shall be placed.

(8) Allocation to the Army and the Navy of locally procurable means, particularly vessels and material required for the installation and maintenance of the underwater defense, together with an estimate of the availability of such means, the nature of the alteration required, and the probable cost and time involved.

(9) Composition, mission, and method of operation of the inshore patrol, with particular reference to method of protection of underwater defense elements and identification of elements of the patrol with land elements of the defense at night and in thick weather, including a definite decision as to the conditions under which doubtful vessels should be fired upon by the armament of fortifications.

(10) The air, the ground antiaircraft, and the close-in defense measures; the measures for defense against landing attacks to be instituted on M-day and for the later defense steps to be instituted as the war progresses.

(11) The details of joint communication and intelligence services and an aircraft warning service. These details for the joint communication and intelligence services to include the location of headquarters of the several commanders, communications nets of both services, with the additional means, both military and commercial, required and the frequencies allotted to Army and Navy radio nets, responsibilities of Army and Navy commanders as to communication, censorship, and supervision of cables and wire lines as prescribed by higher commanders.

(12) General method of operation of the inshore patrol in sweeping and mining operations and in conducting and controlling maritime traffic, including designation and location of entrances and exits to defensive sea areas and of guard ships and methods of control of shipping within the harbor.

(13) Composition, mission, and method of employment of other naval local defense task groups, in sufficient detail to indicate the character and degree of cooperation required of Army and Navy air units.

[68] (14) Definite establishment of factors controlling the passing of paramount interest from the Navy to the Army in the coastal zone adjacent to the area.

(15) Detail of at least one liaison officer by name from each service to represent his commander at the headquarters of the other service and such other liaison officers as may be decided upon jointly.

j. A highly important part in each joint defense plan and project, and in the supporting defense plans and projects developed therefrom, is a definite statement of the time of accomplishment of the individual items under the plans and projects. For plans, these statements of times should be for the means and forces actually available and a consideration of the condition of the means and state of training of the forces. For projects, these statements of times should consider both the time of procurement and the time of installation or training after procurement.

JOINT OVERSEAS EXPEDITIONS

CONTENTS

Para- graph	Subject	Page 1
	SECTION I—INTRODUCTION AND DEFINITIONS	
43	Purpose of publication.....	73
44	Purpose of an overseas expedition.....	73
45	Advantages inherent in landing operations.....	74
46	Disadvantages inherent in landing operations.....	74
47	Superiority of force essential.....	74
48	Definitions:	
	A joint overseas expedition.....	75
	Phases (embarkation, movement overseas, landing).....	75
	A naval attack force.....	75
	A landing force.....	76
	A joint attack force.....	76
	A landing area.....	76
	A transport area.....	76
	A naval support area.....	76
	A beach.....	76
	A beachhead.....	76
	A beachmaster.....	76
	A shore party commander.....	76
	A combat team.....	76
	An artillery concentration.....	76
	Counterbattery.....	76
	A boat group.....	76
	A wave.....	77
	A subwave.....	77
	Commercial loading.....	77
	Unit loading (combat, organizational, convoy).....	77, 78
[70]	SECTION II—COMMAND	
49	Method of coordination.....	78
50	Commanders to embark on same ship.....	78
51	Liaison agents and staffs.....	78
52	Communication with subordinate units.....	78
	SECTION III—PLANS	
53	The joint basic decision and directive:	
	The decision.....	79
	A directive.....	79
54	Expeditionary force joint estimate and joint plan.....	80
55	Cooperation in planning.....	80
56	Development of plans by Army and Navy commanders.....	81
57	Plans of subordinate units.....	81
58	Flexibility of the plans.....	81
59	Details to be perfected before sailing.....	81
	SECTION IV—EMBARKATION AND MEASURES PREPARATORY THERETO	
60	Plans and orders:	
	For the Army forces.....	82
	For the naval forces.....	82
61	Procurement of sea transportation.....	83
62	Ports of embarkation.....	83
63	Special organization.....	83
64	Special equipment.....	84
65	Special equipment to be assembled before departure.....	84
66	Joint training.....	85
67	Embarkation plans.....	85
68	Joint planning.....	85
69	Loading.....	86
70	Loading aviation units.....	86
	SECTION V—THE MOVEMENT OVERSEAS	
71	Plans and orders:	
	For the Army forces.....	87
	For the Naval forces.....	87
72	Time of departure.....	87
[71]		
73	Convoy and escort.....	87
74	Navigation and defense.....	88
75	Protection of the lines of supply (lines of communication).....	88

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

JOINT OVERSEAS EXPEDITIONS—continued

CONTENTS—continued

Para- graph	Subject	Page ¹
	SECTION VI—THE LANDING (INCLUDING PREPARATIONS THEREFOR)	
76	Joint plans	88
77	Joint plan of the Army and Navy commanders	88
78	Orders	89
79	Surprise	89
80	Reconnaissance	90
81	Employment of the Army forces	91
82	Employment of the Naval forces	91
83	Organization of the Army forces	92
84	Naval organization for landing:	
	Attack forces	92
	Fire support group	92
	Air group	93
	Mine group	93
	Antisubmarine group	93
	Transport group	93
	Screening group	93
	Salvage group	93
85	The landing area	94
86	Characteristics of a landing area:	
	From an Army viewpoint	94
	From a Navy viewpoint	94
87	Selection of beaches:	
	From an Army viewpoint	95
	From a Navy viewpoint	96
88	Final selection of landing areas and beaches	96
89	Hour of landing:	
	Advantages of landing during darkness	97
	Advantages of landing during daylight	97
	Smoke	97
	Daylight essential for exploitation	98
	Other considerations	98
	Final decision	98
[72]		
90	Approach to and occupation of landing area	98
91	Transport and naval support areas:	
	The transport area	99
	The naval support area	99
92	Employment of air forces	99
93	Naval gunfire support	100
94	Cooperation in gunfire support	102
95	Debarcation of troops	103
96	Debarcation of supplies and light equipment	104
97	Debarcation of artillery and other heavy equipment	104
98	Debarcation of animals	105
99	Debarcation of air forces	105
100	Supply of water to the troops	106
101	Organization of the beach:	
	The beachmaster	106
	The shore party commander	107
	Military police	107
	An engineer party	107
	Boat repair party	107
	Medical service	108
	Marking routes inland	108
102	Subsidiary landings:	
	Demonstrations or feints	108
	Secondary landings	109
	SECTION VII—WITHDRAWAL AND REEMBARKATION	
103	Plans for withdrawal	109
104	Secrecy	110
105	Air superiority	110
106	Weather conditions	110
107	Naval support	111
	SECTION VIII—COMMUNICATIONS	
108	Plans	111
109	Communications between ship and shore	112
110	General	112

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

Introduction and Definitions

43. *Purpose of publication.*—The purpose of this publication is to present a set of general principal for the planning and conduct of joint overseas expeditions in order to insure the most effective cooperation and coordination between Army and Navy forces participating therein. This publication will form the basis for any training instructions or regulations issued by the War or the Navy Department for the guidance of the forces which may be engaged in such operations. The subject matter is designed to apply to joint operations of considerable forces of both the Army and the Navy, involving landings against opposition, but also to lesser efforts, which as a rule are simpler of execution.

44. *Purpose of an overseas expedition.*—A joint overseas expedition should be undertaken only as a part of a campaign designed as a phase of operations having in view the accomplishment of the purpose of the war. Hence, its success should weaken the enemy and gain for us an advantage in the next step to be undertaken. The land operations to be undertaken in a joint expedition may involve all or any of the following: (a) The securing of a beachhead from which to project major land operations; (b) the seizure and securing of an area for use in connection with other military operations; (c) the seizure and securing of an area for use as a naval base from [74] which naval forces will carry out further operations of the campaign; (d) the seizure and securing of an area in order to deny the use of that area to the enemy; (e) a raid to destroy enemy military or industrial installations and facilities or to draw enemy forces away from another area.

45. *Advantages inherent in landing operations.*—A joint overseas expedition has many of the advantages inherent in offensive warfare. In particular, it has the initiative with a wide choice of objectives and lines of approach toward them. Its extreme mobility, combined with the use of feints, frequently will conceal the objectives selected until the coast is approached. Through the mobility of its reserves retained afloat, it has an excellent opportunity to exploit initial successes ashore.

46. *Disadvantages inherent in landing operations.*—On the other hand, there are certain disadvantages. In particular, it requires a longer time to launch an attack by troops from transports than from a position already established on shore. While the troops are being brought ashore in boats they are unable to take any effective part in the combat, but offer a particularly vulnerable target to all enemy weapons. Usually, troops must land on and fight over comparatively unfamiliar ground where information of hostile dispositions will be more difficult to obtain than in other types of operations. Difficulties of supply are greatly increased. The artillery support in the initial stages of the attack must be furnished by naval guns; and, finally, success depends to a great degree upon the proper coordination and intimate cooperation of two distinct services.

47. *Superiority of force essential.*

a. An overseas expedition presupposes marked superiority on the sea and in the air within the area of, and during the time required for, the operations. Such superiority does not necessarily preclude all possible damage to vessels of the expedition by enemy action, but it must be sufficient to ensure a reasonable degree of protection for all transports accompanying the expedition while in passage and during the progress of the landing operations. Large ships stopping in the open ocean and troops disembarking in small boats are extremely vulnerable to attack by submarines and aircraft. Careful consideration therefore must be given to the removal of the sub- [75] marine and air menace prior to the actual landing of the expeditionary forces. The possibility of enemy air and naval reinforcements arriving during the operation and the further possibility of enemy use of chemical agents to oppose a landing should be given due weight in the estimate of relative strength.

b. Unless the landing forces available for the expedition are unquestionably superior to the enemy forces that may be expected to oppose the landings and operations on shore subsequent thereto, the initiation of such operation is not justified. Numbers alone cannot afford this superiority. There must also be that effectiveness which is obtained by proper organization, equipment, and training of the forces for the special type of operations to be undertaken.

48. *Definitions.*

a. A joint overseas expedition is a combined Army and Navy force dispatched to a theater of operations by sea for the purpose of undertaking military operations on shore.

b. Phases.—The execution of a joint overseas expedition divides itself naturally into the three following phases, and plans are made accordingly:

(1) *The embarkation phase* consists of all preparatory measures taken to assemble the troops and their equipment, the supplies, and the transportation at or near the port of embarkation; it also includes the actual loading of the troops and supplies on the transports.

(2) *The movement overseas phase* is the period from the time the expedition sorties from the port of embarkation until the joint attack forces rendezvous within their landing areas.

(3) *The landing phase* begins with the movement of the expedition from the rendezvous within the landing area, and continues until the landing forces are securely established on shore.

c. A naval attack force is the naval unit in landing operations, consisting of transports, cargo ships, and supporting naval vessels, operating against a continuous shore line, usually designated by the geographical name of the locality or by the terms "right", "left", "center", etc.

[76] *d. A landing force* consists of the Army organizations which are to carry out landing operations from the transports of a naval attack force.

e. A joint attack force includes a naval attack force and the landing force associated therewith.

f. A landing area is the area within which are included the operations of a joint attack force and comprises the shore and sea area involved in the landing operations. A large joint overseas expedition may require the use of more than one landing area.

g. A transport area is the water area assigned for debarking troops from the transports.

h. A naval support area is the sea area assigned to naval vessels detailed to support a landing.

i. A beach is that portion of the shore line of a landing area normally required for the landing of a force approximating a combat team. A combat team is defined in subparagraph *m* below.

j. A beachhead is a position organized in depth, with a view to offensive or defensive operations, which protects the beach initially from enemy light artillery fire (range about 10,000 yards) and eventually from medium artillery (range about 15,000 yards).

k. A beachmaster is a naval officer detailed to control the beach from the high-water mark seaward.

l. A shore party commander is an Army officer detailed to control Army administrative activities at the beach.

m. A combat team is the basic Army unit in landing operations, consisting normally of an infantry battalion and supporting troops including any or all of the following, depending on the requirements of the situation and the availability of transportation: A platoon of the howitzer company; the battalion medical detachment; a battery of field artillery; a company of engineers; necessary liaison and communication agencies.

n. An artillery concentration is artillery fire placed on an area.

o. Counterbattery is fire delivered by naval vessels or the Army's artillery, on enemy artillery, for the purpose of neutralizing or destroying it.

p. A boat group is a group of boats organized for transporting a combat team or some other similar tactical unit.

[77] *q. A wave* is one boat group, or two or more boat groups landing abreast, when operating in a tactical formation for landing.

r. A subwave is each line of boats in a wave.

s. Commercial loading utilizes to the maximum the ship space and does not contemplate tactical employment of the troops on landing until their equipment, other than personal equipment, has been issued to them. This method of loading is applicable to movements from an established port to an established and well-secured port. Troops moved by this method are not available for tactical employment in landing operations against hostile forces.

t. Unit loading gives primary consideration to the availability of the troops for combat purposes on landing, rather than utilization of ship space.

The degree of readiness for employment depends upon the degree to which organizations are unit loaded as follows:

(1) *Combat unit landing*, in which certain units, selected because of their probable destination and employment in landing on hostile shores, are completely loaded on one ship with at least their essential combat equipment and supplies immediately available for debarkation with the troops, together with

the animals for the organization when this is practicable. This method of unit loading is particularly applicable to units which probably will be required for an assault on hostile shores by a landing from small boats. Such an operation against any one beach will require an army combat team. This, of course, is subject to modification to meet special requirements. Combat teams will be loaded in such manner as to permit simultaneous debarkation.

(2) *Organizational unit loading*, in which organizations with their equipment and supplies are loaded on the same transport, but not so loaded as to allow debarkation of troops and their equipment simultaneously. This is somewhat more economical in ship capacity than is combat unit loading. It permits debarkation of complete units available for employment as soon as the troops and their equipment have been assembled on land. Like combat unit loading, this method permits diversion en route by complete ship loads, from the destination originally intended.

[78] (3) *Convoy unit loading*, in which the troops with their equipment and supplies are loaded on transports of the same convoy, but not necessarily on the same transport. This allows a considerable utilization of ship space, particularly by using this method of loading to fill in space on transports carrying combat unit loaded organizations. Troops which are convoy unit loaded are available for tactical employment only when landed at established beachheads, and after the lapse of time necessary to assemble them on land, with their equipment and supplies.

Section II

Command

49. *Method of coordination*.—The joint Army and Navy basic war plans, or the authority directing the undertaking of a joint overseas expedition, will prescribe whether coordination will be by the exercise of unity of command or by the exercise of limited unity of command. (See ch. II, Joint Action of the Army and the Navy.)

50. *Commanders to embark on same ship*.—The Army and the Navy commanders of a joint overseas expedition, with their respective staffs, should be embarked on the same ship, as should also the respective Army and Navy commanders of a joint attack force. This method should be applied, where practicable, through all echelons of command.

51. *Liaison agents and staffs*.—The mutual exchange of liaison agents assures a degree of cooperation between the Army and the Navy not otherwise readily obtainable. Wherever joint operations are undertaken the commander of one service should have on his staff members of the other service.

52. *Communication with subordinate units*.—It is highly important that all landing force commanders should land with their units or as soon thereafter as possible, establish communication with subordinates who have already landed, and issue orders for subsequent operations based on personal knowledge of the situation and the terrain. The senior commander ashore must act with vigor and initiative.

[79]

Section III

Plans

53. *The joint basic decision and directive*.

a. *The decision* to undertake a joint overseas expedition will be derived from a joint Army and Navy estimate. Such a decision may be contained in a joint Army and Navy basic war plan, or it may be reached at any time during the progress of the war.

b. *A directive* will be issued by the authority arriving at the decision to undertake a joint overseas expedition, to the commander designated to command the combined forces, or to the commanders of the Army and the Navy forces which constitute the joint overseas expedition. This directive will generally include:

- (1) Digest of available information of the enemy.
- (2) Information of any prior operations undertaken that might have an influence upon the proposed operations.
- (3) Information of any supporting operations contemplated.
- (4) The joint mission and, if required, the separate missions for the Army and the Navy.
- (5) The outline of the operations that probably will be required to accomplish the mission or missions, with designation of the initial theater of operations.

(6) The forces assigned to carry out the operations with times and places of concentration and availability for embarkation.

(7) The type of special equipment and supplies that may be needed.

(8) The availability of sea transportation and the responsibility for its procurement and operation.

(9) The method of coordination. The designation of the commander in chief under the method of unity of command; or the designation of the service in which paramount interest will be vested during each phase, with the designation of the respective commanders of the Army and the Navy forces.

(10) Any further information or instructions that may be considered of importance in order to give the commander in [80] chief or the respective commanders of the Army forces and the Navy forces the benefit of all studies made which might have a bearing on the success of the expedition.

54. *Expeditionary force joint estimate and joint plan.*

a. Upon receipt of the above directive, the commander in chief, or the commander of the service in which paramount interest is initially vested, will prepare such an estimate as may be desirable and, after full discussion with the respective Army and Navy commanders, or the commander of the other services, will issue instructions based on the directive and in amplification thereof; these instructions, particularly when prepared prior to the war, will ordinarily be in the form of a joint plan. Such instructions will generally include:

(1) Decision.

(2) Such additional assignments of Army and Navy missions as appear to be necessary.

(3) Operations to be undertaken, including both joint operations and such separate Army and Navy operations as are considered to be necessary to insure the success of the expedition, together with the designation of the respective task forces required and their commanders.

(4) Announcement of selected landing areas.

(5) Times and places of embarkation, departure, and rendezvous.

(6) Provision for joint training.

(7) Provision for logistic support of the expedition.

(8) Provision for communications (signal) between forces.

(9) Announcement of the hour of landing. Often this may not be announced until shortly before the landing forces are ready to debark.

(10) Alternative plans.

b. It should be emphasized that the plans for embarkation and movement overseas should be based upon the requirements of the plan covering the actual landing operations.

55. *Cooperation in planning.*—In the preparation of these plans and of the subordinate plans it is essential that there be the closest cooperation between all Army and Navy commanders who are to be associated in the projected operations. Officers of each service [81] should have a clear understanding of the problems confronting the other service and the limitations incident to the employment of the facilities of both services. The staffs of both services should study the problem together. This applies not only to the staffs of the higher commanders, but also to the staffs of the subordinate commanders who are to be associated in each operation. Technical details relating to each service are to be worked out by the service concerned.

56. *Development of plans by Army and Navy commanders.*—On receipt of the instructions set forth in paragraphs 53 and 54, the respective commanders of the Army forces and of the Navy forces will proceed to develop the detailed plans to carry out the projected operations and will issue the necessary orders to their respective forces.

57. *Plans of subordinate units.*—Based on the orders of the commanders, Army and Navy, there will be prepared detailed plans covering the employment of subordinate units which, in the case of operations that are unfamiliar to the forces involved, will go into great detail. Orders of subordinate units, like those of higher units, will be prepared in close cooperation between commanders of the two services who are to be associated in the operations.

58. *Flexibility of the plans.*—In the preparation of all plans and orders, it must be borne in mind that one which fails to provide for flexibility has little chance of success. Therefore, provision will be made for necessary modifications due to weather conditions, enemy action, the strength of enemy resistance encountered at any of the landing beaches, and changes in the situation that may occur between departure and arrival at destination. Alternative landing areas will be selected and alternative plans providing for landing at these areas will be pre-

pared before embarkation. However, as the plan of embarkation cannot be changed in case an alternative plan is used, the plan of embarkation must be the same for, and should support, both the preferred and alternative plans. The alternative plans must be drawn so as to make this possible.

59. *Details to be perfected before sailing.*—It is necessary that all possible details of each plan of landing and orders for subordinate units be determined upon as far as may be practicable before the joint expedition sails, or at the latest before it departs from the [82] last port which it will touch before arrival in the landing area. All commanders should familiarize themselves as far as possession of information will permit with the nature of the beaches and the terrain over which operations are to be projected. A draft of the order initiating the landing contemplated must also be prepared and distributed for study during the voyage.

Section IV

Embarkation and measures preparatory thereto

60. *Plans and orders.*—The plans and orders of the Army and the Navy commanders under this heading should in general include—

a. For the Army forces:

- (1) Organization and equipment of the Army forces for the operation.
- (2) Special training of troops for the proposed operations.
- (3) Date on which loading of troops will commence.
- (4) Movement of troops from the concentration centers to ports of embarkation, in accordance with loading priority.
- (5) Directions covering requisition for supplies for delivery at ports as requested by the Navy.

(6) Subdivision of the Army forces for assignment to transports in accordance with the tactical plan.

(7) Embarkation tables for troops, and the necessary loading tables for general cargo to accompany troops.

(8) Loading of troops and equipment on board ship in accordance with the tactical plans and the Navy assignment of ships.

b. For the naval forces:

- (1) Organization of the naval forces for the operation.
- (2) Arrangements for procurement of boats, lighters, and other special equipment required to land the Army forces, their equipment, and supplies.
- (3) Allocation of available transport and ship space and tonnage as required to meet Army grouping of troops and unloading requirements.
- (4) Special training of naval personnel for the proposed operations.

[83] 61. *Procurement of sea transportation.*—The joint basic plan or directive (see par. 53 b (8)) will state which service is responsible for procurement and assembly of the sea transportation required for the Army forces. Transportation required by the Navy will be procured by that service. Unless stated in the plan or directive, the commander in chief or the commander of the force having paramount interest will decide when and where the necessary sea transportation is required and will request the War or Navy Department, as the case may be, to have it so assembled.

62. *Ports of embarkation.*—Regardless of whether the transportation employed for the movement of the Army forces overseas is under the control of the Army or Navy, the necessary ports required for embarking the Army forces are selected, organized, and operated by agencies of the War Department not included in the forces to be employed overseas. The Army embarkation service includes the employment of experienced riggers, longshoremen, and stevedores; harbor floating equipment, etc., for loading ships.

63. Special organization.

a. Army forces are restricted by the necessarily limited facilities available for transportation, not only in the transports, but in the boats and small craft available to transfer them to the shore, and the facilities, or lack of them, for debarkation from the boats. For support in the first stage of attack the landing of tanks is difficult and the landing of heavy artillery is impracticable. It is ordinarily impracticable to employ Army air units before and during the early stages of the landing. Special organization is, therefore, required to facilitate debarkation of intact combat units, reduce ship cargo requirements, provide increased small arms and machine-gun fire in lieu of normal artillery support, and insure mobility of the first units ashore.

b. Special naval organization is required to embark, escort, debark, and land the Army forces, including provision for the most effective possible artillery,

communications, and air support until the Army can establish its own artillery and air units on shore. This involves the organization and provision of boat officers and crews for the landing boats and lighters; organization for covering landing operations by gunfire on land targets; organization to provide air- [84] craft support and observation to serve the needs of ground troops, including observation of the fire of the Army's artillery; and organization to provide ship-to-shore communications.

64. *Special equipment.*

a. In general, in order to meet the requirements and limitations mentioned, the Army must reduce equipment to absolute essentials. Wherever practicable, motor transport will replace animal transport, and the motor transport provided will be of the types (light tractors and light trucks) which can be most easily handled, especially into and out of small boats. However, combat efficiency should not be sacrificed to facilitate sea transportation. The amount and kind of transportation is dependent on the terrain and the distance of the advance.

b. Because of the special nature of the operations required in the transfer of troops, equipment, and supplies from ship to shore against enemy opposition and under supporting fire from friendly ships, special equipment must be provided by the Navy. This includes special boats for landing the assault troops, including installation of machine guns therein, and the provision of protection so far as practicable against small arms fire from shore; special boats, barges, and motor lighters for landing all other troops and their equipment, including artillery, tanks, airplanes, and motor and animal transport, and supplies; provision of special ammunition required for the artillery support; and special communications equipment.

c. The maximum number of landing boats which can be transported efficiently should be provided. The number of boats should be at least sufficient to land simultaneously the number of assault battalions to cover the frontage required in the proposed scheme of maneuver, and local reserves sufficient to hold the ground gained until reinforcements are landed in later waves.

d. All boats possible should be carried on the transports. The standard Navy boats on combat vessels are to be used only as necessary to supplement transport equipment and for towing.

65. *Special equipment to be assembled before departure.*—Estimates of the special equipment required will be made well in advance of the date of departure of the expedition in order that it may be procured and some training in its use may be carried out before loading.

[85] 66. *Joint training.*—The difficulties of landing on a hostile shore from small boats, heavily encumbered troops, most of whom have had little or no experience with the sea, and the unfamiliarity of the Navy with attack of land objectives, and with firing over friendly troops, make it necessary that as much preliminary joint training be carried out as time permits. It is particularly necessary that all operations projected be rehearsed in as realistic a manner as the facilities permit prior to the actual landing.

67. *Embarkation plans.*

a. The plans required for the subdivision of the Army forces for assignment to transports constitute the embarkation plans. Embarkation is so intimately related to and dependent upon debarkation that the details of embarkation plans cannot be completed until decision has been reached as to the method of debarkation. The debarkation plan itself is dependent upon the tactical plan of employment of the Army forces.

b. The orders directing embarkation will be based upon the debarkation plan for the preferred tactical plan and the details of embarkation will be contained in embarkation tables and special equipment tables prepared by the Army as a part of the embarkation order.

c. The data to be contained in the embarkation and special equipment tables will be as follows:

(1) Whether or not the organization is to be unit loaded and if so the degree of unit loading desired. (See par. 48 *t.*)

(2) The number of officers, warrant officers, and enlisted men; total personnel; total number of animals; the number and kind of each article, and space required in cubic feet to store, and the weight in long tons; the dimensions, length, breadth and height of each separate package of equipment; the total space required to store and the total tonnage in long tons of the supplies and equipment pertaining to the unit.

d. When the sea transportation is under the control of the Navy, this information will be furnished to the Navy as far in advance of the embarkation as possible.

68. *Joint planning.*—Embarkation tables cannot, of course, be finally prepared until the transports which will be available are [86] definitely known. Joint study and planning for embarkation of expeditionary forces are absolutely necessary.

69. *Loading.*

a. For the movement overseas of joint expeditionary forces, two general methods of loading troops and their equipment on transports are applicable. These two methods are termed *commercial loading* and *unit loading*. (See subpars. 48 s and 48 t.)

b. The determination of the method of loading for embarkation is primarily dependent upon an estimate as to the probable employment of the organizations upon debarkation. While economy of ship's space will be a highly important factor in planning for a joint overseas expedition, and combat unit loading is somewhat less economical in this respect, yet the all important factor of combat efficiency can not be sacrificed. Minimum requirements to secure combat efficiency may be stated as:

(1) Each combat team, combat unit loaded, will be complete on one ship.

(2) There will be at least as many such teams, one or more per ship, as there are beaches to be assaulted.

(3) Infantry battalions required as local reserves for assault echelons will be combat unit loaded.

c. To secure the best use of ship's space and at the same time provide the combat unit loading required by the situation, combinations of the different methods of unit loading on the same transport may often be made. Thus, the same transport may contain a combat team, combat unit loaded; the infantry regimental headquarters, and possibly other elements, organizational unit loaded; and freight, equipment, and supplies, together with other units designated to debark early in the operations, convoy unit loaded.

70. *Loading aviation units.*

a. The most desirable unit loading for Army aviation units is to have them loaded on carriers so that the planes can take off therefrom to operate in support of the landing; and to have sufficient airdrome personnel and equipment on the carrier to permit the early establishment of facilities for the operation of the units on shore. This is the ideal condition to be attained, but it is probable that lack of available carriers for this purpose will necessitate the acceptance [87] of a lesser degree of readiness, which will preclude the use of Army aviation units in support of the landing.

b. If Army aviation units cannot be unit-loaded on carriers, transports should be selected which will permit the planes to be stowed between decks, almost completely set up, and the loading on the same ship of the airdrome personnel and equipment necessary to permit prompt establishment on shore of the facilities required for the operation of the units.

c. It may be necessary to employ transports of such restricted space between decks as to require that the planes be shipped knocked-down and crated. This is the least desirable method of loading, due to the docking facilities necessary for unloading and the time element involved in getting the planes ashore and ready for flying.

Section V

The movement overseas

71. *Plans and orders.*—The plans and orders of the Army and the Navy commanders under this heading should in general include—

a. *For the Army forces:*

Designation of such landing areas as may have been concurred in by the Navy, and announcement of the plan for establishment of the Army forces on shore.

b. *For the Naval forces:*

(1) Information of time of departure, in accordance with paragraph 72, following.

(2) Concurrence with the Army in selection of the landing areas and plan for the establishment of the Army forces on shore.

(3) Safe escort of the expedition to the landing areas and organization therefor.

72. *Time of departure.*—The time of departure from the ports of embarkation of the expedition and assembly at the designated rendezvous will be decided by

the commander in chief or the commander of the service having paramount interest.

73. *Convoy and escort.*

a. Prior to departure of the overseas expedition, the naval commander will organize all noncombat vessels, such as troop and [88] animal transports and cargo ships, into such convoy groups as may be advisable, the basis for organization being the retention in one group of the ships carrying the troops and equipment to be landed at any one beach. Each convoy group will be commanded by an officer of the Navy of suitable rank, designated by the naval commander. The naval commander will furthermore organize and station the escort for the convoy groups, whether these convoy groups are proceeding in one, or more than one formation.

b. In the event that the expedition has for its major objective the establishment of the fleet in a base in a theater of operations normally controlled by the enemy, it is probable that all transports and cargo ships will be incorporated in the fleet train which includes the auxiliary vessels necessary for the logistic support of the fleet.

74. *Navigation and defense.*

a. Whatever the type of landing operations to be undertaken, the navigation and defense of the convoys of troop transports in joint overseas expeditions at sea are entirely under the direction of the Navy, and the Navy is responsible for the safe conduct of all the forces afloat included in the operations.

b. The Army personnel are passengers and do not interfere with the formation, route, or conduct of the expedition. The troops on board may be assigned certain duties such as that of lookouts, as may be directed by the commander of the transport through the commanding officer of troops on board.

75. *Protection of the lines of supply. (lines of communication).*—The Navy is always responsible for the protection of the overseas lines of supply.

Section VI

The Landing (Including Preparations Therefor)

76. *Joint plans.*—Based upon the expeditionary force joint plan, all Army and Navy commanders of larger units operating together will prepare joint plans covering their operations in the landing phase.

77. *Joint plan of the Army and Navy commanders.*—The joint plan of the Army and Navy commanders should, in general, include the necessary details concerning:

[89] a. Mission (assigned in the expeditionary force joint plan).

b. Such additional assignments of Army and Navy missions as appear to be necessary.

c. Decision as to the joint operation to be undertaken and such separate Army and Navy tasks as are considered to be necessary.

d. Designation of respective task forces required and their commanders.

e. Selection, number, and locations of the beaches within the landing area.

f. The hour of landing.

g. Gunfire and air support; both naval and Army.

h. Maintaining control of the necessary sea area during the operations.

i. Clearing enemy naval forces and obstacles from the landing area.

j. Army debarkation tables for troops, equipment, and supply.

k. Navy transport of troops from ship to shore in accordance with Army debarkation tables.

l. Seizure and organization of designated objectives on shore and exploitation of initial success after landing.

m. Relief of naval forces furnishing gunfire and air support and communication (signal) service.

n. Detail of liaison agents.

o. Communication (signal) service.

p. Establishment of ports of debarkation and supply bases on shore and other logistic details necessary for the landing operations.

q. Protection and maintenance of overseas lines of supply (communication).

78. *Orders.*—The orders of the Army and the Navy commanders will include such details of the "Joint plan of the Army and Navy commanders" as are pertinent to their respective commands.

79. *Surprise.*

a. The chances of success in an opposed landing are much improved when surprise is effected.

b. Strategical surprise is difficult to accomplish, as air and surface scouting can be carried a long distance to seaward, and may result in the early discovery of the approaching expedition. Tactical surprise, as regards the commencement of operations, against a particular beach at a particular time, is often possible, and every effort should be made to effect it. [90]

c. The effectiveness of tactical surprise is dependent upon the number of landing places available, the size of the landing force, the secrecy and rapidity of approach, the character of the enemy dispositions and ability to throw the Army reserve rapidly into an area where enemy weakness has been determined by the initial attack. Tactical surprise may also be effected by the use of darkness or smoke to conceal movements, and by means of demonstrations and feints.

80. *Reconnaissance.*

a. In cases where overseas expeditions are under consideration, steps should be taken, before initiating debarkation plans to make such preliminary reconnaissance of the proposed landing areas as may be possible to determine the enemy's preparation for defense, character of the terrain, and hydrographic conditions adjacent to the tentatively selected beaches. After completion of the plan, a further reconnaissance should be made, if practicable, to check the details and soundness of the plans.

b. During the landing phase, continuous reconnaissance should be conducted by all echelons of command. Air forces, submarines, and patrols landed from small boats, as well as the troops when landed, should carry out this reconnaissance.

c. Air reconnaissance of the terrain inland from the beach preliminary to landing is of value in determining the enemy strength in numbers and position, which must be overcome; but to avoid arousing the enemy's suspicions, air reconnaissance should be on a very broad front, or it may be necessary to suspend aerial reconnaissance in such areas for a time preliminary to the attack, unless such reconnaissance can be concealed by including it in other air operations. However, where organized resistance is expected, information obtained by air reconnaissance of enemy positions, with photographs, may prove of far more value to the landing forces than any benefits derived from attempted surprise landings without this information.

[91] 81. *Employment of the Army forces.*

a. A landing against opposition is in effect the assault of an organized defensive position modified by substituting naval gunfire support for divisional, corps, and Army artillery, and generally Navy aircraft support for Army aircraft support. However, every effort will be made to utilize all possible aircraft support, both Army and Navy.

b. Three successive phases in the operations are to be expected, each being marked by an attack or attacks with limited objectives:

(1) *First phase.*—Seizure of the necessary terrain immediately in rear of the beach, followed when sufficient strength has been landed by an advance to secure the beach from enemy light artillery fire. This requires as the objective for this phase the establishment of a line about 10,000 yards inland.

(2) *Second phase.*—Operations to insure further advance inland to a position which denies enemy medium artillery fire on the beach. This requires as the objective for this phase the establishment of a line at least 15,000 yards inland.

(3) *Third phase.*—Further land and air operations for securing the objectives for which the landing was undertaken.

c. Simultaneous landings will be made by as many combat teams on as broad a front as the boat facilities will permit, but not to the extent of causing undue dispersion.

d. The formation of the waves approximates as closely that of an assault on land as the facilities permit.

e. It is imperative that the landing be made on the beach by tactical units, even down to the squad, in order that tactical team unity may be preserved and the fighting power of the team be at the maximum at the moment of physical contact with the enemy.

f. In the day attack, assault platoons endeavor to develop all fire power practicable, making free use of machine guns while in the boats. In the night assaults, fire of the assaulting troops before reaching the beach will be used only as a last resort.

82. *Employment of the Naval forces.*

a. The commander of the naval attack force is responsible for the preparation of plans for and the actual operation of landing on [92] the beach of all personnel and material pertaining to the Army forces with which he is associated

in accordance with Army debarkation tables; the support of the landing by gunfire; the employment of the Navy air forces in support of the Army; the maintenance of signal communications between the Army and Navy forces both afloat and in the air; all this in addition to the normal functions involved in protecting the forces against hostile naval attack.

b. If the distance from the transports to the beach is considerable, consideration should be given to towing the boats by mine sweepers or light surface craft as close to the beach as the depth of the water permits, in order to minimize confusion due to breakdown and failure to keep to the designated courses. However, every care should be exercised in the methods of handling boats and in boat formations to minimize excessive losses from hostile fire.

83. *Organization of the Army forces.*

a. The Army forces designated to land at each beach or group of beaches and the necessary reserves are organized into subordinate commands adhering to normal formations. In order to effect the closest possible cooperation, Army commanders of the various echelons should be embarked initially on the ships of the commanders of the corresponding naval echelons, as far as practicable.

b. As the beach or group of beaches at which the landing will prove successful cannot be foreseen, the appropriate echelons or command should provide for adequate, highly mobile reserves afloat which may be promptly moved to exploit the situations developing on shore.

84. *Naval organization for landing.*

a. Preparatory to landing, the transports, cargo ships, and supporting naval vessels engaged in a joint overseas expedition will, if not already so organized, be organized into one or more *naval attack forces* and the forces so formed designated by the geographical name of the locality or by the terms "right", "left", "center", etc. A naval officer will be designated to command each attack force. (See par. 48 c.)

b. Such *naval attack force* is further subdivided into *task groups*, which will generally include the following:

(1) *The fire support group*, consisting of combatant naval vessels which are assigned the following fire missions: [93] Against enemy troops opposing the landing or against their probable positions; against reserves; against hostile machine guns and hostile artillery; and on hostile routes of advance or retreat. Effective results may further be obtained by close-in support of light vessels. Such as destroyers, delivering direct fire.

(2) *The air group*, consisting of naval aircraft, for observation of gunfire of the fire support group and the Army's artillery, for protection of the attack force against enemy air operations, for reconnaissance of enemy positions, for bombing enemy objectives, and for liaison with the Army forces. Where practicable, observation units should support each division landing. It should be noted, however, that the fleet air forces, in the theater of operations, other than planes carried on battleships and cruisers, are normally organized into a single task force, with the mission of supporting the landing of the expeditionary force and the operations of the attack forces.

(3) *The mine group*, consisting of the mine-laying vessels and mine sweepers for the purpose of sweeping the landing area clear of enemy mines and of laying defensive mines to protect the vessels of the attack force from enemy submarines and night torpedo attack.

(4) *The antisubmarine group*, consisting of the vessels designated to protect the vessels of the attack force from attack by enemy submarines.

(5) *The transport group*, consisting of the transports and all noncombatant vessels carrying troops, equipment, and supplies.

(6) *The screening group*, consisting of those vessels designated to locate and give warning of the approach of enemy vessels attacking same if possible. This group usually includes the submarines accompanying the expedition.

(7) *Salvage group*, consisting of such light craft as may be available for rescuing personnel of distressed boats, hauling off grounded boats, and the recovery of sunken equipment.

c. The above organization is repeated for each separate landing area at which landing operations are to be carried on.

[94] d. The commander of the naval attack force should, so far as possible, take such station that he may control and coordinate most effectively the naval operations in his area and be kept informed of the progress of the operations on shore.

85. *The landing area.*—The selection of the landing area or areas (defined in 48 d) depends primarily upon tactical considerations as to the objective and the enemy opposition likely to be encountered.

86. *Characteristics of a landing area.*

a. The area selected, *from an Army viewpoint*, should offer a maximum of the following advantages:

(1) Permit both approach and landings on a broad front, commensurate with the size of the landing force.

(2) Afford a sufficient number of favorable beaches that are preferably mutually supporting.

(3) Contain no natural obstacles which would prevent or hinder greatly an advance.

(4) Have natural terrain features on which one or both flanks may rest.

(5) Afford sufficient area for the establishment of a beach head.

(6) Afford sufficient area inland for maneuvering the forces employed.

(7) Provide sufficient suitable road running inland to insure movement of troops toward their objectives and the movement of artillery and supplies.

(8) Afford sites permitting the landing of heavy equipment, artillery, and supplies.

(9) Afford suitable ground for the operation of Army aircraft, unless areas outside the landing area are to be used for this purpose.

b. The area selected, *from a Navy viewpoint*, should offer the maximum of the following advantages:

(1) Afford suitable approach, free from obstruction, to the area in which the transports are to debark troops and equipment.

(2) Afford some shelter for the transports, so that ships may complete debarkation with the least possible interference by weather conditions, and in a depth of approximately 10 [95] fathoms, where practicable, as a protection against submarines.

(3) Afford maneuvering space for the naval supporting forces, including hydrographic conditions favorable for the maneuver of accompanying ships, close in to shore.

(4) Provide a few sheltered landing points where temporary or improvised floats or wharves can be employed for unloading that part of army equipment required ashore in the early phases.

(5) Provide suitable waters for anchorage and protection of the convoy as soon as the coast line has been freed from enemy artillery.

(6) Afford ultimately a harbor suitable for the maintenance of the military forces ashore and of the naval forces.

87. *Selection of beaches.*

a. Within any given landing area, the number and locations of the beaches are decided by the Army commander after a careful joint estimate of the situation by Army and Navy commanders, and after a reconnaissance, where practicable.

b. *From the viewpoint of the Army*, the number and location of the beaches to be employed will be based upon—

(1) Freedom from hostile opposition, as that is the most serious obstacle to a successful landing.

(2) Inability of the defenders to concentrate troops opposite each possible beach as compared with the attacker's ability to do so.

(3) Absence of permanent means of defense or obstacles installed by the enemy.

(4) Access to the terrain over which the troops are to operate.

(5) Extent and existence of adjoining beaches permitting landings and approach on a broad front. The shore line need not be suitable throughout its whole extent for landing, provided the various beaches permit the units landing thereon to be mutually supporting.

(6) The character of the terrain inland from the beach. The establishment of a beachhead requires that the landing forces be able to clear rapidly the area inland adjacent to [96] the beach to a depth of at least 10,000 yards, so as to allow the continued landing of troops without interference by light artillery fire. It further requires that, as a next step, the forces ashore be able to establish themselves preparatory to a further advance on a line at least 15,000 yards inland, so as to allow the continued landing of heavy material without interruption by medium-range artillery fire.

c. *From the viewpoint of the Navy*, the water area adjacent to the beaches selected should:

(1) Be free from serious obstructions to navigation.

(2) Be of a slope permitting beaching of boats close to the shore line.

(3) Be firm, particularly where guns and heavy army equipment are to be landed.

(4) Contain some area sheltered from wind and sea so that the troops and equipment may be landed from boats without undue interruption or interference by surf.

(5) Have satisfactory tidal and current conditions. Local currents, particularly those close inshore, rough water, surf, usual weather conditions, and tidal range, must be considered by the Navy in determining which beaches are practicable for landing.

(6) Have satisfactory approaches from seaward, without narrow passages, thus permitting the movement of boats on a broad front.

d. Unfavorable beaches may have to be selected for various reasons. Use of such beaches may be obligatory even at the risk of losses, because better beaches do not exist, or in order to take the overbalancing advantage of surprise, or to gain a flanking fire which will assist the larger landings on more favorable beaches. Successful landings have been made on shore lines thought to be inaccessible.

88. *Final selection of landing areas and beaches.*

a. Final selection of the landing areas and beaches must be based on a reasonable probability of attaining the major objective. The decision must assure the landing of sufficient troops at a place from which they can reach their objective and accomplish the mission for which the operation was undertaken. Landing areas and beaches [97] should be selected with a view of determining the enemy's weakest point.

b. Since tactical considerations governing the employment of the troops on shore are paramount, *final decision* as to the landing area of Army forces, its breadth, beaches to be used, and order of landing of the troops will be made by the Army commander from among those areas and beaches that the Navy commander states are practicable so far as naval considerations are concerned.

89. *Hour of landing.*

a. Decision as to the hour of landing involves several factors which will be considered jointly by the Army and Navy commanders in charge of the operations.

b. *Advantages of landing during darkness.*—A landing before or just at day-break greatly increases the chance of securing some measure of tactical surprise, materially lessens the efficacy of any fire the defense may employ except prearranged fires or defensive barrages, reduces the losses to be anticipated while the troops are in small boats, and prevents the enemy from gaining the necessary information on which to dispose his forces, particularly the reserves. Advantage may be taken of fog or smoke as a protection against searchlights and flares. However, fog and smoke may increase the difficulty of landing at the desired beaches.

c. *Advantages of landing during daylight.*—In a daylight landing the movements of both ships and small boats are made under favorable circumstances, as positions and courses can be accurately fixed and as troops can be loaded into small boats more easily than during darkness. Likewise, the attack is assured of better gunfire and air support, and better defense against mines, submarines, light naval forces, and hostile aviation. The attackers, by means of naval gunfire and aviation, are better able to pin the enemy to the ground and interdict movements of his reserves, thus preventing his exploitation of the fuller and more accurate information which daylight permits him to obtain.

d. *Smoke.*—In case the landing is not made under cover of darkness, the resulting disadvantage may, to some extent, be overcome by the use of smoke. A smoke screen laid by destroyers or aircraft may be utilized to conceal the movements and dispositions [98] of the transport groups, while an airplane smoke screen laid on hostile positions when known or at the shore line may serve to protect the small boats from hostile fire and at the same time keep the enemy in doubt as to the exact strength and point of attack. In planning for the use of smoke the direction and velocity of the wind must be carefully considered.

e. *Daylight essential for exploitation.*—The landing must be made early enough to allow sufficient daylight for the Army forces to reach their first objectives.

f. *Other considerations.*—In addition to the above considerations, a particular combination of tide, wind, fog, or moon may be desirable in selecting the hour as well as the day for the landing.

g. *Final decision* as to the hour of landing rests with the commander in chief, in the case of unity of command, or the commander of the service having paramount interest.

90. *Approach to and occupation of landing area.*

a. The approach to the landing area and the occupation of the sea area included therein are conducted under orders of the commander of the naval attack force or forces. Careful calculation must be made as to the time required to embark the first wave in the boats and the length of time it will require to reach the beach. This result is applied to the previously determined hour for the landing and the approach so conducted that the transports will be in position at the time required. In order to minimize risk of detection as well as torpedo attack by enemy submarines, vessels should not be required to arrive within the landing area until they are needed. Where hydrography allows, transports may be anchored in water of such depth as to afford protection against hostile submarines. It is highly desirable that the submarine danger be eliminated prior to making landings. Submarine nets may be used to protect transport groups.

b. When the waters of the proposed landing area are known or suspected of being mined, breaches must be made before the landings begin. The necessary mine sweeping is performed by the Navy.

c. The Navy is responsible for the demolition or removal, when possible, of underwater obstacles near the beach. Consideration will be given to the possibility of destroying such underwater obstacles as barbed-wire entanglements by cutting devices rigged on the small boats of the assault wave.

[99] d. Enemy submarines and mines may influence the conduct of the convoy, the approach to the landing area and the beaches, naval gunfire support, or the method of debarkation, thus requiring changes in the details of the plan.

91. *Transport and naval support areas.*

a. The transport area is defined in paragraph 48 g. The commander of the Navy forces is responsible for the selection of the transport area.

b. The area assigned to each transport group should be as close to the beach as possible without coming under effective enemy artillery fire. The desirability of utilizing smooth water for the purpose of debarking the troops into the small boats is an important consideration. The transport area should not be crowded.

c. The naval support area, defined in paragraph 48 h, should be sufficient in depth and breadth to permit free maneuvering of the supporting ships, with deep water close enough in to permit them to cover effectively with gunfire the land objectives step by step up to the extreme ranges. If practicable, it will be separate and distinct from the transport area.

92. *Employment of air forces.*

a. The plan for employment of the air forces, Army and Navy, depends upon the time during the operations at which the Army air forces can be made available for service. Factors which affect early employment of Army air units are:

(1) The selection of landing fields for use by the Army air forces; their location with reference to the landing area.

(2) The time required for preparation of necessary landing fields and the amount of labor available for this purpose.

(3) Whether land bases for Army aviation are to be seized prior to main landing.

(4) Whether land bases for Army aviation are to be seized at the same time of the main landing.

(5) The difficulty of transporting airplanes uncrated, the amount of ship's space available for this purpose, and the difficulty of transporting airplanes from ship to shore and to places where they can take off.

(6) The time to assemble airplanes that are transported in crates.

[100] (7) The practicability of flying a portion of the Army air forces to temporary landing fields within operating distance of the landing area.

b. When the enemy is provided with an air force, the hostile observation is almost certain to learn of the approach of the expedition, and the hostile air force, unless neutralized, may prevent the convoy from approaching the coast or the successful debarkation and landing of the troops without serious losses. The convoy must be assisted by an air force strong enough to protect the convoy and the landing area from effective air attack. This is the function of the naval air forces, with such assistance from the Army air forces as may be practicable.

c. While the Army air units will enter into the action as early as possible, Army air activities will be restricted until suitable land bases are secured. Hence, in addition to reconnaissance and air spotting of naval gunfire during the early phases of the landing operations, the Navy air forces will be prepared to take over, or at least to assist in other missions usually assigned to the Army air units. Naval assistance in such missions, which include infantry liaison, artillery

adjustment, reconnaissance, and attack in support of ground operations, will continue until the various classes of Army air units are available. Army observers will be utilized, if practicable, in naval planes in such operations prior to the arrival of Army planes.

93. Naval gunfire support.

a. As artillery support, at least in the initial stages, must be given by naval gunfire exclusively, the maximum effectiveness of its use must be assured by very careful prearrangement. Liaison and communications between advancing troops and their supporting artillery should be provided.

b. Naval artillery being of the high velocity, flat trajectory type, the objectives selected for it to fire upon must be large, well defined, and farther ahead of our infantry for safety reasons, than is usually the case. Due to the limited supply of ammunition available for all types of naval guns, barrages and firing on minor or suspected targets will not be feasible. Instead of this the best method of support will be by short intense concentrations fired according to a [101] Prearranged schedule on targets visible from the firing ships, from observation points on land, or from spotting aircraft. Concentrations should be placed on other targets as they disclose themselves by groups specially designated beforehand. Although possible, map firing should be employed only as a last resort; observed firing is always to be preferred. However, liberal use should be made of maps in the designation of artillery objectives in the plan of fire support.

c. Reduced charges may be used to advantage in cases where the design of the gun permits this. High angle fire may be obtained by the design, manufacture, and supply of artillery for the particular purpose of supporting a landing force in joint operations. Naval antiaircraft guns will be used throughout against enemy air operations, but if not needed for this purpose they may be used advantageously against shore objectives.

d. The gunfire support furnished by the naval forces should be continuous. It will usually start with a preparation fire and continue throughout the successive stages of the landing until the limit of range of guns is reached or until the Army's own artillery is in a position to furnish adequate support. During the time the first wave is embarking in small boats from the transports and until the first of these boats reach the beach, the fire will be placed on known hostile artillery positions, organized strong points, machine-gun nests, defiles on routes over which supports and reserves must pass and, generally, on such other objectives the neutralization of which will lessen the enemy's defense. Artillery support plans will provide for effective fire on the beach to cover the movement of the first wave ashore. Just before our troops reach the shore the fire will lift to targets farther inland. The terrain beyond the beach will influence the amount of lifting of the fire. In any event it must be kept far enough in advance of our infantry to assure against losses from our own fire.

e. There are two general methods which may be employed by naval forces in affording artillery support in a forced landing where two or more Army divisions land simultaneously. One is to keep all firing units centralized under the highest commander; the other is to decentralize naval support groups to support subordinate Army [102] units. The following are examples of the second method: When two infantry divisions land simultaneously and the naval units have been divided into two naval attack forces, it might be desirable to have the naval vessels of one naval attack force support one division, and the naval vessels of the other naval attack force support the other division, or to divide the naval force into three supporting groups—one being assigned to support each division and one to support the operation as a whole; or a division might be made by calibers, the large caliber main batteries of large ships being assigned to general support while the smaller caliber secondary batteries are assigned to support subordinate units to include divisions, and sometimes brigades.

94. Cooperation in gunfire support.

a. Complete plans for gunfire support should be worked out prior to embarkation between the commanders of the naval groups which are to give the support and of the respective Army units they are to support. Army commanders will indicate the objectives upon which they desire fire, the purpose of the fire, and the times they are to be fired upon. The naval commander concerned will indicate exactly how much of the desired support he can give. In case the Navy has not sufficient guns to cover the desired objectives, every effort will be made to secure additional ships rather than defeat the Army plan by reducing below the minimum the artillery support required by it.

b. Since the effectiveness with which naval gunfire support plans and orders are carried out is largely dependent upon the maintenance of adequate liaison

and communications between shore and ship, such plans and orders should include adequate provisions for the installation and maintenance of all means necessary to assure this. To assist in securing effective support, liaison officers will be interchanged between Army and Navy units. Advantageous use may be made of Army officers of artillery organizations which do not debark initially. All liaison officers should report to the headquarters to which assigned in plenty of time—probably prior to embarkation—to become thoroughly familiar with their duties. They should be sufficiently familiar with the other service as to be able to interpret the desires and needs of the commanders of the units whom they represent in the case of Army liaison officers and the capabilities of naval firing groups in the case of naval liaison officers.

c. In addition to normal communication through the beach master as provided in paragraph 101 a, each naval liaison officer should have direct communication with his commander whom he represents. For this purpose each should be accompanied by a signal party with facilities for maintaining radio and visual communications with his commander.

95. *Debarcation of troops.*

a. A wave is defined in paragraph 48 g. The organization of the troops of each wave, with the time of arrival at the beach, is determined by the debarkation tables which are prepared by the Army officer commanding the unit. Such organization is based on best information on hand and upon information received from the naval attack force commander as to availability and capacity of boats.

b. The tactical requirement of deployment in depth will cause the debarkation to be made in successive waves.

c. The number of waves to be under way at the same time will depend upon the tactical plan and the number and kind of boats available. After the initial tactical force has been carried ashore by successive waves, the remaining Army units will be sent ashore in as orderly and expeditious a manner as is feasible by the use of such boats and lighters as remain available, unless the necessity for tactical formations demands continuation of movement by waves.

d. The Navy is responsible that the waves are so spaced that they will arrive at the beach in the order and at the time intervals requested by the Army.

e. In order to reduce the time that the troops may be under fire in the boats, it is desirable that the first wave, at least, be debarked in fast motorboats, the larger and slower boats being reserved for succeeding waves in which larger groupings are not objectionable. The provision of special boats for the purpose of landing the troops is highly desirable and is a duty of the Navy.

f. All boats of an assault wave should mount machine guns to be manned by either the Army or Navy, and should be provided with as much protection as possible against the effects of small-arms and machine-gun fire directed at them from the beaches and from aircraft.

[104] g. All boats used for landing troops, equipment, or supplies will be manned by Navy crews and commanded by Navy personnel.

96. *Debarcation of supplies and light equipment.*

a. The plan covering the landing phase will provide for the supply of the troops on shore. Their needs must be foreseen and transports loaded in accordance with the plan of supply. The first administrative orders to be issued after landing will be prepared, at least in tentative draft form, before the expedition sails.

b. Troops usually carry only enough rations and ammunition upon landing to last 1 or 2 days. However, a beach reserve of rations and ammunition for at least 10 days should be built up as soon as possible, preferably from supplies carried in the transports for this purpose. Ordinarily, few stores other than ammunition and water can be unloaded and landed on the first day.

c. The troops of each wave should carry the signal communication equipment appropriate to the units involved.

d. Debarcation of supplies and equipment and the priorities therefor should be provided in the Army debarkation tables.

97. *Debarcation of artillery and other heavy equipment.*

a. The plan of debarkation should avoid encumbering early waves with non-essential equipment. Field artillery, though difficult to land, is essential. The landing of field artillery heavier in weight than light artillery upon open beaches is difficult, and the terrain may be such as to make the prompt movement or employment of such artillery, after landing, impracticable. In favorable situations, on a good beach, a small amount of light artillery and tanks may be landed early. Such artillery will usually have to be moved into position by

hand. Light tractors suitable for moving field guns into position can be debarked more easily than animals.

b. There are no suitable boats at present carried by vessels of war or merchant ships for transporting a large amount of army supplies or the heavier army equipment, such as medium field artillery pieces, tanks, motor trucks, airplanes. Special barges or lighters, preferably self-propelled, should be provided by the Navy for this purpose prior to embarkation.

c. All equipment and supplies which cannot be handled easily from boats to shore require improvised ramps and piers and some special naval equipment for handling. For landing a limited [105] amount of light equipment and supplies to accompany troops, the Navy will require small sheltered bights or inlets along the coast, and for handling the bulk of supplies and heavier Army equipment, fairly well protected harbors with temporary piers and wharves and appliances for unloading.

98. *Debarcation of animals.*—The number of animals that can be debarked or handled on an open beach is limited, yet provision will have to be made for transportation, debarkation, and landing of some animals, probably early in the operations. The Army will provide for the supply of proper slings, transportation stalls, and such other equipment as will facilitate the handling of the animals to be landed. Tidal currents should be considered in swimming animals ashore. Animals may be debarked as follows: From the transport to small boats by using flying stalls; from the boats into the water by ducking ramps; from the transports into mine sweepers or similar light craft, by flying stalls or slings; from mine sweepers or similar light craft into the water by slings or a ducking ramp; from the transport into the water by slings.

99. *Debarcation of air forces.*

a. The method of debarking Army air units will depend upon the plans for their initial employment and the manner in which transported.

b. When the situation is such that it has been planned to transport Army aircraft crated, and not to use them until a suitable landing field has been secured as a result of the seizure of a beach head, the aircraft will not be debarked until suitable means for transferring them from ship to shore are available. Such a situation would exist when the operation was directed against an enemy known to be unable to offer effective air opposition to the landing operation.

c. However, the normal situation will require a maximum employment of all available air force, Army and Navy. Every effort should be made to transport Army aircraft so that they can participate in the initial operations. Navy aircraft carriers are taxed to capacity to care for their own planes and usually would not be available for handling Army aircraft; but if available should be used.

[106] d. Often it will be possible to debark aircraft at some distance from the landing area of the main operation, but within flight reach. The seizure and protection of a suitable area may constitute a secondary landing operation. Such an operation might be carried out in advance of the main operation, in order to make additional aircraft available to participate in the latter, but at the possible sacrifice of secrecy.

e. A favorable situation is one in which the area selected for the operation is within flight distance of friendly territory, thus permitting Army air units, flying from such territory, to participate in the initial phase of the operation.

100. *Supply of water to the troops.*—If the landing is made during hot weather or in a tropical climate, the amount of water that can be carried may be considerably less than the landing troops require. When there are no facilities for supply of water ashore in the landing area, arrangements must be made by the Navy to furnish water for the troops ashore. The Army's estimate and the Navy's arrangements for the water supply must be liberal. Allowance will be made for loss of water and containers, including damage by hostile fire. Until the tactical situation ashore permits water being delivered by water boats to be provided by the Navy, at least one cask of water will be placed in each boat going ashore. Plans will provide for the continuous supply of water by the Navy until the Army has developed its supply ashore.

101. *Organization of the beach.*

a. *The beachmaster* is a naval officer. One will be appointed for each beach where a landing is to be made. He will be provided with ample assistance. The beachmaster has complete control of the beach from the high-water mark seaward; of all naval operations thereat, together with all landing facilities. He causes the beach to be promptly marked to facilitate its recognition by approaching waves; organizes, maintains, and controls all communication with

the Navy; transmits all Army messages from shore to ship, and receives and transmits to the shore party commander all messages from ship to shore which apply to the Army except as provided in paragraph 94 c; and cooperates with the shore party commander. The beachmaster and a few of his principal assistants land with the first wave. [107] The beachmaster's headquarters should be provided with such protection from enemy fire as may be practicable. Previously trained Army artillery and Army air corps liaison personnel, in addition to competent naval communication personnel, will be established at the beachmaster's communication center, so that messages may be transmitted in terms and manner to which each service is accustomed.

b. The shore party commander is an Army officer. One will be appointed for each beach where a landing is to be made. He will be provided with ample assistance. The shore party commander takes charge of all engineer and labor troops, equipment, and supplies on arrival at the beach; organizes the beach facilities, such as the establishment of dumps, collecting stations, and prisoners' inclosures; establishes information and message centers; facilitates the movement of all troops inland; and cooperates with the beachmaster. The shore party commander lands with the first wave.

c. Military police.—Confusion is likely to occur at the beaches, due to the irregular arrival of troops and supplies, hostile fire, movement of wounded and stragglers to the rear, and to the arrival of runners with messages. It is necessary, therefore, to have the beach well policed, and a sufficient number of military police should be detailed to assist the shore party commander.

d. An engineer party will be landed with or soon after the first troops. The shore party commander will detail necessary engineers to assist the beachmaster in establishing at once improved landing places for boats and in removing obstructions. A wharf of some kind is usually the next work, and it must be completed with the least possible delay. Army ponton equipment may be valuable for this purpose, and such equipment should be loaded with a view to its early use. The shore party commander will arrange for the construction of routes of communication to the interior. The location of these routes of communication may be determined by a study of maps beforehand, and this will be done wherever practicable.

e. Boat repair party.—Casualties to the hulls of boats and to the machinery of power boats due to enemy fire, sea conditions, and the hazards of landing on open beaches will likely occur at a high rate. It is desirable, therefore, to land as soon as practicable a repair party, including carpenters' mates, machinists' mates, and electricians' mates, under competent leadership, to assist the beachmaster in salvaging and repairing damaged boats.

f. Medical service.

(1) The Army evacuates to the shore line; the Navy is responsible from the shore line to the shore line at the base port, where the Army again becomes responsible.

(2) Attached medical troops will accompany combat units, taking with them the necessary supplies to meet initial requirements. Such mobile medical installations as are established at the beachhead do not carry out definitive treatment. This will be carried out on shore after fixed hospital units have been landed and established. As soon as sufficient terrain has been secured to afford protection, additional medical facilities, such as collecting stations, ambulances, hospital stations, and evacuation hospitals, in the order named, will be landed. Until a systematic service is provided, such evacuation as is practicable will be handled by the beachmaster from shore to ship in such manner as will not interfere with landing of essential troops and supplies. Systematic evacuation of all cases to hospital ships or transports will be established as early as practicable. A plan of evacuation will be prepared prior to debarkation of the expeditionary forces.

g. Marking routes inland.—It is highly important that all Army units thoroughly understand and have identified routes inland. Each unit will mark promptly and plainly its routes inland, together with location of message and information centers. This marking will be displayed so as to be visible from seaward only.

102. *Subsidiary landings.*

a. In addition to the main landing, certain subsidiary landings may be advantageous, namely, those pertaining to demonstrations or feints, and those which may be termed secondary landings.

b. Demonstrations or feints have as their missions the diversion of enemy reserves from the area of the main effort, or the retarding of the movement of enemy reserves thereto. To be effective they must be directed against objectives of importance to the enemy. They also should be so coordinated as to time and directed

against points at such a distance from the area of the main landing that they will insure, to a reasonable degree, the containing of the forces [109] stationed at or drawn to such points, and prevent them from participating in the opposition to the main landing. Unless they are conducted on the scale of a landing in force, so as to be convincing to the enemy, they probably will fail of their purpose.

c. *Secondary landings* are operations which only indirectly support the main landing; they may be for the purpose of seizing and holding areas, such as sites for air bases, which are desirable for operations in connection with the main landing.

d. It must be borne in mind that in some situations the further developments of the operations may result in that which was initially planned as a subsidiary landing becoming a main landing and, therefore, plans should provide for the necessary flexibility to meet such a contingency. In any event, sufficient force must be employed to accomplish the object sought; failure of such an operation wastes strength and has an adverse effect on morale.

Section VII

Withdrawal and Reembarkation

103. *Plans for withdrawal.*

a. Withdrawal of troops engaged in landing operations, with consequent evacuation of positions on shore which have been occupied, may be required by strategical considerations or may be necessary by reason of unsuccessful tactical operations.

b. The withdrawal and reembarkation of the forces in close contact with an enemy in relatively greater strength is an exceedingly difficult and hazardous operation.

c. Decision to withdraw having been approved by the authority having responsibility for the expedition as a whole, the necessary plans in as great detail as possible are drawn up by the commander of the Army forces in consultation with the commander of the Navy forces.

d. The means available to the Navy for clearing the reembarkation points will determine the stages of the withdrawal. The direction of withdrawal is closely limited by the location of the embarkation points, and such withdrawal involves the passing of troops, material, and supplies through the embarkation points, which are defiles of the most constricted nature.

[110] e. When the situation permits an orderly withdrawal, the plan will usually provide for evacuation in the following sequence: Animals, supplies, artillery matériel, troops. However, when in close contact with a superior enemy, it may be necessary to establish the following priorities for evacuation: Troops, artillery, supplies, animals, in which case provision will be made for the destruction of such artillery, equipment, supplies, and animals as cannot be evacuated.

104. *Secrecy.*—The importance of secrecy in the final stages, at least of the withdrawal, cannot be overemphasized. An attack delivered on the covering force at its last adequate covering position by the enemy during the withdrawal of the main body, would probably produce consequences of the most serious nature. For this reason, this stage of the withdrawal should be conducted under the cover of darkness or a smoke screen, and every possible precaution must be taken to conceal the movements of the forces and other activities indicative of a withdrawal. When the force had been in contact with the enemy for an appreciable time, and conditions are more or less stabilized, evidence of any change in conditions will be avoided with scrupulous care. Ruses to convey to the enemy impressions of such normal conditions are desirable, but such ruses must be carefully planned and executed in order not to arouse the curiosity or suspicions of the hostile force.

105. *Air superiority.*—As long as the enemy is able to maintain air reconnaissance, concealment of the operations involved in withdrawal is difficult, and therefore necessitates a maximum use of darkness, smoke screens, and camouflage. For this reason it is desirable that at least a temporary local air superiority be obtained prior to the last stages of the withdrawal. Plans to obtain such superiority include coordinated effort by both the Army and Navy air forces. Every effort will be made to retain such temporary air control until the forces have been reembarked.

106. *Weather conditions.*—Favorable weather conditions, at least during the last stages of the withdrawal and reembarkation, are requisite to the success

of the operations. The Navy will, through its aerological service, furnish the Army with weather predictions. The utmost effort must be made by the Navy to take advantage of favorable weather conditions during the reembarkation.

[111] 107. *Naval support.*

a. The operations of the Navy forces during a withdrawal of the Army forces from the shore are similar to those during a landing operation, the phases occurring in reverse order.

b. In addition to providing the sea transportation and the small boats to reembark the Army forces, including crews to man the boats, the Navy will be prepared to furnish gunfire and air support during the withdrawal. The Navy will, as in the case of the initial stages of the landing operation, provide for signal communications between ship and shore until the last unit is evacuated.

Section VIII

Communications

108. *Plans.*

a. In accordance with paragraph 54a (8), the commander in chief, or the commander of the service in which paramount interest is initially vested, is required to provide joint plans for communication between forces. While the particular situation and the designated directive will greatly influence the preparation of specific instructions, the following general directive should apply to all such plans, in order that advance preparations, including training, may be accomplished and any obstacles to the successful culmination of the plans may be avoided.

b. The joint communication plan and the communication plans of subordinate commanders of both the Army and the Navy shall cover the following phases:

- (1) Movement overseas.
- (2) Landing.
- (3) Operations subsequent to landing.

c. All communication plans shall include.

- (1) Frequency plans.
- (2) Provisions for communication security.
- (3) Provisions for radio intelligence.
- (4) Designation of procedure to be followed.

(5) Requirement that portable radio sets and other communication material be tested prior to embarkation.

[112] 109. *Communications between ship and shore.*—Efficient signal communications between ship and shore are of primary importance. It is the duty of the Navy to establish and maintain, through the beachmaster, necessary signal communications facilities for both Navy and Army requirements. The Army communication net ashore will be connected up with the Navy's communication center at the beachmaster's headquarters. The Army prolongs its axis of signal communications inland as the attack progresses. In this connection see paragraph 94 c.

110. *General.*—In drawing up communication plans reference should be made to paragraphs 63 b; 77 o; 82 a; 93 a; 94 c; 98 c; 101 a, b, c, d, and g; 104; 107 b; 108; and 109.

[113]

CHAPTER VII

REGULATIONS, MANEUVER RULES, AND UMPIRE INSTRUCTIONS FOR JOINT ARMY AND NAVY EXERCISES

CONTENTS

Para- graph	Subject	Page ¹
	SECTION I—INTRODUCTION	
111	Object of joint exercises.....	115
112	Classes of joint exercises.....	115
	SECTION II—REGULATIONS	
113	Instructions for joint exercises.....	115
114	Designation of forces engaged.....	117
115	Problems for joint exercises.....	118
116	Conduct of joint exercises.....	119
117	Communication between umpires.....	120
118	Critique.....	121
119	Reports.....	121

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

REGULATIONS, MANEUVER RULES, AND UMPIRE INSTRUCTIONS FOR JOINT ARMY AND NAVY EXERCISES—continued

CONTENTS—continued

Para-graph	Subject	Page ¹
	SECTION III—MANEUVER RULES	
120	Distinguishing marks.....	122
121	Simulation of fire.....	122
	SECTION IV—UMPIRE INSTRUCTIONS	
122	General duties of umpires.....	123
123	Umpires' decisions.....	124
124	Journal of events.....	125

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

[115]

Section I

Introduction

111. *Object of joint exercises.*—The object of joint exercises is to train Army and Navy forces in joint operations and to test existing joint war plans, Army and Navy war plans predicated thereon, the sufficiency of means provided for the defense of various localities, and the adequacy of plans for their employment, under conditions as closely approximating those of war as possible.

112. *Classes of joint exercises.*

a. Joint Army and Navy exercises are divided into two classes—

- (1) Grand joint exercises, and
- (2) Minor joint exercises.

b. *Grand joint exercises* are joint exercises that involve the United States Fleet as a whole or one or more of its major subdivisions and equivalent Army forces, and which require Joint Board coordination.

c. *Minor joint exercises* are joint exercises other than grand joint exercises.

Section II

Regulations

113. *Instructions for joint exercises.*

a. *Prior to the commencement of a grand joint exercise.*

(1) The Joint Board shall formulate such general instructions as are necessary to assure adequate and properly co- [116] ordinated action, both in preparing for and in conducting the grand joint exercise. Any question arising in connection with the foregoing instructions that requires interpretation, amplification, or modification shall be referred to The Joint Board for decision. Copies of these instructions sufficient in number for all Army and Navy forces and agencies concerned shall be furnished by The Joint Board to the War and Navy Departments for distribution. A separate copy for transmittal to the Governor of the Panama Canal shall be furnished by The Joint Board to the Secretary of War in the case of a grand joint exercise in the Panama Canal Zone.

(2) The War and Navy Department shall formulate and issue detailed instructions affecting the forces under their respective jurisdictions, to the end that the grand joint exercise shall be carried out in accordance with the problem and the general instructions formulated by The Joint Board. Copies of detailed instructions issued by one Department that are of interest to the other Department shall be furnished to the Department thus affected for its information. In the case of a grand joint exercise in the Panama Canal Zone the Navy Department shall furnish the Secretary of War for transmittal to the Governor of the Panama Canal so much of the instructions issued by the Navy Department as are of interest to the authorities of the Panama Canal.

(3) In case of a grand joint exercise in the Panama Canal Zone the Secretary of War will issue such instructions to the Governor of the Panama Canal as he may deem necessary.

b. *Prior to the commencement of minor joint exercise.*

(1) The Army and Navy commanders who have agreed to hold a minor joint exercise shall jointly formulate such general instructions as are necessary to

assure adequate and properly coordinated action, both in preparing for and in conducting the exercise, and shall issue them to those concerned in their respective commands.

(2) The Army and Navy commanders referred to in the preceding paragraph shall formulate and issue detailed instructions affecting the forces concerned in their respective [117] commands, to the end that the minor joint exercise shall be carried out in accordance with the problem and the general instructions jointly formulated by them. Copies of detailed instructions issued by either commander that are of interest to the other commander shall be furnished to the commander thus affected for his information.

c. Subsequent to the commencement of any joint exercise.—Subsequent to the commencement of any joint exercise and until its termination all instructions in connection with the conduct of the exercise, including definite directions as to commencement and termination of a temporary general or local suspension of the exercise, shall be prepared and issued by The Joint Board or by the chief umpires in case of a grand joint exercise, and by the commanders concerned in case of a minor joint exercise.

d. Instructions to include commencement and termination of joint exercise.—The instructions issued in preparation for a joint exercise shall include the following:

(1) The date and hour when the exercise is to commence.

(2) The date and hour when the exercise is to terminate, or merely the approximate date when it is to terminate, when determination of the actual date and hour of its termination is to be left to the discretion of the chief umpires, in which case this fact will be stated.

(3) A description of the signal or an indication of the method by which the chief umpires will terminate the exercise in case its termination is left to their discretion.

114. Designation of forces engaged.

a. The forces engaged in any joint exercise shall habitually be divided into—

(1) *Blue forces*, representing those of the United States, and

(2) *Black forces*, representing those of the enemy.

b. The Army and Navy forces that are to participate as Blue and Black forces in a joint exercise shall be indicated either in the problem or in the instructions issued in connection therewith—

(1) In general terms, in case of a grand joint exercise, by The Joint Board.

[118] (2) In case of a minor joint exercise, by the Army and Navy commanders who have agreed to hold such an exercise.

c. The forces engaged in any joint exercise shall, insofar as practicable, be actual forces. Constructive armament and means shall not be used, except that field works, shelter, obstacles, and other structures that could not be built except at considerable expense and labor may be used constructively but must in every case be outlined clearly and indicated by markers or other contrivances, and material therefor must be actually available.

115. Problems for joint exercises.

a. The problem for a joint exercise shall habitually consist of the following:

(1) The *general situation*, which shall embody information assumed to be known to both sides.

(2) The *special situation—Blue*, which shall embody full information in regard to the Blue forces and such information of the Black forces as might have been obtained in actual war and shall include a statement of requirements which shall indicate definitely what is required and of whom it is required.

(3) The *special situation—Black*, which shall embody full information in regard to the Black forces and such information of the Blue forces as might have been obtained in actual war and shall include a statement of requirements which shall indicate definitely what is required and of whom it is required.

b. The problem for a grand joint exercise shall habitually be prepared by The Joint Board, which shall furnish a sufficient number of copies thereof to the War and Navy Departments for issue by them, respectively, to the Army and Navy forces concerned. In case of a grand joint exercise in the Panama Canal Zone The Joint Board shall furnish a separate copy of the problem to the Secretary of War for transmission to the Governor of the Panama Canal.

c. In case grand joint exercises are to be held in the Hawaiian Islands or in the Philippine Islands, The Joint Board will prepare a letter for transmittal by the War Department through official channels to the respective governors, containing such information as may be necessary to inform them of the operations contemplated.

[119] *d.* The problem for a minor joint exercise shall be prepared jointly by the Army and Navy commanders who have agreed to hold such exercise and shall be promulgated by them to those concerned in their respective commands.

116. *Conduct of joint exercises.*

a. The conduct of a joint exercise shall habitually be supervised by—

- (1) The chief umpires.
- (2) A senior umpire—Blue.
- (3) A senior umpire—Black, and
- (4) Such umpires and assistant umpires as may be necessary.

b. For a grand joint exercise, 1 Army and 1 Navy member of The Joint Board or 1 Army and 1 Navy officer of high rank, recommended by The Joint Board and detailed therefor by the War and Navy Departments, shall act jointly as the chief umpires, and 1 or more Army or Navy officers, preferably members of the joint planning committee, similarly recommended and detailed, shall act as assistants to the chief umpires.

c. For a grand joint exercise, 1 Army or Navy Officer, preferably a member of the joint planning committee, recommended by The Joint Board and detailed therefor by the War and Navy Departments, shall act as senior umpire—Blue, and 1 as senior umpire—Black, and 1 or more Army or Navy Officers, similarly recommended and detailed, shall act as assistants to each senior umpire. Such number of other Army and Navy officers as The Joint Board may recommend shall be detailed by the War and Navy Departments, or by their authority, to act as umpires for major subdivisions and as assistant umpires for important elements of such subdivisions, it being understood that if this number does not suffice additional umpires and assistant umpires shall be designated by the Army or Navy commander concerned upon call by the senior umpire concerned.

d. For a minor joint exercise the chief umpires, the senior umpire—Blue, the senior umpire—Black, such assistants to the foregoing as may be necessary, and such umpires and assistant umpires as may be required shall be designated by mutual agreement between the Army and Navy commanders who desire to hold such an exercise.

e. The offices of the chief umpires shall be so located as to permit easy communication with the senior umpires, and the office of each [120] of the latter shall be so located as to permit easy communication with the Blue or Black umpires and the Blue or Black forces, as the case may be, and with the chief umpires.

f. Unless specifically directed otherwise in the problem or instructions issued in connection therewith, the commander of the Army forces and the commander of the Navy forces participating on each side in the exercise shall each furnish the chief umpires, prior to the commencement of the exercise, with a copy, in triplicate, of his estimate of the situation, plans, or synopsis thereof and initial orders. The chief umpires shall retain 1 copy of each document and shall furnish 1 copy to the senior umpire—Blue, and 1 to the senior umpire—Black.

g. After a joint exercise begins any new estimates made and all orders issued shall be immediately communicated by the commanders indicated in subparagraph *f* above to the senior umpire—Blue or Black, as the case may be, through the umpire assigned to their staffs, or directly in case there is no umpire so assigned.

h. Commanders other than those referred to in subparagraphs *f* and *g* above shall similarly communicate their initial estimates and orders and all subsequent estimates and orders to the umpire or assistant umpire assigned to their staffs.

i. All reports and messages that would in an actual case be dispatched by commanders to the Blue War and Navy Departments, the Black War and Navy Departments, or to other forces that are not represented in the exercise, shall be sent to the senior umpire—Blue or Black, as the case may be, for transmission to the chief umpires, who will represent those agencies or forces.

j. All action taken by commanders and all events occurring within the realm of a command shall be promptly communicated by the assistant umpire, or umpire concerned, to his umpire or senior umpire, as the case may be, of the side (Blue or Black) to which he is assigned.

117. *Communication between umpires.*

a. So far as practicable, separate telegraph, telephone, visual signal, radio, or other communications shall be provided for the use of the umpires.

[121] *b.* All messages passing between umpires shall be preceded by the word "umpire" in plain language. Such messages are to be given to the senior umpire at the station addressed, or to the nearest umpire. The information contained in such messages shall not be given to persons other than umpires.

Neither side shall attempt to decode or decipher messages preceded by this prefix, nor shall radiocompass bearings be taken on any station transmitting an umpire's message. No attempt shall be made to jam the radio-frequency assigned for the transmission of umpires' messages. All stations are prohibited from shifting to the umpire's frequency for the purpose of avoiding radio interference on their own assigned frequencies.

118. *Critique.*—At the conclusion of the exercise the commanders and staffs of all units participating, or at least those of the major units, shall be assembled for a discussion of the exercise as a whole. This discussion shall be held under the direction of the chief umpires and shall consist essentially of a brief résumé of the situation and progress of the exercise and of a critique thereof, and shall conclude with a statement of the lessons to be learned from the exercise.

119. *Reports.*—As soon as practicable after the termination of a joint exercise, the following reports thereon, embodying pertinent conclusions and recommendations, shall be rendered:

a. In case of a grand joint exercise—

(1) By the chief umpires, to the War and Navy Departments.

(2) By the commander of the Army forces and by the commander of the Navy forces participating on each side in the exercise, to the War and Navy Departments, respectively.

b. In case of a minor joint exercise—

(1) By the chief umpires, to the Army and Navy commanders by whose authority the exercise was held.

(2) By the commander of the Army forces and by the commander of the Navy forces participating on each side in the exercise, to the Army and Navy commanders, respectively, by whose authority the exercise was held.

(3) By the Army and Navy commanders by whose authority the exercise was held, to the War and Navy Departments, respectively.

[122]

Section III

Maneuver Rules

120. *Distinguishing marks.*

a. Blue forces shall have no special distinguishing marks other than those authorized to be worn and displayed by United States land and sea forces.

b. Black forces shall be distinguished as follows:

(1) *Ships* shall fly the international K flag (a square flag divided vertically into two equal parts, the half nearest the mast being yellow and the other half blue) at the port yardarm.

(2) *Launches and boats* shall fly the same flag (international K) at the stern.

(3) *Planes* shall have the following white stripes, each 12 inches wide, painted on them with water paint as indicated below:

Two vertical stripes, 12 inches apart, on each side of the fuselage, about 3 feet in rear of the rear edge of the wings, and extending from top to bottom of the fuselage.

One horizontal stripe on each side of and about 5 feet from the center line of the upper surface of the upper wing and extending entirely across the width of the wing.

One horizontal stripe on each side of and about 5 feet from the center line of the under surface of the lower wing and extending entirely across the width of the wing.

(4) *Personnel.*—Each officer and enlisted man shall wear a white band at least 1½ inches wide around his headdress.

c. Umpires shall wear a red band 4 inches in width on the left arm above the elbow.

d. Such changes as the chief umpires deem desirable may be made in the distinguishing marks of the Blue and Black forces.

121. *Simulation of fire.*

a. The fire of small arms and light field artillery and of boat guns shall be simulated with blank cartridges. Shore batteries, where [123] practicable, will simulate fire by the use of blank ammunition fired from field guns located near batteries.

b. The fire of all ships shall be simulated during daylight by turning a searchlight upon the target or targets, if visible, during such times as the target is being fired upon. Care must be taken that searchlights are not thus used when the force in question is unable to deliver an effective fire against the target so

indicated. In addition to the use of searchlights, ships may use ex-caliber or sub-caliber rifles and one-pounder blanks when simulating fire.

c. Such additional rules as in their judgment are necessary shall be prescribed by the chief umpires.

Section IV

Umpire Instructions

122. General duties of umpires.

a. Senior umpires shall constantly keep the chief umpires informed of all that occurs on their side in order that an accurate picture may be had by the chief umpires of the progress of the exercise, this being essential to the making of intelligent decisions.

b. The chief umpires shall similarly keep each senior umpire informed of the situation on the opposing side, and each senior umpire shall similarly keep his umpires and assistant umpires informed of the progress of the exercise. A senior umpire, umpire, or assistant umpire, as the case may be, shall similarly give a commander or commanders concerned such information of the situation, of the effect produced by any action taken by them, and of the action of the enemy as those commanders would possess or be able to obtain in an actual case. Information that commanders should and would in an actual case obtain only through the medium of an agency represented in the exercise shall in no circumstances be furnished by an umpire to any commander.

c. To illustrate: The commander, Black Fleet, decides to bombard the land defenses in the locality where the exercise is being held and informs the senior umpire, Black, of his decision and of the character of fire to be delivered and the time and period of delivery. The senior umpire, Black, communicates this information promptly to the chief umpires, who in turn inform the senior umpire, Blue, who com- [124] municates it to his umpires, in particular to the umpire assigned to the defenses in question. The reaction of the commander of those defenses is then reported by the umpire of those defenses to the senior umpire—Blue, who communicates it to the chief umpires. The latter then makes a decision in the premises and communicates it to both senior umpires, who in turn communicate it to the umpires concerned and to the interested commanders.

d. The chief umpires shall prepare and promulgate adequate safety precautions for the use of the forces participating in the exercise.

123. Umpires' decisions.

a. All umpires' decisions shall be made by the chief umpires directly, or by the chief umpires' authority, by either senior umpire or by an umpire or assistant umpire, such decisions being promptly communicated to those concerned. Local decisions that may have to be made by a senior umpire must be immediately communicated to the chief umpires; if made by an umpire or assistant umpire, they must be immediately communicated to the senior umpire concerned and by him to the chief umpires. Wherever it is feasible, as, for example, in the case of an attack made by a landing party against land troops or positions, the umpires or assistant umpires on opposite sides on the spot should, if practicable, confer on the situation before making a decision.

b. When it is contemplated holding a grand joint exercise, such additional umpire instructions and maneuver rules as may be necessary and as are not already prescribed herein shall be prepared by The Joint Board. In case such additional rules are prepared, The Joint Board shall furnish a sufficient number of copies thereof to the War and Navy Departments for issue by them, respectively, to the Army and Navy forces concerned.

c. In general, the instructions listed below will be used in joint exercises and by The Joint Board as the basis for the preparation of any additional instructions which may be necessary:

(1) Fleet Umpire Instructions or such other instructions and regulations as may be in use by the United States Fleet to determine damage to ships from naval gunfire, torpedoes, mines, or air attack.

[125] (2) Current rules in use by the Coast Artillery Corps to determine damage to ships from seacoast artillery.

(3) Current rules in use by the Coast Artillery Corps in case airplanes fly over land-based antiaircraft guns and the current rules in use by the United States Fleet in case airplanes fly over ship-based antiaircraft guns to determine damage to airplanes from antiaircraft gunfire.

(4) Current rules in use by the Army Air Corps, or those in use by the United States Fleet, or special rules, will be used to determine damage to airplanes from attack by other airplanes, but in any case the same set of rules will be applied to the aviation of both services.

(5) War Department Manual for Umpires of Field Maneuvers and other current War Department documents to determine damage to troops from small-arms fire, artillery fire, aviation attack, and naval gunfire and damage to fortifications and Army installations generally.

d. In the revision of current rules in use by both services and in the preparation of any additional rules that may be necessary, consideration will be given to the maneuver rules and umpire instructions used in preceding grand joint exercises and to the pertinent comments received thereon from the senior Army and Navy commanders and umpires, to the end that damage results from attacks of various kinds will simulate actual war conditions as nearly as possible and that the capabilities and limitations of offensive and defensive instrumentalities and measures may be truly represented.

e. The chief umpires shall have full latitude in changing umpire instructions and maneuver rules, or in prescribing additional ones.

124. *Journal of events.*—The chief umpires shall keep a complete journal of events covering all occurrences of the joint exercise. Each senior umpire and each umpire and assistant umpire shall keep a similar journal of all events coming under his cognizance. The journals kept by umpires and assistant umpires shall be turned in to their senior umpire, and by him with his journal of events to the chief umpires, at the conclusion of the exercise.

[127]

CHAPTER VIII

AGENCIES FOR EFFECTING COORDINATION

CONTENTS

Para- graphs	Subject	Page ¹
	SECTION I	
125	Sanction of joint agencies.....	129
	SECTION II	
126-129	The Joint Board.....	129, 130
	SECTION III	
130-132	The Aeronautical Board.....	130, 131
	SECTION IV	
130-135	Army and Navy Munitions Board.....	132
	SECTION V	
136-137	Joint Merchant Vessel Board.....	133
	SECTION VI	
133-139	Local joint planning committees.....	133, 134
	SECTION VII	
140-144	Joint Economy Board.....	134, 135

¹ Pages referred to are represented by italic figures enclosed by brackets and represent pages of original exhibit.

[129]

Section I

Sanction of Joint Agencies

125. The existing joint agencies for coordination between the Army and the Navy have no legislative nor executive basis for existence. These agencies exist as a result of agreement between the Secretaries of the War and Navy Departments. The recommendations of these joint agencies are advisory only and become effective upon approval by both Secretaries, and in some cases upon further approval by the President.

Section II

The Joint Board

126. The authority for The Joint Board is contained in War Department G. O. No. 94, 1919, as amended by G. O. No. 29, 1923, and Navy Department G. O. No. 24, 1921, as amended by G. O. No. 162, 1927. The board consists, on the part of the Army, of the Chief of Staff, the Deputy Chief of Staff, and the Assistant Chief of Staff, War Plans Division, General Staff; and on the part of the Navy, of the Chief of Naval Operations, the Assistant Chief of Naval Operations, and the Director, War Plans Division, Office of Naval Opera- [130] tions. The board is provided with a secretary detailed from the permanent personnel of either the War Department or the Navy Department.

127. Any matter which, to either the War or the Navy Department, seems to call for consideration as to cooperation between the two services may be referred by that department to The Joint Board. The Joint Board may also originate consideration of such subjects as in its judgment are necessary. The board confers upon, discusses, and reaches such common conclusions as may be practicable regarding such matters. Proceedings and reports of the board are confidential. Each department receives a copy of the report of the board.

128. The authority for the joint planning committee is contained in War Department G. O. No. 94, 1919, as amended by G. O. No. 29, 1923, and Navy Department G. O. No. 24, 1921. The committee consists of three or more members of the War Plans Division, War Department General Staff, and three or more members of the War Plans Division of the Office of Naval Operations.

129. The committee is an agency of The Joint Board for the detailed investigation, study, and development of policies, projects, and plans relative to the national defense and involving joint action of the Army and the Navy. The committee may also originate consideration of such subjects as, in its judgment, are necessary. The members are authorized to consult and confer freely on all matters of defense and military policy in which the Army and the Navy are jointly concerned, and to consider this joint work as their most important duty. Its procedure is informal; its reports and recommendations are confidential; its reports and recommendations go to The Joint Board.

Section III

The Aeronautical Board

130. The authority for the Aeronautical Board is contained in War Department G. O. No. 2, 1927, as amended by G. O. No. 5, 1932, and Navy Department G. O. No. 227, 1932. The board consists, on the part of the Army, of the Chief of Air Corps, the Assistant to Chief of Air Corps, and one member of the War Plans Division of the War Department General Staff; on the part of the [131] Navy, of the Chief of Bureau of Aeronautics, the Chief of Planning Division of his office, and one member of the War Plans Division, office of Chief of Naval Operations. The War Plans Division members are not eligible for duty with The Joint Board or the joint planning committee. The board is provided with a secretary detailed from the permanent personnel of either the War Department or the Navy Department.

131. The purpose of the board is to prevent duplication of effort and to secure a more complete measure of cooperation and coordination in the development and employment of the Army Air Corps and Naval Aviation. It is also charged with the duty of originating consideration of such subjects when, in its judgment, it is necessary, and of recommending whatever it considers essential to establish sufficiency and efficiency of cooperation and coordination of effort between the Army Air Corps and Naval Aviation. The board investigates, studies, and renders reports to the Secretary of War and the Secretary of the Navy upon all questions affecting jointly the development and employment of aviation of both services referred to it by the Secretary of War, by the Secretary of the Navy, by The Joint Board, by the Chief of the Army Air Corps, or by the Chief of the Bureau of Aeronautics of the Navy. All recommendations of the Aeronautical Board affecting joint policies or joint plans for the tactical or strategical employment of aircraft or for the location of air stations are addressed to The Joint Board for consideration and recommendation to the Secretary of War and the Secretary of the Navy. The board also is required to formulate and submit to

The Joint Board for approval suitable joint Army and Navy aircraft problems to be carried out each year.

132. In the execution of the foregoing the board is governed by the following: The development of new types of aircraft and accessories is, so far as practicable, assigned to the Army or Navy and is carried on only by the service to which assigned. Either service may employ any types of aircraft or weapons after their development. The board prepares plans to prevent competition in the procurement of material, when the chiefs of the two services have been unable to come to an agreement concerning procurement. Joint plans for the procurement of material in time of war will be submitted to the [132] Army and Navy Munitions Board. The board is specifically charged with the consideration and recommendation of all projects for experimental stations on shore, for coastal air stations, and for stations to be used jointly by the Army and Navy, or for extensive additions thereto, and with consideration of and recommendation in regard to all estimates of appropriations for the aeronautical programs of the Army and Navy before such estimates are submitted to Congress.

Section IV

Army and Navy Munitions Board

133. The authority for the Army and Navy Munitions Board is contained in The Joint Board's letter J. B. No. 346 (Serial No. 181), of June 27, 1922, approved by the Secretary of War and the Secretary of the Navy June 29, 1922. The board consists of The Assistant Secretary of War and the Assistant Secretary of the Navy, assisted by an executive committee composed of officers on duty in the War and Navy Departments, as follows:

Three officers of the Army and three officers of the Navy to be selected by the Secretary of War and the Secretary of the Navy, respectively.

134. The board is authorized and directed to—

a. Formulate and keep up to date such pertinent plans and policies as in the opinion of the two Departments should be adopted by the Federal Government for coordinating and controlling national industrial effort in emergency.

b. Assure the necessary coordination in the procurement war plans of the two services, and in all plans, studies, and appendices thereto intended to facilitate the Government's efforts in emergency to promote orderly mobilization of industry.

c. Form and direct the activities of such joint committees as may be necessary to consider, investigate, and make recommendations concerning pertinent subjects falling within the purview of the Board's responsibilities.

135. Approval of action taken by the Munitions Board is not required, except that any plans prepared by it that affect joint war plans and joint Army and Navy policy relative to the national [133] defense are required to be referred to The Joint Board for consideration before submission to the Secretaries of War and Navy.

Section V

Joint Merchant Vessel Board

136. The Joint Army and Navy Board of Survey of Merchant Vessels was established August 21, 1916, as the result of an agreement entered into by the Secretary of War and the Secretary of the Navy. The Secretary of the Navy approved the final form of the agreement on August 2, 1916, and the Secretary of War on August 19, 1916. In order to simplify the name of the board it was changed to "The Joint Merchant Vessel Board." This change in name was approved by the Secretary of War April 30, 1917, and by the Secretary of the Navy May 5, 1917. The board consists of one Army officer and three Navy officers as members, with one of the latter acting as recorder.

137. The board inspects and classifies merchant vessels with a view to their possible use in war. The board is assisted by local sections consisting of Army and Navy officers who conduct the actual inspection.

Section VI

Local Joint Planning Committees

138. The authority for agencies for cooperation between Army and Navy activities within departments, armies, and corps areas of the Army and naval

districts is War Department G. O. No. 19, 1923, and Navy Department G. O. No. 103, 1923. Commanding generals of departments, armies, and/or corps areas, and commandants of naval districts whose headquarters are in the same vicinity, appoint from among their immediately available officer personnel not more than three officers from each service to constitute a permanent local joint planning committee. In cases where superior headquarters for a given department, army, corps area, or district are widely separated, more than one planning committee may be organized. In addition, the commanding general and the commandant of the naval district [134] designate one or more officers on their staffs through whom close contact with other services is maintained.

139. The local joint planning committee takes cognizance of questions referred to it by proper authority and originates questions on such local subjects as, in its judgment, are necessary. Its reports and recommendations are made jointly to the commanding general and commandant of the naval district concerned.

Section VII

Joint Economy Board

140. The authority for the Joint Economy Board is contained in War Department, G. O. No. 11, 1933, and Navy Department G. O. No. 237, 1933. The board is charged with the continuing responsibility of investigating and reporting to The Joint Board on economies which can be effected, from time to time, without loss of efficiency, by the elimination of overlap or the simplification of functioning in those activities of the War and Navy Departments concerned with joint operations of the two services or which have approximately parallel functions.

141. The membership of the Joint Economy Board will comprise five or more officers from each service and will include the following:

a. For the Army.—The Chief of Budget and Legislative Planning Branch and four other officers of the Budget Advisory Committee of the War Department.

b. For the Navy.—The Assistant Budget Officer, Navy Department; the Director, Central Division, Office of Chief of Naval Operations; the Director, Material Division, Office of Chief of Naval Operations; the Assistant Director, Navy Yard Division, Office of Assistant Secretary of the Navy; and an officer from the Bureau of Supplies and Accounts (not below the rank of commander).

142. The Secretary of The Joint Board will be the Secretary of the Joint Economy Board.

143. Reports and recommendations of the Joint Economy Board will be presented to The Joint Board for action.

[135] 144. Each chief of arm, service, or bureau will designate a liaison officer whose name shall be furnished to the Joint Economy Board and who will maintain contact between his office and the corresponding activity of the other service and with the board. Liaison officers will bring to the attention of the Joint Economy Board any matter which their respective chiefs shall deem to come within the purview of the Board. Each liaison officer will furnish such aid to the Board in securing information and data from his particular arm, service, or bureau as the board shall request. The Joint Economy Board will have authority over the liaison officers insofar as their duties pertain to the work of the Board.

[137]

CHAPTER IX¹

COMMUNICATIONS

Section A

Policy for Coordination of Radio Activities of the Army and Navy

1. Joint Board reports, J. B. No. 319 (Serial No. 183), of January 16, 1923, "Utilization of the radio services of the War and Navy Departments for the transmission of Government dispatches," and J. B. No. 319 (Serial No. 253), "Proposed draft of Executive Orders re regulation of radio in the event of war or national

¹ NOTE.—Ch. IX—Communications—is a reprint of ch. VI—Communications, Joint Action of the Army and the Navy, 1927, and is effective until completion of revision now in progress. Paragraph numbering of old ch. VI is retained pending revision.

emergency," are rescinded. The following policy, approved by the Secretary of War and the Secretary of the Navy, is published for information and guidance:

I. Purpose of Radio Policy.

2. The purpose of this statement of policy is to establish an authoritative basis for the coordination of the Army and Navy in the development of radio material, the establishment of radio stations, and in the conduct of radio activities.

II. Basic Policy.

3. The Army and Navy shall provide, control, and operate such transmitting and receiving stations as, augmented by private and [138] other Government-owned radio facilities, will insure the existence and availability upon the outbreak of war or other national emergency of a militarily controlled, thoroughly indoctrinated radio system adequate to meet the requirements of national defense, having in view the prevention of undesirable duplication and the practical and definite limitation on expenditure imposed by economy.

III. Primary Responsibility of the Army and the Navy in Radio Activities.

4. (a) The assignment of *primary responsibility* to the Army or to the Navy for radio activities serving a definite area or purpose imposes upon the designated service the responsibility for the establishment and efficiency of radio serving such area or purpose, but allows the other service to use radio to serve the same area or its own purposes of a similar nature, provided no serious radio interference is caused thereby.

(b) In war time paramount interest in certain areas or theaters of operation will be assigned to the Army or the Navy, in accordance with the approved War Plans, and radio activities therein will be coordinated by the responsible commander of the service having paramount interest.

(c) In order to avoid uneconomical duplication in time of peace:

(1) The Navy only shall operate radio apparatus of high power (10 kilowatts in the antenna or greater).

(2) The Army shall not handle overseas radio communications commercially or for other Government departments except between the United States and Alaska, nor operate upon frequencies which will cause serious interference with Fleet or Navy overseas circuits.

IV. Assignment of Primary Responsibility.

5. Subject to the provisions of subparagraphs (a) and (b) of the preceding paragraph, primary responsibility is assigned as follows:

(a) To the Army in radio communication—

(1) With and between Army units wherever located.

(2) Within the Territory of Alaska.

(3) With and between Army vessels, excluding such vessels as may be placed under Navy control.

(b) To the Army in radio intelligence—

(1) For the Army wherever operating.

[139] (c) To the Navy in radio communication—

(1) For the establishment, maintenance, and operation of an overseas radio service for efficient communication with and between Navy units wherever located; this service to be available to all departments of the Government and for commercial purposes.

(2) For communication with insular possessions, the Panama Canal Zone, and with foreign territory occupied by the Navy.

(3) With and between ships at sea, exclusive of Army vessels, except such of the latter as may have been placed under Navy control in case of war or national emergency.

(4) For the establishment and operation of radio-compass stations along the coasts of the United States, Alaska, overseas possessions, or occupied foreign territory.

(d) To the Navy in radio intelligence—

(1) For the Navy wherever operating.

V. War-time Jurisdiction over Nonmilitary Radio.

6. In time of national emergency, when directed by the President according to law, the Army and the Navy will assume jurisdiction as follows:

(a) The Army and Navy shall each assume complete control over such non-military radio stations as may be allocated to them by the President to augment their peace-time facilities.

(b) For purposes of censorship and supervision over such nonmilitary radio stations as are permitted to operate:

(1) The Army will assume jurisdiction over all nonmilitary stations within the United States, Alaska, and foreign territory occupied by the Army except the stations assigned to the Navy in the following paragraph:

(2) The Navy will assume jurisdiction over all nonmilitary stations wherever located that are permitted to communicate overseas, with ships, or with aircraft flying over the sea other than Army aircraft, and over all nonmilitary stations in Panama, the insular possessions, and in foreign territory exclusively occupied by the Navy.

[140] (c) For the purpose of suppression of unauthorized radio:

(1) The Army will assume jurisdiction over the continental United States, Alaska, Panama, and in insular possessions or foreign territory occupied by the Army.

(2) The Navy will assume jurisdiction over shipping and over insular possessions or foreign territory occupied exclusively by the Navy.

VI. Principles to be Observed in Radio Coordination.

7. Coordination in radio operation will be effected:

(a) In the development of types of radio equipment suitable for intercommunication.

(b) By the assignment of call letters, frequencies, transmitting time periods, the adoption of a common procedure, and the formulation of codes and ciphers for joint Army and Navy communication.

(c) All air radio stations of the Navy and air radio stations of the Army along the coast and in the insular and outlying possessions shall be equipped to send and receive on a common intermediate frequency and a common high frequency, and all aircraft carrying radio, except fighting and pursuit planes, shall as soon as practicable, consistent with proper economy, be equipped to send and receive on one of these common frequencies.

(d) The radio field sets provided for the use of the Marine Corps on shore shall be capable of intercommunication with the radio provided for the operation of similarly equipped units of the Army.

(e) The radio communication equipment provided for the vessels of the Army Transport Service shall be of a character normally provided for commercial shipping of the same general class and shall be capable of sending and receiving on at least two frequencies assigned by the Navy Department for Naval Transportation Service communication.

VII. Coordination with Radio Stations of Other Departments and Civilian Stations During Peace.

8. Coordination of the operation of Government radio stations with each other and with the operation of civilian radio stations in time of peace will be governed by the provisions of the radio act of 1927 (secs. 6, 8, and 25).

[141] VIII. Coordination of Development Programs.

9. The Chief Signal Officer of the Army and the Director of Naval Communications will coordinate the peace-time radio operation and operational development of the two services. The Chief Signal Officer of the Army and the Chief of the Bureau of Engineering of the Navy Department will coordinate their recommendation for the procurement programs of the Army and the Navy and will coordinate technical radio matters of joint concern to the two services.

Approved by the Secretary of War and the Secretary of the Navy June 24, 1927.

Section B

Joint Army and Navy Radiotelegraph Procedure

	Paragraphs
I. General -----	1-3
II. Call up -----	4-6
III. Answering the call up -----	7-9
IV. Normal form of message -----	10-19
V. Procedure signals -----	20-44
VI. Control of artillery fire by radio -----	45-49
VII. Strength and readability of signal -----	50-53
VIII. Z signals -----	54
Index -----	Last page.

I. General.

1. Details for intercommunication by radio between the Army and the Navy shall be made by the senior officers of the two services in the area concerned.

2. Address and signature.

(a) Address and signature codes will not be used between the Army and the Navy.

(b) Messages intended for an addressee on board ship or in a unit of command will be routed by call letters of the station concerned. Delivery to proper officer or office is a function of the command addressed. When believed necessary to secure proper delivery, more complete address may be included in the body of the message.

(c) All official messages will be authenticated in the name of the commanding officer. This signature is not ordinarily transmitted.

[142] 3. Use of clear and secret language.

(a) In time of peace, messages are transmitted in clear or in secret language as directed by the writer.

(b) (1) In time of emergency, all messages, except as noted below, are transmitted in secret language.

(2) When the tactical situation is such that time cannot be spared for cryptographing, and when the information to be transmitted if intercepted by the enemy could not be acted upon in time to influence the situation in question, a commanding officer or his authorized representative may order the transmission of a message in plain language by a radio station serving his headquarters.

II. Call Up.

4. (a) The call up shall consist of the call sign(s) of the receiving station(s) transmitted not more than three times, the letter "V" and the call sign of the calling station transmitted not more than three times. This may be followed by certain signals to indicate the purpose of the call up.

(b) The call up may be:

(1) Single-station, as NA V BA K.

(2) Collective, as DAB DAB DAB V BA BA BA K. DAB in this example might be the "net call," in which case all nonsilent stations in the net would answer; or it might be a "group call," in which case all nonsilent stations in a particular preassigned group would answer.

(3) Multiple, as NA NA NB NB V BA K, in which case NA and NB both answer.

(4) *General.*—The general call for Navy and Marine Corps stations shall be USN, and for Army stations USA. The general call shall be used to establish communication in case the call letters of the station with which communication is desired are not known. Example: USN USN USN V BA K.

5. In order to avoid undue interference with other communications, the following rules will be observed in calling:

(a) The call signs of the receiving and transmitting stations are made once only except when great distance or poor transmitting conditions make repetition desirable.

[143] (b) If the receiving station fails to answer, the first call up may be repeated once.

(c) If the second call up is not answered, the transmitting station will wait at least two minutes before repeating the call.

(d) If the receiving station still fails to answer after this further call up, it may be called at intervals, but not more frequently than once in five minutes, except for the transmission of an urgent or priority message, in which case no restriction is placed upon the repetition of the call up.

(e) When two stations are known to be within easy radio range of one another, it is unnecessary first to call up such station before sending the message.

6. If the calling station has an urgent or a priority message for the called station it shall indicate that fact by adding the signal O or P to the call up. Example: NA V BA O K.

III. Answering the Call Up.

7. (a) The station called shall reply by transmitting not more than three times the call sign of the calling station, the letter V, its own call sign, and, if it is ready to receive traffic, the letter K.

(b) A net, group, or general call up requiring an answer is answered by the called stations in the alphabetical order of their call signs; a multiple call up requiring an answer is answered in the order in which the stations were called. If a called station fails to answer in its turn, the next station in the order of

answering, after waiting 15 seconds, will answer and the delinquent station will not answer until all other stations have finished.

8. If the station is busy or is otherwise unable to take the message, it shall replace the letter **K** in the reply formula by the signal **AS** followed if desirable by a number indicating in minutes the probable duration of the wait.

9. (a) If the calling station has indicated that it has an urgent message for the called station, the latter will answer as indicated in (b) below even if by so doing it must interrupt traffic of lower priority.

(b) Example of answering the call up: **BA V NA K.**

[144] *IV. Normal Form of Message.*

10. The normal form of message for transmission between Army and Navy stations shall be as follows:

Part	Example	When used	Para. graph
Call.....	NA V BA.....	Always.....	11
Number.....	NR 3.....	Usually.....	12
Operating instructions.....	Special cases only.....	13
Class.....	Urgent or priority messages only.....	14
Check.....	GE 7.....	Usually.....	15
Break.....	BT.....	Always.....	16
Text.....	The message in secret or clear language.....	do.....	17
Time of origin.....	0923.....	Usually.....	18
Ending signal.....	AR (followed by K. B. VA, etc.)..	Always.....	19

11. *Call.*—The call consists of the call sign(s) of the station(s) called (in alphabetical order), followed by “**V**” and the call sign of the station calling, each call sign being made once.

12. *Number.*—(a) The message number is a serial number of a separate series, beginning at midnight, for transmission to each station worked and another separate series for reception from each station worked. Thus, since midnight on a certain day BA has transmitted three messages to NA and has received five messages from him. His next message to NA is NR 4 and his next message from NA is NR 6.

(b) The message serial number is a material aid in the handling of traffic. Its primary purpose is to prevent the omission of messages; it is also useful in identifying messages for repetitions, omissions, etc.

(c) The message number may be omitted at the discretion of the transmitting office, which, however, assumes responsibility for any error which may occur thereby. The message number is usually unnecessary in fire control and aircraft work, and in messages con- [145] sisting of procedure signals. It may also be omitted in the case described in paragraph 3 (b) (2) above.

13. *Operating instructions.*—Operating instructions are special instructions for operating and for relaying the message when relay is necessary. (See F, par. 27; G, par. 28; T, par. 38.)

14. *Class.*—(a) Messages are classified to show the relative order in which they shall be transmitted. This order is as follows:

	CLASS	Symbol
Urgent.....	O
Priority.....	P
Routine.....	None

(b) The *urgent* classification is reserved for messages requiring the greatest speed of handling. Urgent messages will be sent immediately upon receipt, except when communication involving another urgent message is being carried on. The urgent classification is used only in combat or when combat is imminent, real or simulated, to indicate that the message following conveys most urgent orders, information or request pertaining to the combat.

(c) The *priority* classification is used for messages of less urgency than those entitled to urgent classification but of such nature as to warrant precedence over routine messages. Priority messages will be transmitted before such routine messages as may be waiting to be sent but communication of a message will usually not be interrupted to send a priority message.

(d) The routine classification is used for messages which require no special precedence. They are transmitted in the order in which they are received or in such order as will clear the traffic in the shortest time. No signal to indicate routine classification is transmitted.

(e) In the absence of specific instructions to the contrary, messages of the same class, whether they originate in Army or Navy, will be handled in order of filing or of receipt for retransmission.

15. *Check*.—(a) In plain-language messages, each dictionary word of the text is counted. The writer's message number is counted as one word; the time or origin or any continuous group of letters, numerals, or of letters and numerals is counted as one word.

(b) In code or cipher messages each group of the text, whether numeral, letter, or mixed numerals and letters, is counted, including, [146] when sent, the writer's message number, the code or cipher indicator, and the time of origin.

(c) When a message is to be transferred to or from a communication system which uses a method of word count other than that prescribed in (a) and (b) above, the military or naval office which handles the transfer is responsible that the text of the message is correctly transferred. The check in the other system will be made by the office of that system which first receives the message.

(d) The purpose of transmitting the check of a message is to prevent the omission of any word or part of the message.

(e) The check may be omitted under the same circumstances as the message serial number. (See par. 12 (c).)

16. *Break*.—The break sign BT will be used to separate the heading from the text of the message.

17. *Text*.—(a) The text of the message will be transmitted as written in secret or clear language (without space signs separating the words).

(b) The writer's message number, if given, and the code or cipher indicator, if the message is in secret language, are transmitted in the order named as the first words of the text.

18. *Time of origin*.—(a) The time of origin is the time at which the message is signed by the writer, unless the writer fails to note the time on his message, in which case time of origin is the time at which the message is filed at the first message center or communication office through which it passes.

(b) Time of origin is transmitted as a group of four figures, the first two digits representing the hours from midnight and the last two the minutes past the hour. Examples 0600 is 6 a. m.; 1943 is 7.43 p. m.

(c) The time of origin usually appears in official messages. It is not used, however, with messages consisting of—

(1) Procedure signals.

(2) Corrections to messages.

(3) The executive signal.

(4) Messages which are going to be followed by the executive signal.

[147] 19. *Ending signal*.—An ending signal will be used to terminate each transmission and will indicate the transmitting operator's desire with respect to the transmission which is to follow.

V. Procedure Signals.

20. The following procedure signals are prescribed for communication between the Army and Navy:

Sign	Meaning	Paragraph
AAA.....	Blank, representing missing or doubtful portions.....	24
AA.....	All after (to be used in requesting a repetition or verification).....	32, 31
AB.....	All before (to be used in requesting a repetition or verification).....	32, 34
AR.....	End of message.....	22
AS.....	Wait.....	8, 23
B.....	There is more to follow.....	24
BN.....	All between (to be used in requesting a repetition or verification).....	32, 34
BT.....	Break, separating heading and text.....	16
C.....	You are correct.....	25
E.....	Error.....	26
F.....	Do not answer.....	27
G.....	Repeat back.....	28
GR.....	Group(s).....	29
HM.....	Silence.....	30

Sign	Meaning	Para-graph
II.....	Space.....	31
IMI.....	Repeat; I will repeat; Interrogatory.....	32
INT.....	Is this correct?.....	33
IX.....	Message following is a preparatory command; not to be carried out until the signal (command) of execution is received.....	47
5-second dash.....	Signal (command) of execution.....	48
2-second dash.....	Salvo mark (battery fired, i. e., on the way).....	49
J.....	Verify and repeat.....	34
K.....	Go ahead (i. e., answer—an ending signal).....	35
N.....	Nothing (or not) received.....	36
NR.....	Number.....	12
O.....	Urgent.....	14
P.....	Priority.....	14
[148]		
R.....	Received or readability (according to context).....	37, 52
S.....	Signal strength.....	51
T.....	Transmit to.....	38
T of O.....	Time or origin.....	39
TOR.....	Time of receipt.....	40
U.....	Radio guard (Navy); net control station (Army).....	41
UO.....	Negative silence.....	30
V.....	From.....	4, 11, 38
VA.....	End of communication; finished (an ending signal).....	42
W.....	Interference.....	43
WA.....	Word after (to be used in requesting a repetition or verification).....	32, 34
X.....	Static interference.....	44

AAA

21. AAA is used in conjunction with "ZCL," the groups missed being indicated by AAA. Use is made of this signal when the receiving station is unable to get a repetition.

Example: BA has sent a message to NA for relay to NB but NA failed to receive two groups and was unable to obtain a repetition from BA. In order not to delay the message, NA sends it to NB as follows:

NB V NA NR7 NB V BA ZCL GR 11 BT
 NR2 DFC4 JOFX RABU AAA
 RUHG MILZ YSIP AAA XUBO
 1433 AR K.

AR

22. AR is used at the end of every message. It means: "This is the end of this particular message." It is used at the end of all other transmissions in normal radio procedure which do not conclude with one of the procedure signals "B," "C," or "R." The signal AR is followed by another message or by AS, K, or VA, which signals indicate the operator's desire with respect to the transmission which is to follow. AR may be written thus: +

[149]

AS

23. (a) AS is an ending signal meaning "wait." It may be used in answer to a call up (see paragraph 8); to stop transmission because part of the message has been missed or because there is interference or other reason requiring delay, or to notify the receiving station that the transmitting station is unable to continue.

(b) The station receiving this signal does not answer.

(c) Whenever a transmitting station has been asked to wait it resumes transmission at the signal "K."

B

24. (a) B is an ending signal meaning "There is more to follow."

(b) When transmitting a long message, it may be convenient to send it in

portions. In order to insure that each portion has been received before proceeding with the next, the letter "B" is made at the end of each portion.

Example: NA V BA NR3 GR137 BT

First 50 groups in text II B 50 K

NA answers: BA V NA R 50 K

BA continues: NA V BA II Next portion of text.

(c) When a message is sent in portions, the "B" is followed immediately by figures indicating the number of groups thus far transmitted.

(d) Long radio messages in plain language (i. e. press dispatches, etc.) made by ship and shore stations when not broadcasting on schedule and not employing the break system will be sent in portions, each of which will not exceed six minutes' duration.

C

25. (a) C is an ending signal meaning "You are correct."

(b) It is used in connection with G, INT, and J to signify the correctness of the message or portion of a message which has been repeated back or the coding of which has been checked and correctly repeated.

Example: NA, having repeated back correctly a message from BA, which was prefixed with "G," BA transmits: NA V BA C.

[150]

EEEEEEEEEE

26. E (ten times).—This signal is used to erase a word or group which has been incorrectly transmitted. Should a station while transmitting a message make a mistake in a word, group, or letter, it must immediately make the "erase" sign; then make the last word or group which was correctly transmitted, and continue the message. The repeat signal (IMI) is *not* to be made when a mistake is made in transmission. The "erase" signal will be used exclusively to correct these mistakes.

F

27. F.—(a) The letter "F" used in the heading signifies "Message following is *not* to be answered."

(b) When the letter "F" is used in the heading of messages, the groups of the message are invariably to be made through twice.

(c) When the letter "F" is used in the heading, stations are not to ask for repetitions or corrections of the message without the authority of the commanding officer in each case.

(d) The VA sign is *always* used to indicate the end of a message or series of messages sent by the "F" method.

Example: BA has a message for NA, but does not wish NA to answer.

BA makes:

NA NA V BA BA NR1 NR1 F F GR2 GR2 BT BT

VOBU VOBV 1235 VA VA

NA does not answer.

G

28. (a) The signal "G" used in the heading means "Repeat back." When repeating back or correcting repetitions, the text or groups concerned are made only once, notwithstanding that the original message may have been made twice.

Example: BA has a message VUBO ABYZ 1010 for NA and wishes the message to be repeated back.

NA V BA NR1 G GR3 BT VUBO ABYZ 1010 AR K

NA, having received the message correctly, transmits:

BA V NA NR1 G GR3 BT VUBO ABYZ 1010 AR K

BA answers: NA V BA C VA

NA does not answer.

[151] (b) When G occurs in the heading of a long message which is sent in sections, each section is acknowledged by the receiving station by R followed by the number of the last group or word received, as R 50, R 100, etc. When the last portion of the message has been received, the entire message is repeated back.

GR

29. GR.—The group signal followed by a number is used in the heading of a message to signify: "The text contains the number of words or groups indicated." (See par. 15 for check.)

HM and Uo

30. When necessary a station may silence a whole net, certain stations in a net, or all stations on a certain frequency, by use of the silence signal HM. The silence signal is a command and must be obeyed. Its use is confined to those stations in authority such as airplanes and net control stations. It will not be used until other less drastic methods of obtaining order have been tried. *It will be annulled as soon as the emergency has ceased to exist.*

Example: (1) PL, an airplane, working in a net whose net call is DAB, wishes to silent the net. PL sends: DAB DAB V PL HM HM HM HM HM HM VA.

All stations in the net stop transmitting and remain silent. They will not transmit again except to send urgent traffic or to answer a call from the silencing station or the U station until the silence signal is annulled. To annul the silence signal PL sends:

DAB DAB V PL UO UO UO UO UO UO UO VA

NOTE.—A single station may be silenced, and the silence annulled by substituting the station's call sign for the net call of the examples above.

II

31. The space signal (the letters "II" made separately) is used for the separation of procedure signals or other parts of the transmission when it is feared that confusion of the signals might otherwise result. Space signals are not used to separate the words or groups of the text; they are sometimes useful in the heading of a message or in messages [152] consisting of procedure signals. A common use of the space signal is shown by the example under B, paragraph 24.

IMI

32. (a) When the reception of a part of a message is doubtful or completely missed, the receiving station may request repetition of the doubtful portion by the use of IMI followed by AA, AB, BN, WA, GR—, or GR—to GR—, and the doubtful or missing passage.

Example: BA has transmitted a plain-language message to NA containing the following sentence in the text: "Prepare to sail for Constantinople at ten a. m. Monday twentieth August." NA having entirely missed the word "Constantinople" transmits:

BA V NA IMI WA for K.

BA replies:

NA V BA WA for Constantinople K.

(b) Repetition of an entire message may be requested by the use of IMI followed by the number of the message as:

BA V NA IMI NR6 K.

INT

33. When the reception of a part of a message is doubtful, the receiving station may question his reception by the use of INT followed by the questioned word or passage.

Example: Same as that of 32 (a) above except that NA has received but is not quite satisfied with the accuracy of the word "Constantinople." He transmits: BA V NA INT for Constantinople K. BA replies: NA V BA CK.

J

34 When the cryptographing office finds difficulty in decryptographing a received message, verification of the cryptographing may be requested of the originator by the use of J followed by AA, AB, BN, WA, GR—, GR—to GR—, and the passage to be checked. (If the entire message is to be checked, J is simply followed by the number of the message.)

[153] Example: NA has received the following message from BA:

NA V BA NR7 GR14 BT NR2 DFC4 YSIP NAWU LEGT ERUV LIOP
OHIO RAEQ LATU JOFX GISN TUVI 1150 AR.

The cryptographing office at NA finding it impossible to decode "OHIO," NA transmits:

BA V NA J NR7 GR8 K.

The cryptographing office at BA checks the encoding, finds "OHIO" erroneously written for "OHIG" and BA transmits:

NA V BA C NR7 GR8 OHIG II OHIG K.

K

35. K is an ending signal meaning "Go ahead"; "answer."

N

36. (a) When a station does not immediately answer a message which requires an answer or does not proceed with a message after "K" has been made in answer to a call up, the signal "N" may be used. Example: BA calls up NA:

NA V BA K.

NA replies:

BA V NA K.

But BA fails to proceed. NA transmits:

BA V NA N K.

(b) The signal "N" followed by a serial number means "Message NR—has not been received."

Example: BA V NA N NR16 K.

R

37. (a) The signal "R" used by itself means "last message" or "last transmission" received. Example: NA having received a transmission from BA answers BA V NA R. If NA has a message for BA, he follows the "R" by "B" or "ZAR." BA does not answer (unless he desires NA to wait) and NA proceeds to transmit his message.

(b) The signal "R" followed by NR and a serial number means "Message number — has been received." This form is preferable to [154] that of (a) above to receipt for a numbered message. Example: BA V NA R NR16 VA. (For use of R to indicate readability of signals see par. 52.)

T

38. The signal "T" is used in the heading and means "Transmit the following to ———"

Example: BA has a message for NB, and as he can not communicate directly with NB he sends it to NA for retransmission to NB. BA transmits thus:

NA V BA NR5 T NB V BA GR2 BT PLOP 0845 AR K

NA having receipted for the message calls NB and being given the "go ahead" signal transmits:

NB V NA NR10 NB V BA GR2 BT PLOP 0845 AR K

Note that T is omitted when the message is being transmitted to the station of the addressee. Note also that NR5 is BA's number to NA while NR10 is NA's number to NB, the number being reassigned in its own series by each relaying station.

T of O

39. "Time of Origin" is transmitted as a four-figure group, the last word of the message. (See par. 18.) The abbreviation "T of O" is not used in the original message but is employed in conjunction with the signals IMI and INT in connection with repetitions and corrections.

TOR

40. The "time of receipt" signal, the letters "TOR" made separately (— — — — . — .), is used in conjunction with a four-figure group similar in composition to the time of origin number, to denote the time at which the message is received. It is written TOR.

The time of receipt is entered in the proper space on the message blank, but is *not* transmitted except upon request. The time of receipt is entered when the message is received at a station, whether it is received by radio, land line, visual, messenger, telephone, or any other means.

A message received at station A by messenger at 10.40 a. m. would immediately be noted by the proper person as being received at 1040, [155] and he would enter on the blank "1040." This message is transmitted by radio to station B at 1045. The operator at B enters on the blank "1045." If the operator at B then sends the same message to station C by land line at 1050, the land line operator at C enters "1050" in the proper place.

The time of receipt is never used in referring to messages in the same way as is done with serial numbers and the time of origin. The time of receipt is useful in tracing delays.

When transmitted by radio the "time of receipt" signal follows the time of origin. In cases where the radio procedure requires that messages be transmitted twice in succession, the time of receipt signal (when used) follows the last transmission only.

U

41. The signal "U" following a station's call letters indicates that that station is being announced as the net control station (Army) or radio guard (Navy).

VA

42. VA is an ending signal meaning "end of communication"; "finished." When used, it indicates that the transmitting operator expects no answer, that he believes the series of transmissions completed.

W

43. (a) The signal "W" by itself signifies "Am being interfered with by other stations." A call signal following W denotes that the interference is being caused by the station indicated. Examples: NA is prevented from receiving a message from BA owing to interference from other ships or stations. NA transmits:

BA V NA IMI W K

Again NA is being interfered with by transmissions from NB. NA transmits:

BA V NA IMI W NB K

(b) Such steps as are possible are taken by the transmitting station to overcome the interference.

X

[156] 44. (a) The signal X signifies "Am being interfered with by static." It is used in a manner similar to that of W in the first example, paragraph 43.

(b) It rests with the transmitting station to take such steps as are possible to assist the receiving station (i. e., by changing power, note, or frequency; by sending in portions; or by using "G" in the heading).

VI. Control of Artillery Fire by Radio.

45. An abbreviated form of message is authorized for the exchange of communications controlling or directing the fire of artillery. Its use makes possible the control of fire by radio, when the radio station of the observer and the radio station of the battery are in direct touch. It is practically impossible to relay fire-control messages through linking radio stations. The term "radio station of the battery" is used to indicate the battalion radio station which will be in direct communication with the battery firing, either by voice or telephone.

Example: NA V BA BT Text AR K.

46. When the nature of the answer to a fire-control message is such as to clearly indicate that the previous transmission has been received, the "Received" signal "R" need not be transmitted.

IX

47. The signal "IX" which is inserted just before BT means "Message following is a preparatory command, and is not to be carried out until the signal of execution is given."

Example: NA V BA IX BT Text AR K.

FIVE-SECOND DASH

48. (a) The five-second dash is the signal of execution and means, "Execute the last preparatory command."

(b) It should be sent by the observer only.

(c) It is always preceded by a call and followed by AR. It is never canceled or annulled.

Example: NA V BA five-second dash AR.

[157] (d) If the observer desires, he may send the call at any time previous to the five-second dash. He can then keep contact with the battery, by using the "wait" signal AS until in a position to observe, when the five-second dash will be sent.

Example: NA V BA AS AS AS five-second dash.

TWO-SECOND DASH

49. (a) The two-second dash is the salvo mark, and means "Battery fired" (i. e., "On the way"). This is sent by the operator at the battery radio station just as the battery fires.

(b) It may be followed by a numeral indicating the time of flight of the projectile in seconds.

(c) It is never preceded by a call.

Example: Upon receiving the five-second dash, command of execution signal (see par. 48), the battery fires and the operator at the battery makes the two-second dash.

VII. Strength and Readability of Signal.

50. It may facilitate the transmission of message traffic if a station, which is to work with another, knows the strength and readability of his signal at the other station.

51. Strength of signal is indicated by the procedure signal "S" (signal strength) followed by an appropriate figure from the table below. The table may be used also with the procedure signal "X" (static) to indicate strength of static and "W" (interference) to indicate strength of interference.

1. Very weak, hardly audible.

2. Moderately weak.

3. Medium strength.

4. Moderately strong.

5. Strong.

Example: AB V BC S5 K.

52. Readability of signals is indicated after the procedure signal "R" by means of the table below:

1. Unreadable.

2. Poor but readable; plain language twice; code unreadable.

3. Fair; readable; plain language once, slowly; code twice.

[158] 4. Good; readable; plain language or code once.

5. Perfectly readable.

Example: AB V BC R4 K.

53. Signals may be strong but readability poor for various reasons; conversely signal strength may be moderately weak but readability good. The tables given above can be used to show such cases.

Example: AB V BC S5 II R2 K.

VIII. Z Signals

54. The following signals in addition to the procedure signals listed in paragraph 20 are prescribed for communication between the Army and Navy:

Signal	Meaning
ZAB	Are you in communication by visual with ———?
ZAD	Am in communication by visual with ——— (through ———).
ZAF	Are you in communication by radio with ———?
ZAG	Am in communication by radio with ——— (through ———).
ZAK	Call me again at ——— (on ——— KCS).
ZAL	Can you hear ———? If so what is his signal strength?
ZAM	Can hear ———; his signal strength is ———.
ZAN	Did ——— send anything for me? If so, please repeat.
ZAO	Following is what ——— sent (at ——— o'clock).

Signal	Meaning
ZAP	Have (or ——— has) been calling you since ——— (on ——— KCS).
ZAR	Have ——— messages for ——— (if blanks not filled, means, "Have a message for you").
ZAU	I (or ———) will call you again as soon as I (he) can (or at ——— o'clock) (on ——— KCS).
ZAV	——— is calling you (on ——— KCS).
ZAW	Inform ——— that I am calling him (on ——— KCS).
ZAX	Nothing received from ——— (at ———).
ZAY	Report when you are in communication by visual with ———.
ZZZ	Report when you are in communication by radio with ———.
ZBA	Wait, I must shift to copy another station (or ———) but will call you as soon as I can (or at ——— o'clock).
ZBK	Reception impossible. Send series of six dashes if transmission received or send series of six dots if transmission not received. Send receipt message when communication next established.
ZBM	Fragments only received (from ———).
ZBN	Send each message twice. I have difficulty receiving
ZBO	Send each message once only. Reception is good.
ZBP	Send faster.
ZBQ	Send slower.
ZBR	You are missing dots.

[159]

ZBU	Your Morse is difficult to read.
ZBV	Reception very bad; send each group ——— times.
ZBW	Reception exceptionally bad; send each character ——— times.
ZBX	Reception impossible.
ZBY	Accuracy of reception of message ——— is doubtful.
ZBZ	Are you certain of accuracy of reception of messages(s) ——— (or of group(s) ——— in message ———)?
ZCA	Cease listening in for messages from ———.
ZCB	Groups ——— in message ——— should apparently read as follows: ———.
ZCC	Has executive sign (signal of execution) for last message (or for message following ———) been made?
ZCD	Have you received the signal to execute last message?
ZCF	Have you received SOS just made (by ———) (at ——— o'clock)?
ZCG	Listen in for messages from ——— (on ——— KCS).
ZCJ	Message (——) does not concern you (or ———).
ZCK	Message which you just forwarded was incorrectly transmitted.
ZCL	Message following was incompletely received; groups missed are indicated by the "blank sign" (AAA).
ZCN	Number of groups (in message ———) was ———.
ZCP	Repeat message(s) from ——— (at ——— o'clock).
ZCQ	Reply to message ——— is to be transmitted now.
ZCT	Following is correct version (of message ———).
ZCU	The following is heading of message (——) as received. Check to origin if necessary and repeat.
ZCV	Transmit your messages in strings of ———.
ZCW	Am going to transmit messages in strings of ———.
ZCX	Have you received my message ———?
ZCZ	Delay was due to fault in my receiving apparatus.
ZDA	Delay was due to fault in my transmitting apparatus.
ZDB	You are causing delay by slowness in answering.
ZDC	You are causing delay by answering out of turn.
ZDD	Request immediate reply to my message.
ZDF	Send receipt for message (——) when communication next established.
ZDG	Transmit all of your messages one after the other.
ZDH	When may I expect answer to my message ———?
ZDM	Continuous frequency.
ZDN	Vacuum tube transmission.
ZDP	Land wire or cable.
ZDR	Radio telephone.
ZDV	Tonic train (chopped CW) transmission.
ZDW	Visual.

Signal	Meaning
ZDX	Frequency.
ZDY	Type ——— transmitter.
[160]	
ZDZ	Type ——— receiver.
ZFA	Model ——— receiver.
ZFJ	——— is radio guard on ——— KCS (net control station for net whose call is ———).
ZFK	Am ready to take over radio guard (to act as net control station).
ZFL	Are you radio guard (net control station) (for ———)?
ZFM	Indicate ships (stations) for which you are radio guard (net control station).
ZFQ	(———) Act as ——— (until ——— o'clock) (on ——— KCS).
ZFW	Am in your zone. Relay communications for me.
ZFX	Expect to be out of communication for radio until ——— o'clock. Handle radio communication for this ship (station).
ZFZ	Am (or ——— is) unable to ———.
ZGA	Are you (or ——— is) unable to ———?
ZGB	Am going to use (or am shifting to) ———.
ZGC	Am (or ——— is) unable to use ———.
ZGD	Am (or ——— is) using ———.
ZGF	Use ———.
ZGG	My antenna (or antenna of ———) has been damaged (or carried away).
ZGJ	My receiving apparatus is temporarily out of commission.
ZGK	Repairs completed. Am in commission.
ZGL	There appears to be something wrong in your (———) receiving equipment.
ZGM	There appears to be something wrong in your (———) transmitter.
ZGN	My ——— (or ——— of ———) is defective.
ZGO	Your ——— appears to be defective.
ZGP	I can not transmit on ——— KCS.
ZGQ	Your antenna appears to be grounding.
ZGR	At the end of this transmission I (or ———) will transmit on CW.
ZGS	I have increased my radiation.
ZGT	My radiation is good.
ZGU	I can not receive (———).
ZGV	How is my note?
ZGW	Lower your note.
ZGX	Raise your note.
ZGY	Your note is bad.
ZGZ	Your note is clear and musical.
ZJA	Your note is rising and falling.
ZJB	Decrease strength of signals.
ZJC	Increase strength of signals.
ZJD	How are my signals?
ZJF	What is my signal strength?
ZJG	Your signals are unreadable owing to your bad note.
ZJJ	Your spark is broken.
ZJK	Your signals fade.

[161]

ZJL	Cease using ———.
ZJM	Act as relay between me and ———.
ZJN	Give me your message for ———; I will forward it.
ZJQ	Inform me when this message (or message ———) has been received by the addressee (or by ———).
ZJR	Message ——— has been received by the addressee (or by ———).
ZJV	Message(s) ——— has (have) been sent by land wire.
ZJY	Take no further action with regard to forwarding message ——— (to ———).
ZJZ	Transmit this message now (or at ———) by "F" method.
ZKA	Transmit this message now (or at ———) without preliminary call up.

Signal	Meaning
ZKC	Transmit this message (or at ———) by "I" method.
ZKG	Pass following message to destination by dispatch mail system.
ZKH	Distribute this message by dispatch where no charges are involved and to all others by mail.
ZKM	Forward this message by commercial niteletter.
ZKN	Send V's on your present frequency (or ——— KCS).
ZKO	Am going to send V's on my present frequency (or ——— KCS).
ZKP	Am going to transmit on ——— KCS.
ZKQ	Am shifting to receive on ——— KCS.
ZKR	Am (or ——— is) unable to transmit on ——— KCS.
ZKU	Am (or ——— is) transmitting on ——— KCS.
ZKX	On receiving "K" on ——— KCS I shall (or ——— will) transmit message to you on ——— KCS. Answer on your present frequency (or ——— KCS).
ZKY	Shift to receive on ——— KCS until further orders.
ZKZ	Shift to ——— KCS.
ZLA	Transmit and receive on ——— KCS.
ZLB	What frequency are you (or is ———) using?
ZLC	How is my frequency?
ZLD	Your frequency appears to be correct.
ZLF	Increase your frequency a trifle (or ——— KCS).
ZLG	Decrease your frequency a trifle (or ——— KCS).
ZLH	Your orientation is wrong; check it immediately.
ZLJ	Transmit on ——— KCS.
ZLK	Shift from telegraph to compensating frequency or vice versa.
ZLL	Check your frequency.
ZLV	General call; all stations copy.
ZMC	Who is interfering with you?
ZMF	I am being interfered with by ——— (on ——— KCS).
ZMG	Listen in before transmitting. You are causing unnecessary interference.
ZMJ	Do not interfere, I am receiving from ———.
ZMK	You are causing interference.
ZML	You are causing interference by inattention to order to wait.
[162]	
ZMM	You are causing interference. Send on another frequency.
ZMN	You are sending at the same time as ———.
ZNO	Answer ——— and take his message(s).
ZNP	Answer calls for me (or for ———).
ZNU	Answer in alphabetical order of call signs.
ZNV	Answer on ——— KCS.
ZPA	Negative; no; not. (For use with operating signals only.)
ZPB	Affirmative; yes. (For use with operating signals only.)
ZPF	Send ——— (weather, obstruction, storm warnings, press, etc.) Last received (or received at ———) to me (or to ———).
ZPG	Set clocks to ——— o'clock upon receiving signal of execution.
ZPH	What time is it?
ZQO	Send report of weather conditions your vicinity.
ZXA	What was station serial number of last message received from this station (or from ———)?
ZXB	Station serial number of last message received from you (or from ———) was ———.
ZXC	What was station serial number of last message you transmitted to me (or to ———)?
ZXD	Station serial number of last message transmitted to you (or to ———) was ———.
ZZO	Broadcast your messages without preliminary call up.
ZZP	Do not broadcast. Call your station first.
ZZX	Close your station.

1092 CONGRESSIONAL INVESTIGATION PEARL HARBOR ATTACK

JOINT ACTION OF THE ARMY AND THE NAVY

[163]

INDEX

	Paragraph		Paragraph
AAA.....	21	More to follow.....	24
AA.....	32, 34	N.....	36
AB.....	32, 34	Negative silence.....	30
Address.....	2	Net control station.....	41
Answer.....	35	Normal form of message.....	10
Answering call up.....	7 to 9	Nothing received.....	36
AR.....	22	NR.....	12
Artillery fire control.....	45-49	Number.....	12, 15, 17
AS.....	23	Number, writer's.....	17
Authentication.....	2	O.....	14
B.....	24	On the way.....	49
Battery fired.....	49	Operating instructions.....	13
BN.....	32, 34	P.....	14
Break.....	16	Press despatches.....	26
BT.....	16	Preparatory command.....	47
C.....	25	Priority.....	14
Call.....	11	[164] Procedure signals.....	20, 54
Call up.....	4-6	R.....	37, 52
Check.....	15	Radio guard.....	41
Class.....	14	Readability of signal.....	52
Code indicator.....	17	Received.....	37
Control of fire.....	45-49	Relay.....	38
Correct.....	25	Repeat back.....	28
Correction.....	26, 28, 32	Repetition.....	32
Cryptograph indicator.....	17	Routine.....	14
Dash, two-second.....	49	S.....	51
Dash, five-second.....	48	Salvo mark.....	49
EEEEEEEEEEEE.....	26	Signature.....	2
End of communication.....	42	Silence.....	30
Ending signal.....	19	Silent station.....	27
Erase.....	26	Space.....	31
Execution, command of.....	48	Static interference.....	44
Executive signal.....	48	Strength of signal.....	51
F.....	27	T.....	38
Finished.....	42	Text.....	17
G.....	28	Time of origin.....	18, 39
Go ahead.....	35	Time of receipt.....	40
Group.....	29	T of O.....	39
GR.....	29	TOR.....	40
Guard, radio.....	41	Transmit to.....	38
HM.....	30	U.....	41
II.....	31	UO.....	30
IMI.....	32	Urgent.....	14
INT.....	33	V.....	4, 11, 38
Interference.....	43, 44	VA.....	42
IX.....	47	Verification.....	33, 34
J.....	34	Verification of cryptographing.....	34
K.....	35	W.....	43
Language, clear.....	3	WA.....	32, 34
Language, secret.....	3	Wait.....	23
Long messages.....	24	X.....	44
Missing groups.....	21	Z signals.....	54

Approved by the Acting Secretary of War and the Acting Secretary of the Navy, August 16, 1928.

CONFIDENTIAL

CHANGE NO. 1, JOINT ACTION OF THE ARMY AND THE NAVY

J. B. No. 350.

THE JOINT BOARD,
WAR AND NAVY DEPARTMENTS,
Washington, July 22, 1936.

The following changes in Joint Action of the Army and the Navy recommended by The Joint Board have been approved by order of the Secretary of War and by the Acting Secretary of the Navy and should be made in all copies of this publication.

JARVIS BUTLER, *Secretary*.

Cancel list of effective pages of Navy FTP 155 appearing on page 11, and insert new list of effective pages (Navy copies only).

PARAGRAPH 6. "General Functions of the Navy." Remove and destroy page 3 and substitute new page 3 containing amendment of subparagraph 6. a. (3) and added subparagraph 6. b. (3).

PARAGRAPH 128. Organization of the Joint Planning Committee. Remove and destroy pages 129-130 and substitute new pages 129-130 containing amended paragraph 128.

PARAGRAPHS 131 and 132. "Aeronautical Board." Remove and destroy pages 131-132 and substitute new pages 131-132 containing amendment of paragraphs 131 and 132.

NOTE.—The Office of The Adjutant General, War Department, and the Registered Publication Section, Navy Department, require no report on receipt of the above changes.

[ii] JOINT ACTION OF THE ARMY AND THE NAVY 1935

LIST OF EFFECTIVE PAGES

Title page-----	Original
CNO letter of promulgation, dated November 15, 1935 (p. I)-----	Original
List of effective pages (II)-----	C. J. A. 1
Letter of approval by Secretary of War and Secretary of the Navy, dated September 11, 1935 (p. III) (p. IV blank)-----	Original
Contents (pp. V, VI, blank, VII, VIII)-----	Original
Text pp. 1-2-----	Original
p. 3 (p. 4 blank)-----	C. J. A. 1
pp. 5-127 inclusive-----	Original
pp. 129-132 inclusive-----	C. J. A. 1
pp. 133-164 inclusive-----	Original
Chart—Joint organization for coastal frontier defense-----	Original
J. B. letter promulgating changes in Joint Action No. 1, dated July 22, 1936-----	Original

[3] (3) To support the national policies of the United States and to furnish land forces for the occupation of foreign territory in protection of the interests of the United States.

(4) To protect the United States from internal disorder or insurrection.

b. *Additional general functions of the Army in war.*

(1) To conduct effective military operations.

(2) To conduct operations in support of the Navy for the establishment and defense of naval bases.

(3) To provide such forces as may be necessary for joint overseas expeditions.

6. *General functions of the Navy.*

a. *General functions of the Navy in peace and war.*

(1) To provide for and to prepare the sea forces necessary for the effective prosecution of war to include provisions for the expansion of the peace components of the sea forces to meet the needs of war.

(2) To guard the continental and overseas possessions of the United States.

(3) To support the national policies and commerce of the United States and to provide forces for emergency service in foreign territory in support thereof.

(4) To assist the Army in the suppression of internal disorder or insurrection.

b. *Additional general functions of the Navy in war.*

(1) To conduct effective naval operations.

(2) To gain and maintain command of vital sea areas and to protect the sea lanes vital to the United States.

(3) To seize, establish, and defend, until relieved by Army forces, advanced naval bases; and to conduct such limited auxiliary land operations as are essential to the prosecution of the naval campaign.

[129] CHAPTER VIII

AGENCIES FOR EFFECTIVE COORDINATION

Section I

Sanction of Joint Agencies

125. The existing joint agencies for coordination between the Army and the Navy have no legislative nor executive basis for existence. These agencies exist as a result of agreement between the Secretaries of the War and Navy Departments. The recommendations of these joint agencies are advisory only and become effective upon approval by both Secretaries, and in some cases upon further approval by the President.

Section II

The Joint Board

126. The authority for The Joint Board is contained in War Department G. O. No. 94, 1919, as amended by G. O. No. 29, 1923, and G. O. No. 10, 1936, and Navy Department G. O. No. 7, 1935, as amended by G. O. No. 73, 1935, and G. O. No. 82, 1936. The board consists, on the part of the Army, of the Chief of Staff, the Deputy Chief of Staff, and the Assistant Chief of Staff, War Plans Division, General Staff; and on the part of the Navy, of the Chief of Naval Operations, the Assistant Chief of Naval Operations, and the Director, War Plans Division, Office

of Naval Operations. The [130] board is provided with a secretary detailed from the permanent personnel of either the War Department or the Navy Department.

127. Any matter which, to either the War or the Navy Department, seems to call for consideration as to cooperation between the two services may be referred by that department to The Joint Board. The Joint Board may also originate consideration of such subjects as in its judgment are necessary. The board confers upon, discusses, and reaches such common conclusions as may be practicable regarding such matters. Proceedings and reports of the board are confidential. Each department receives a copy of the report of the board.

128. The authority for the Joint Planning Committee is contained in War Department G. O. No. 94, 1919 (as amended by G. O. No. 29, 1923, and G. O. No. 10, 1936), and in Navy Department G. O. No. 7, 1935 (as amended by G. O. No. 73, 1935, and G. O. No. 82, 1936). The Committee consists of three or more members of the War Plans Division, War Department General Staff, and three or more members of the War Plans Division of the Office of Naval Operations; and, in addition thereto, in cases involving procurement and the allocation of industry, one officer of the Office of the Assistant Secretary of War and one officer from the Office of Naval Operations.

129. The committee is an agency of The Joint Board for the detailed investigation, study, and development of policies, projects, and plans relative to the national defense and involving joint action of the Army and the Navy. The committee may also originate consideration of such subjects as, in its judgment, are necessary. The members are authorized to consult and confer freely on all matters of defense and military policy in which the Army and the Navy are jointly concerned, and to consider this joint work as their most important duty. Its procedure is informal; its reports and recommendations are confidential; its reports and recommendations go to The Joint Board.

Section III

The Aeronautical Board

130. The authority for the Aeronautical Board is contained in War Department G. O. No. 6, 1936, and Navy Department G. O. [131] No. 81, 1936. The board consists, on the part of the Army, of the Chief of Air Corps, the Assistant to Chief of Air Corps, and one member of the War Plans Division of the War Department General Staff; on the part of the Navy, of the Chief of Bureau of Aeronautics, the Head of Plans Division of his office, and one member of the War Plans Division, Office of Chief of Naval Operations. The War Plans Division members are not eligible for duty with The Joint Board or the Joint Planning Committee. The board is provided with a secretary detailed from the permanent personnel of either the War Department or the Navy Department.

131. The function of the Aeronautical Board is to secure a more complete measure of cooperation and coordination in the development of aviation of the Army and of the Navy. It will investigate, study, and report upon all questions affecting jointly the development of aviation of the Army and of the Navy which have been referred to it by the Secretary of War, the Secretary of the Navy, The Joint Board, the Chief of the Air Corps, or the Chief of the Bureau of Aeronautics. In addition, it will also be charged with the duty or originating consideration of such subjects when in its judgment necessary and of recommending whatever it considers essential to establish sufficiency and efficiency of cooperation and coordination of effort between the Army and the Navy as to aviation.

132. In the execution of the foregoing, the Aeronautical Board will be governed by the following. It will hold regular monthly meetings and such extraordinary meetings as may be deemed advisable. It will prescribe its own procedure and will be assisted by working committees, the members of which will be appointed by the Aeronautical Board. All recommendations of the Aeronautical Board affecting joint Army and Navy policies or plans relative to the national defense will be referred to The Joint Board for consideration before submission to the Secretary of War and the Secretary of the Navy. Matters affecting the procurement of matériel in time of war to meet joint requirements will be submitted to the Army and Navy Munitions Board. All other matters will be submitted direct to the Secretary of War and the Secretary of the Navy.

[132]

Section IV

Army and Navy Munitions Board

133. The authority for the Army and Navy Munitions Board is contained in The Joint Board's letter J. B. No. 346 (Serial No. 181), of June 27, 1922, approved by the Secretary of War and the Secretary of the Navy June 29, 1922. The board consists of the Assistant Secretary of War and the Assistant Secretary of the Navy, assisted by an executive committee composed of officers on duty in the War and Navy Departments, as follows:

Three officers of the Army and three officers of the Navy to be selected by the Secretary of War and the Secretary of the Navy, respectively.

134. The board is authorized and directed to—

a. Formulate and keep up to date such pertinent plans and policies as in the opinion of the two Departments should be adopted by the Federal Government for coordinating and controlling national industrial effort in emergency.

b. Assure the necessary coordination in the procurement war plans of the two services, and in all plans, studies, and appendices thereto intended to facilitate the Government's efforts in emergency to promote orderly mobilization of industry.

c. Form and direct the activities of such joint committees as may be necessary to consider, investigate, and make recommendations concerning pertinent subjects falling within the purview of the Board's responsibilities.

135. Approval of action taken by the Munitions Board is not required, except that any plans prepared by it that affect joint war plans and joint Army and Navy policy relative to the national

[I] [C. J. A. I.]

CONFIDENTIAL

CHANGE No. 1, JOINT ACTION OF THE ARMY AND THE NAVY

J. B. No. 350.

THE JOINT BOARD,
WAR AND NAVY DEPARTMENTS,
Washington, July 22, 1936.

The following changes in Joint Action of the Army and the Navy recommended by The Joint Board have been approved by order of the Secretary of War and by the Acting Secretary of the Navy and should be made in all copies of this publication.

JARVIS BUTLER, *Secretary.*

Cancel list of effective pages of Navy FTP 155 appearing on page ii, and insert new list of effective pages (Navy copies only).

PARAGRAPH 6. "General Functions of the Navy." Remove and destroy page 3 and substitute new page 3 containing amendment of subparagraph 6. a. (3) and added subparagraph 6. b. (3).

PARAGRAPH 128. Organization of the Joint Planning Committee. Remove and destroy pages 129-130 and substitute new pages 129-130 containing amended paragraph 128.

PARAGRAPHS 131 AND 132. "Aeronautical Board." Remove and destroy pages 131-132 and substitute new pages 131-132 containing amendment of paragraphs 131 and 132.

NOTE.—The Office of The Adjutant General, War Department, and the Registered Publication Section, Navy Department, require no report on receipt of the above changes.

[Ib] C. J. A. 2.

CHANGE No. 2, JOINT ACTION OF THE ARMY AND THE NAVY, 1935

J. B. No. 350 (Serials 628, 630, 631, and 635).

THE JOINT BOARD,
WAR AND NAVY DEPARTMENTS,
Washington, November 30, 1938.

The following changes in Joint Action of the Army and the Navy, 1935, have been approved by the Secretary of War, the Acting Secretary of War and the Acting Secretary of the Navy and should be made in all copies of this publication.

Add the following new pages.

Page nos.	Subject matter
Ib-Ic II-IIa	Promulgation of Change No. 2. List of effective pages.

1096 CONGRESSIONAL INVESTIGATION PEARL HARBOR ATTACK

Remove and destroy the pages listed below and substitute the reprinted pages containing changes as indicated.

Old page nos. ¹	Changes on reprinted pages
I-II	Reprint of promulgation of Change No. 1 on pages I-Ia.
V-VI	Title of Chapter II changed.
VII-VIII	Paragraph headings under Chapter II changed.
5-10	Paragraphs 7-15 deleted and new paragraphs 7-10 substituted on pages 5-6.
11-12	Paragraph 17, second sentence deleted.
17-18	Paragraph 23b, new sentence added.
27-28	Paragraph 24, parenthetical reference changed.
41-42	Paragraph 32c (3) (a), fifth and sixth lines changed.
43-44	Paragraph 32f, twelfth line changed; subparagraph (e) changed.
47-48	Paragraph 32g (2) (e), first sentence changed.
65-66	Paragraph 42h, sixth and seventh lines changed; paragraph 42i (2), last line changed.
67-68	Paragraph 42i (14), changed.
69-70	Items "Wave" and "Subwave" under Definitions changed.
77-78	Paragraphs 48g and 48r, changed; paragraph 49 changed.
79-80	Paragraph 53b, changed; paragraph 54a, changed.
[c] 83-84	Paragraph 61, last sentence changed; paragraph 64c, last line changed.
87-88	Paragraph 72, third and fourth lines changed.
91-92	Paragraph 81d, changed.
97-98	Paragraph 89g, changed; paragraph 90a, second sentence changed.
101-102	Paragraph 93d, third and fourth sentences changed.
103-104	Paragraph 95a, first sentence changed; paragraph 95e, first sentence changed; paragraph 95f, first line changed; paragraph 96c, first line changed; paragraph 97a, first sentence changed.
105-106	Paragraph 101a, last line changed.
107-108	Paragraph 101b, last line changed.
111-112	Paragraph 17a, first sentence changed.
129-130	Paragraph 125, fourth line changed; paragraph 126, last sentence changed.
133-134	Paragraphs 141b and 142, changed.
137-138	Paragraph 4 (b), changed.

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

This Change No. 2 includes all changes which have been directed to be made in Joint Action of the Army and the Navy, 1935, since the promulgation of Change No. 1, July 22, 1936.

The Office of The Adjutant General, War Department, and the Registered Publications Section, Navy Department, require no report of this Change No. 2.

ROBERT S. CHEW,
Commander, Supply Corps, United States Navy,
Acting Secretary, Joint Board.

[11] C. J. A. 2.

JOINT ACTION OF THE ARMY AND THE NAVY, 1935

LIST OF EFFECTIVE PAGES

Subject matter	Change in effect	Page nos. ¹
Title page	Original	No number
Navy letter of promulgation of November 15, 1935 (Navy copies only)	"	0-00*
Promulgation of Change No. 1, July 22, 1936	1	I-Ia
Promulgation of Change No. 2, November 30, 1938	2	Ib-Ic
List of effective pages	2	II-IIa
Joint letter of promulgation of September 11, 1935	Original	III-IV**
Contents	2	V-VI
Contents, Part I	2	VII
Contents, Part I, continued	Original	VIII
Chapter I	"	1-2
Chapter I, continued	1	3-4**
Chapter II	2	5-6
Chapter III	2	11
Chapter III, continued	Original	12 to 16**
Chapter IV	"	17
Chapter IV, continued	2	18
Chapter IV, continued	Original	19-20**
Contents, Part II	"	21-22**
Contents, Chapter V	"	23-26
Chapter V	2	27
Chapter V, continued	Original	28 to 41
Chapter V, continued	2	42 to 44
Chapter V, continued	Original	45 to 47
Chapter V, continued	2	48

*Should be so numbered in ink in Navy copies only.

**Original blank pages IV, 4, 16, 20, and 22 should be so numbered in ink.

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

JOINT ACTION OF THE ARMY AND THE NAVY, 1935—continued
LIST OF EFFECTIVE PAGES—continued

Subject matter	Change in effect	Page nos. ¹
Chapter V, continued.....	Original	49 to 64
Chapter V, continued.....	2	65-66
Chapter V, continued.....	Original	67
Chapter V, continued.....	2	68
Contents, Chapter VI.....	2	69
Contents, Chapter VI, continued.....	Original	70 to 72
Chapter VI.....	"	73 to 76
Chapter VI, continued.....	2	77 to 80
Chapter VI, continued.....	Original	81-82
Chapter VI, continued.....	2	83-84
Chapter VI, continued.....	Original	85-86
Chapter VI, continued.....	2	87
Chapter VI, continued.....	Original	88 to 90
[IIa]		
Chapter VI, continued.....	2	91
Chapter VI, continued.....	Original	92 to 97
Chapter VI, continued.....	2	98
Chapter VI, continued.....	Original	99-100
Chapter VI, continued.....	2	101
Chapter VI, continued.....	Original	102
Chapter VI, continued.....	2	103-104
Chapter VI, continued.....	Original	105
Chapter VI, continued.....	2	106-107
Chapter VI, continued.....	Original	108 to 110
Chapter VI, continued.....	2	111
Chapter VI, continued.....	Original	112
Contents, Chapter VII.....	"	113-114**
Chapter VII.....	"	115 to 126**
Contents, Chapter VIII.....	"	127-128**
Chapter VIII.....	2	129-130
Chapter VIII, continued.....	1	131-132
Chapter VIII, continued.....	Original	133
Chapter VIII, continued.....	2	134
Chapter VIII, continued.....	Original	135-136**
Chapter IX.....	"	137
Chapter IX, continued.....	2	138
Chapter IX, continued.....	Original	139 to 162
Index, Chapter IX.....	"	163-164
Chart of Organization for Coastal Frontier Defense.....	"	No number

**Original blank pages 114, 126, 128 and 136 should be so numbered in ink.

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

[V]

CONTENTS

PART I

POLICIES TO GOVERN JOINT ACTION OF THE ARMY AND THE NAVY

- CHAPTER I—Policy Governing the Respective Functions of the Army and of the Navy.
II—Coordination of Operations of the Army and of the Navy.
III—Operations Requiring Coordination.
IV—Functions of Army and Navy Air Components.

PART II

POLICIES, AGREEMENTS, JOINT INSTRUCTIONS, AND JOINT AGENCIES

- CHAPTER V—Coastal Frontier Defense.
VI—Joint Overseas Expeditions.
VII—Regulations, Maneuver Rules, and Umpire Instructions for Joint Army and Navy Exercises.
VIII—Agencies for Effecting Coordination.
IX—Communications.

[VII] C. J. A. 2.

PART I

POLICIES TO GOVERN JOINT ACTION OF THE ARMY AND THE NAVY

CONTENTS

Para- graph	Subject	Page ¹
	CHAPTER I—POLICY GOVERNING THE RESPECTIVE FUNCTIONS OF THE ARMY AND OF THE NAVY	
1	Purpose of statement of policy.....	1
2	Constitutional basis.....	1
3	Common mission of Army and Navy.....	1
4	General functions of the Army and the Navy.....	1
5	General functions of the Army.....	2
6	General functions of the Navy.....	3

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

CONTENTS

Para-graph	Subject	Page ¹
	CHAPTER II—COORDINATION OF OPERATIONS OF THE ARMY AND OF THE NAVY	
7	Coordination—General considerations.....	5
8	Methods of coordination.....	5
9	Determination of the method of coordination.....	5
10	Responsibility and authority conferred by unity of command.....	6
VIII]	CHAPTER III—OPERATIONS REQUIRING COORDINATION	
16	Types.....	11
17	Tasks of Army and Navy forces in joint operations.....	11
18	Joint overseas expeditions.....	11
19	Coastal frontier defense.....	13
	CHAPTER IV—FUNCTIONS OF ARMY AND NAVY AIR COMPONENTS	
20	General functions.....	17
21	Primary functions.....	17
22	Secondary functions.....	18
23	Provisions to minimize duplication.....	18

¹ Pages referred to are indicated by italic figures enclosed by brackets and represent pages of original exhibit.

[5]

CHAPTER II

COORDINATION OF OPERATIONS OF THE ARMY AND OF THE NAVY

7. *Coordination*—General considerations.

a. Effective utilization of the military power of the nation is essential to success in war and requires that the operations of the Army and the Navy be coordinated.

b. In determining the method to be used in coordinating the operations of the two services, consideration will be given to the respective functions of the Army and of the Navy as defined in this document, the geographical location and nature of the contemplated operations, the character and strength of our own and enemy forces, and the probable intentions of the enemy.

8. *Methods of coordination*.—Operations of Army and Navy forces will be coordinated by one of the following methods:

a. Mutual cooperation.

b. The exercise of unity of command.

9. *Determination of the method of coordination*.

a. Operations of Army and Navy forces will normally be coordinated by mutual cooperation.

b. Operations of Army and Navy forces will be coordinated by the exercise of unity of command in the following cases:

(1) When ordered by the President; or

(2) When provided for in joint agreements between the Secretary of War and the Secretary of the Navy; or

(3) When commanders of Army and Navy forces agree that the situation requires the exercise of unity of command and further agree as to the service that shall exercise such command.

[6] 10. *Responsibility and authority conferred by unity of command*.

a. Subject to the provisions of subparagraph b below, unity of command in an operation vests in one commander the responsibility and authority to coordinate the operations of the participating forces of both services by the organization of task forces, the assignment of missions, the designation of objectives, and the exercise of such coordinating control as he deems necessary to insure the success of the operation.

b. Unity of command does not authorize the commander exercising it to control the administration and discipline of the forces of the service to which he does not belong, nor to issue any instructions to such forces beyond those necessary for effective coordination.

[11]

CHAPTER III

OPERATIONS REQUIRING COORDINATION

16. *Types.*

- a. Independent operations.
- b. Joint operations which are generally of two classes:
 - (1) Joint overseas expeditions.
 - (2) Coastal frontier defense.

17. *Tasks of Army and Navy forces in joint operations.*—The normal Army and Navy tasks enumerated below are to serve as guides in the planning and execution of operations in which Army and Navy forces jointly participate. When Army forces participating in joint operations move overland, tactical coordination of the Army and Navy forces will be exercised when the forces of the two services approach the objective to within supporting distance of each other.

18. *Joint overseas expeditions.*

a. *Joint overseas expeditions include:*

- (1) Joint overseas movements.
- (2) Landing attacks against shore objectives.

b. *Joint overseas movements.*

- (1) The normal Army tasks in joint overseas movements are:

(a) To provide and operate all vessels for the Army, except when naval opposition by the enemy is to be expected, in which case they are provided and operated by the Navy.

(b) To assemble the Army troops, together with their equipment and supplies, at designated ports of embarkation.

[12] (c) To provide and operate the Army ports of embarkation.

(d) To load transports, whether these are provided by the Army or the Navy, for the transportation of Army personnel, equipment, and supplies, subject to Navy approval as to stability of vessels.

(e) To load in readiness for operation such aircraft and armament as can be made available to assist the Navy during the movement at sea or in landing operations.

(f) To organize and operate shore installations used primarily for debarkation of Army personnel, equipment, and supplies.

- (2) The normal Navy tasks in joint overseas movements are:

(a) To maintain sea lines of supply.

(b) When naval opposition by the enemy is to be expected—

1. To procure, man, equip, and operate the vessels necessary to transport Army personnel, equipment, and supplies.

2. To assemble the necessary transports at designated ports of embarkation at the times specified by the commanders of the ports of embarkation.

3. To provide for security of transports at sea.

4. To provide in outlying ports means for the embarkation, or debarkation, of Army troops, equipment and supplies, when such means cannot be provided or obtained by the Army.

c. *Landing attacks against shore objectives.*

(1) The normal Army tasks in landing attacks directed from the sea against shore objectives are:

(a) The deployment into boats used for landing, these boats being operated by the Navy.

(b) The delivery of rifle and machine-gun fire from landing boats, except from such machine guns as are parts of the naval equipment of the boats.

[17]

CHAPTER IV

FUNCTIONS OF ARMY AND NAVY AIR COMPONENTS

20. *General functions.*

a. It is the general function of Army and Navy air components, respectively, to conduct the air operations derived from the approved respective functions of the Army and Navy stated in chapter I, Policy Governing the Respective Functions of the Army and of the Navy. Under this policy:

(1) The air component of the Army conducts air operations over the land and such air operations over the sea as are incident to the accomplishment of Army functions.

(2) The air component of the Navy conducts air operations over the sea and such air operations over the land as are incident to the accomplishment of Navy functions.

b. Aircraft, by their nature, are capable to a degree, dependent upon their design and upon the skill and training of their personnel, of performing either Army or Navy air functions. Available air strength should therefore be used whenever possible by either service in support of the other.

c. Army aircraft may temporarily execute Navy functions in support of or in lieu of Navy forces. Conversely, Navy aircraft may temporarily execute Army functions under like conditions.

21. *Primary functions.*

a. The air component of each service has a primary function to which its principal efforts are to be directed, both in peace and in war.

b. These primary functions are:

(1) The Army air component to operate as an arm of the mobile Army, both in the conduct of air operations over the land in support of land operations and in the conduct of air operations over the sea in direct defense of the coast.

[18] (2) The Navy air component to operate as an arm of the Fleet.

22. *Secondary functions.*

a. Secondary functions of the air component of the Army are:

(1) Reconnaissance and observation of fire for harbor defenses.

(2) Air operations in connection with the defense of important industrial centers and military and naval installations.

(3) Air operations in support of or in lieu of naval forces.

b. Secondary functions of the air component of the Navy are:

(1) Air operations, by aircraft forming part of naval local defense forces, for the patrol of the coastal zones and for the protection of shipping therein.

(2) Air operations in support of or in lieu of Army forces.

23. *Provisions to minimize duplication.*

a. The functions assigned to the Army air component require the Army to provide and maintain all types of aircraft primarily designed for use in support of military operations, or in the direct defense of the land and coastal frontiers of continental United States and its overseas possessions, or in repelling air raids directed at shore objectives or at shipping within our harbors, or in supporting naval forces to assure freedom of action of the fleet.

b. The functions assigned to the Navy air component require the Navy to provide and maintain all types of aircraft primarily designed and ordinarily used in operations from aircraft carriers or other vessels, or based on aircraft tenders, or for operations from shore bases for observation, scouting and patrolling over the sea, and for the protection of shipping in the coastal zones. These aircraft may be required to operate effectively over the sea to the maximum distance within the capacity of aircraft development.

c. Projects of the Army and Navy relating to their respective air components shall, in peace time, with a view to insuring the minimum of overlap and duplication, be considered by the Aeronautical Board prior to being used as a basis for action.

d. When estimated aircraft production and procurement do not meet the requirements of the Army and the Navy under any specific war plan, the Joint Board will make allocation in numbers and priorities of airplanes to the Army and Navy, respectively.

[27]

CHAPTER V

COASTAL FRONTIER DEFENSE

Section I

Introduction and Definitions

24. *Purpose of publication.*—The purpose of this publication is to present the principles and measures necessary for the effective joint organization and conduct of operations in coastal frontier defense and the method of planning involved and the responsibilities of the two services in connection therewith, in order to insure the most effective cooperation and coordination between Army and Navy forces participating therein. (See Ch. II, and par. 19, Joint Action of the Army and the Navy.)

25. *Purpose of coastal frontier defense.*

a. The purpose of a joint organization and measures for coastal frontier defense is to provide more effectively for our national defense.

b. Specifically, the measures and operations in coastal frontier defense are for the purpose of:

- (1) Protecting shipping in the coastal zones;
- (2) Protecting our military and civil installations and facilities;
- (3) Preventing invasion of United States territory from overseas;
- (4) Insuring the security of those portions of our coastal frontiers which are vital to military, industrial, and commercial operations.

[28] 26. *Definitions.*—In order to provide a common basis of understanding between the Army and the Navy in the employment of forces in coastal frontier defense, the following definitions of terms employed are hereby established:

a. A *coastal frontier* is a geographical division of our coastal area established for organization and command purposes, in order to insure the effective co-ordination of Army and Navy forces employed in coastal frontier defense. The coastal frontier of a group of islands shall completely surround such group or shall include that part of the group which can be organized for defense and command purposes. Within each coastal frontier an Army officer and a naval officer will exercise command over all Army forces and Navy forces, respectively, assigned for the defense of these divisions. Coastal frontiers are subdivided for command purposes into sectors and subsectors.

b. *Coastal frontier defense* is the organization of the forces and matériel of the Army and the Navy assigned to provide security for the coastal frontiers of continental United States and its overseas possessions.

c. *The naval district* is a military and administrative command ashore established for the purpose of decentralizing the Navy Department's functions with respect to the control of shipping in the coastal zones and the shore activities outside the Navy Department proper, and for the further purpose of centralizing under one command within the district and the waters thereof:

- (1) For military coordination, all naval activities; and
- (2) For administrative coordination, all naval activities with specific exceptions.

The primary purpose in view is to provide for naval mobilization and logistic support of the Fleet and to utilize the district naval forces in the joint organization to provide security for the coast and for shipping in the coastal zones. The limits of the naval districts are laid down in the Navy Regulations. These limits extend to seaward so as to include the coastwise sea lanes. Each naval district is commanded by a designated commandant who is the direct representative of the Navy Department, including its bureaus and offices, in all matters affecting district activity.

[41] 32. *Requirements and means to be provided.*

a. *General requirements.*

(1) The proximity of important cities and industrial areas to certain of our seacoast and lake frontiers and the consequent vulnerability of these places to attack, as well as the importance to the Nation of our shipping and its related industries, and the fact that our coastal bases are the mainsprings of naval action, make the protection of these frontiers in time of war a highly important part of the national defense.

(2) Positive security, to include harbor defenses, has been provided for certain areas, the fixed armament of which has been or is being installed during peace time. Depending upon the liability of these areas to attack, and upon the character of such attack, defensive coastal areas have been designated and defensive sea areas should be designated in order to ensure the security of these important areas and the security of the shipping within their waters.

(3) In other respects, a minimum land and sea defense should be contemplated for our whole coastal frontier on the outbreak of war, and should involve the employment of only such parts of the means of defense as are required under the situation. In some situations, involving only minor enemy operations, it may be necessary to organize the beach defense for certain localities. Other situations involving more serious enemy attacks will require that the means of defense be successively augmented.

b. *Defensive operations required.*—From a study of possible enemy operations, it appears that the defense of our coastal frontiers should take into consideration the following:

- (1) The observation of the coastal frontier and the sea beyond as far as circumstances permit or seem to demand.

- (2) The protection of shipping in waters adjacent to the seacoast.
- (3) The attack on enemy vessels in waters adjacent to the seacoast.
- (4) The resistance to enemy approach to the seacoast.

[42] (5) The protection of the seacoast, and especially strategic harbors, against raids.

(6) The defeat of enemy landing attacks on the seacoast including the provision of defensive installations on shore and in the waters adjacent thereto.

(7) The initiation of counteroffensive operations to eject a landed enemy.

c. Means available.—Under the above conception of defensive operations that may be required for coastal frontier defense, the means that may be made available in time of war include—

(1) *The Fleet*, the employment of which, in accordance with the strategic situation, may keep the enemy away from our coastal frontiers.

(2) *Naval local defense forces*, which control the water areas within a naval district, conduct naval operations against enemy forces in the naval district waters, and cooperate with and support the Army in repelling attacks on coastal objectives.

(3) *The Army forces.*

(a) *Mobile forces*, including air forces, to provide the covering or outpost forces for the initial coastal frontier defense organization and likewise the additional forces necessary to defeat landing attacks and air attacks and to carry out the Army functions.

(b) *Harbor defense forces* for maintenance and operation of essential harbor defenses designed to prevent ingress into areas, including the air space thereof covered by these defenses.

d. Relation of the Fleet to coastal frontier defense.—The strategic freedom of action of the Fleet must be assured. This requires that coastal frontier defense be so effectively conducted as to remove any anxiety of the Fleet in regard to the security of its bases. In the case of hostile major overseas movements directed against our coasts, the Fleet, if present and free to act, will be a powerful factor for ensuring the security of its bases and our coasts, and, if it engages the enemy, should be supported by all the land-based aircraft available.

[43] *e. Relation of Army mobile forces to coastal frontier defense.*—The Army in its responsibility for the direct defense of the coast must be prepared to meet successfully any attack directed against any part of our coastal frontiers. This responsibility and the possibility that naval strategy may demand the presence of the Fleet in another theater of operations make it necessary for the Army to provide mobile forces, not only those to be used as covering or outpost forces in the initial coastal frontier defense organization, but also the additional forces required to defeat enemy landing or air attacks directed against any part of the coast. When any part of a coastal frontier is threatened, these additional mobile forces will be concentrated with a view to defeating the enemy in the affected area.

f. Relation of Army air forces to coastal frontier defense.—In operations against enemy attacks along our coast and in the waters adjacent thereto, the operations of Army and Navy aviation will overlap to a certain extent. That is, Army aircraft will necessarily have to operate over the sea and Navy aircraft may at times have to operate over the land. In any case, no restrictions will be placed upon the complete freedom of either service to utilize against the enemy the full power of all aircraft available and any and all facilities that may be necessary to make that power effective. Army air forces are a part of the mobile Army forces engaged in the direct defense of the coast. Their functions and operations will be governed by the principles outlined in Chapter II and in paragraphs 20, 21, and 22, Joint Action of the Army and the Navy, and the following quoted paragraphs from J. B. No. 349 (Serial No. 539) subject, "Doctrines for the Employment of the GHQ Air Force":

"(b) When any sector of a frontier is threatened, units of all arms, including units of the Air Corps, will be concentrated in support of the covering forces and the operations of all components will be in accordance with the general plan and the specific decisions of the frontier and sector commander. The Army Air Corps operates along the coast under the same conditions as in other operations except that occasions may arise when the GHQ air force or units thereof may act in conjunction with naval air forces under temporary direction of naval commanders; or similarly when naval air forces may operate in conjunction with and under temporary direction of Army commanders.

"(c) The Army is responsible for the direct defense of the coast. This responsibility and the possibility that naval strategy may demand [44] the

presence of the Fleet in another theater require that joint plans for coastal frontier defense be drawn without counting upon the assistance of the Fleet as distinguished from naval local defense forces. But it should be borne in mind that, when the Fleet is so situated that it can and does operate effectively against enemy forces afloat that are approaching some sector of the coast, the security of such sector against major attack is ensured for the time being.

"(d) In addition to a radio communication system, the Navy maintains shore stations at strategical centers, where scouting and patrolling seaplanes may be concentrated to meet naval situations. These naval forces are important elements in the communications and information service, and would normally be the source of the first notice of the approach of an enemy by the sea. When the Army GHQ air force operates along the coast, it maintains such reconnaissance as is essential to its combat efficiency. The coordination and cooperation of these two sources of information are secured by joint plans prepared by frontier, sector, overseas department, and naval district authorities. Such plans should provide for augmentation of one service by the other in gaining and disseminating information of enemy movements offshore.

"(e) In the absence of the Fleet, the primary responsibility of securing information of hostile fleet movements rests with naval district forces supplemented by Army Air Corps units. However, regardless of the presence or absence of the Fleet, the GHQ air force retains the responsibility for such reconnaissance as is essential to its combat efficiency.

"(f) In the absence of sufficient naval forces to engage the enemy at sea, a major attack upon the coast may develop so as to require the utilization of the GHQ air force in three phases as follows:

"1st phase—The conduct of reconnaissance over the sea approaches to the coast and (when favorable opportunity presents itself) the attack of enemy elements.

"2d phase—The support of artillery, involving both fixed and mobile guns and mines, by aircraft conducting observation, reconnaissance, and offensive operations, from the time the enemy comes within range of ground weapons, until he is driven off or the operation enters the third phase.

"3d phase—Air operations in connection with the use of all arms on our coastal frontier.

"Reconnaissance, as outlined for the first phase, will be continued to the extent possible throughout the later phases.

"(g) *War plans.*—In peace-time planning for war-time use under any of our existing war plans, each coastal frontier plan, and where necessary, each sector and subsector plan will include plans for the employment of such air units as may be assigned under the particular war plan involved. In the preparation of these plans, consideration will be given to the category of defense as defined in chapter V, part X (sec. III of 1935 revision), Joint Action of the Army and the Navy, and specified in the particular war plan in question. Each specific war plan prepared by the War Department will set forth the initial missions assigned the GHQ air force and, in general terms, the operations to be undertaken. Based upon these missions, the GHQ air force commander will prepare his plan covering the details of concentration the missions, and the general plan of initial operations to be undertaken by the various elements of the GHQ air force.

"(h) *Defense projects.*—Harbor defense projects will contain a statement of the minimum observation aviation needed for reconnaissance and observation of fire for the harbor defense artillery included in such project.

"(i) *Installations and facilities.*—The most important of these are communications, airdromes, and landing fields. Of the first, the radio systems of the naval districts and of the Coast Guard are available, and joint plans contemplate their utilization in connection with any additional stations found necessary and installed by either service. Harbor defense projects and the plans of coastal frontier commanders will make provision for the airdrome areas and installations and the communications and supply arrangements for the effective operation in war of the air organizations assigned. In addition, the plans of each coastal frontier commander will contemplate and provide, in consultation with the GHQ air force commander, for the possibility of the operation of the entire GHQ air force within the limits of such coastal frontier command, by including in such plans logistical provisions for the entire GHQ air force, should it so operate. Civilian installations and establishments will be utilized to the fullest extent practicable. Where facilities do not exist, all work possible under current appropriations should be done to prepare them so as to permit M-day operation.

"(j) In overseas departments, the utilization of the aviation component of the garrison will be as directed by the department commander."

g. Naval local defense forces.

(1) The naval local defense forces are furnished by naval districts from such surface, subsurface, and aircraft as may be made available, including small submarines, old destroyers, mine vessels, and aircraft tenders, with such local vessels as are taken over in time of war for naval district use.

(2) The naval local defense forces of a naval district may comprise any or all of the following task forces:

(a) *The inshore patrol*, which may be composed of section bases, submarine bases, destroyer bases and air [46] stations; coastal lookout system, including lightships, lighthouses, Coast Guard stations, and special lookout stations; motor boats, submarine chasers, yachts, aircraft, mine sweepers, guard ships, aircraft tenders, and additional task forces in special cases, with the following duties:

1. To execute the Navy's part of all joint plans for defensive coastal areas.

2. To search for, locate, report, and attack enemy vessels operating close in to the coast and off harbor entrances.

3. To sweep such channels close in to the coast and off harbor entrances as are necessary for our naval forces and merchant shipping, and to clear mine fields laid by the enemy.

4. To patrol the outer limits of defensive coastal areas in order to convey to the harbor defense commander prompt and full information of the approach of friendly or hostile vessels, including all those of the offshore patrol. This information is to be conveyed directly to the nearest elements of the Army communication system.

5. To patrol the areas for obstacles, especially during thick weather or darkness, to protect the obstacles, and to prevent light craft from going over them.

6. To operate a system of control including piloting in the defensive sea and defensive coastal areas.

7. To maintain a guard ship at or near harbor entrances to see that all vessels leaving or entering port give the proper recognition and clearance signals and to transmit orders to shipping as directed.

8. To furnish with routing instructions all merchant vessels departing without escort.

[47] 9. To maintain a coastal-lookout system along the district coast line by use of the Coast Guard stations and Lighthouse Service, and special lookout stations to prevent communication between persons on shore and the enemy.

10. To maintain, through the Lighthouse Service in the district, the system of buoyage, lights, and other aids to navigation regularly established, with such modifications and changes as military necessity may require.

11. To render prompt assistance to merchant shipping and naval units in case of collision, breakdown, or other accident in port or along the coast.

12. To exercise naval control of harbors through the captain of the port, when the Treasury Department requests the Navy to exercise such control.

(b) *The offshore patrol*, which may be composed of destroyers, submarines, mine sweepers, gunboats, eagle boats, yachts, aircraft tenders, aircraft, and additional types in special cases, with the following duties:

1. To patrol systematically the coastal zone outside of those parts assigned to the inshore patrol.

2. To develop information of, report, and attack enemy forces sighted, in accordance with the doctrine of the patrol.

3. To supplement and support the main armament gunfire of the harbor defenses.

4. To lay mine fields and sweep against enemy mines outside the field of operations of the inshore patrol.

(c) *The escort force*, which may be composed of any suitable and available naval forces charged with the duty of protecting convoys within the naval district waters.

[48] (d) *A coastal force* may be organized to operate within the coastal zone. It will be organized from suitable and available naval forces. Such coastal force will be in addition to the forces required for each naval district.

(e) The commander of the inshore patrol, who will be stationed ashore, should have his headquarters located as conveniently as possible to the headquarters of the harbor defense commander and at the same location if practicable. In any event he should be in direct communication with the harbor defense commander, as well as in direct connection with all naval activities in the defensive coastal area.

h. Defensive coastal areas.

(1) *Extent.*—Defensive coastal areas will be delimited by joint agreement between the Army and the Navy. Each defensive coastal area will cover that part of the coastal zone and adjacent seacoast which will require an intensive joint defense by reason of the inclusion therein of valuable harbors, stretches of the coast where hostile landings can be made in connection with attacks on our harbors or on industrial centers on or near the coast which are subject to attack from the sea. Defensive coastal areas will ordinarily include land and water areas in the vicinity of a fortified harbor, in which will be located in time of peace some personnel and usually a considerable amount of the matériel pertaining to the harbor defenses.

(2) Harbor defenses.

(a) Harbor defenses are highly organized, permanently defended localities within sectors or subsectors of a coastal frontier whose broad mission is to protect important coastal areas (seaports, naval bases, and anchorages) and utilities primarily against attack from the area. They are an element of the defensive organization of the subsector or sector in which they are located and they operate under subsector or sector control.

[65] (3) The sequence to be followed in the preparation of joint defense plans is as follows:

(a) Joint coastal frontier plan.

(b) Joint sector plan.

(c) Joint subsector plan or joint defensive coastal area plan.

Generally, the lowest sequence of plans required for the Navy will be that pertaining to a naval district, whether the naval district is a sector or subsector.

f. The plan of higher sequence will contain the directives for the plan of next lower sequence. The lower sequence plan will be formulated to support the plan of next higher sequence.

g. Army and Navy operating defense plans will obtain their directives from the joint plan they are required to support. They will provide the means and organizations and will insure the Army's and and/or Navy's effective operation thereunder.

h. Joint coastal frontier and joint sector defense plans will cover the category of defense, the delimitation of areas (including subsector, defensive sea and coastal areas included therein), assignment of missions, allocation of Army forces, to include supporting troops, the air and ground antiaircraft defense measures to be instituted, the designation of areas of responsibility, the details of joint communications and intelligence services to include the censorship and supervision of cables and wire lines in accordance with approved policy, and an aircraft warning service. These plans or their supporting projects will also make provision for the Army airdrome areas and installations necessary in connection therewith and the communication and supply arrangements for the effective operation in war of the Army air organization assigned. In addition, the plans of each Army coastal frontier commander will contemplate and provide for the possibility of the operation of the entire GHQ air force within the limits of his command by including in such plans logistic provisions for the entire GHQ air force, should it so operate; civilian installations and establishments will be utilized to the fullest extent practicable. Where facilities do not exist, all work possible under current appropriations should be done to prepare them so that M-day operation will be possible.

[66] i. Joint plans of the lowest sequence, such as joint subsector or joint defensive coastal area plans, should contain, either in the plans proper, in appendices or annexes thereto, or in supporting plans or projects—so much of the following as is appropriate:

(1) The relationship of the defensive coastal area to the subsector organization and/or of the subsector to the sector organization.

(2) The category of defense and such delimitation of the area as may be necessary for the coordination of the Army and the Navy forces operating in the area, to include areas of responsibility.

(3) The assignment of missions and allocation of Army forces, to include supporting troops or additional forces required for later defense steps.

(4) The relationship of the area to such defensive sea areas as have been designated for the vicinity, with special reference to methods of keeping the Army informed of movements of all vessels in the coastal zone and the composition, mission, and methods of operation of the offshore patrol.

(5) Such general plan of the forts, batteries, searchlights, underwater listening posts, air installations, and areas of gunfire and illumination as may be necessary to define the areas of Army responsibility for defense and naval assistance to the Army in this defense, including areas available to the enemy from which he can deliver bombardment fire without effective interference from the land armament.

(6) Definite assignment to the Navy of responsibility and tasks for offensive action in such areas as are covered by the fire of the land armament.

(7) General plan of the part of the underwater defense to be prepared or installed, including the character of the mine barrages, nets, booms, built-in obstructions, and other obstacles, their location, priority of installation, definite responsibility of the Army and the Navy for their provision, estimate of time of installation, definite indication of free passages through mines and openings in nets, navigation range installations required and responsibility for their establishment. Decisions as to which service and what commander in [67] this service shall determine when these elements shall be placed.

(8) Allocation to the Army and the Navy of locally procurable means, particularly vessels and material required for the installation and maintenance of the underwater defense, together with an estimate of the availability of such means, the nature of the alteration required, and the probable cost and time involved.

(9) Composition, mission, and method of operation of the inshore patrol, with particular reference to method of protection of underwater defense elements and identification of elements of the patrol with land elements of the defense at night and in thick weather, including a definite decision as to the conditions under which doubtful vessels should be fired upon by the armament of fortifications.

(10) The air, the ground antiaircraft, and the close-in defense measures; the measures for defense against landing attacks to be instituted on M-day and for the later defense steps to be instituted as the war progresses.

(11) The details of joint communication and intelligence services and an aircraft warning service. These details for the joint communication and intelligence services to include the location of headquarters of the several commanders, communications nets of both services, with the additional means, both military and commercial, required and the frequencies allotted to Army and Navy radio nets, responsibilities of Army and Navy commanders as to communication, censorship, and supervision of cables and wire lines as prescribed by higher commanders.

(12) General method of operation of the inshore patrol in sweeping and mining operations and in conducting and controlling maritime traffic, including designation and location of entrances and exits to defensive sea areas and of guard ships and methods of control of shipping within the harbor.

(13) Composition, mission, and method of employment of other naval local defense task groups, in sufficient detail to indicate the character and degree of cooperation required of Army and Navy air units.

[68] (14) Definite consideration of factors which may influence coordination.

(15) Detail of at least one liaison officer by name from each service to represent his commander at the headquarters of the other service and such other liaison officers as may be decided upon jointly.

j. A highly important part in each joint defense plan and project, and in the supporting defense plans and projects developed therefrom, is a definite statement of the time of accomplishment of the individual items under the plans and projects. For plans, these statements of times should be for the means and forces actually available and a consideration of the condition of the means and state of training of the forces. For projects, these statements of times should consider both the time of procurement and the time of installation or training after procurement.

[69]

CHAPTER VI

JOINT OVESEAS EXPEDITIONS

CONTENTS

Para-graph	Subject	Page ¹
	SECTION I—INTRODUCTION AND DEFINITIONS	
43	Purpose of publication.....	73
44	Purpose of an overseas expedition.....	73
45	Advantages inherent in landing operations.....	74
46	Disadvantages inherent in landing operations.....	74
47	Superiority of force essential.....	74
48	Definitions:	
	A joint overseas expedition.....	75
	Phases (embarkation, movement overseas, landing).....	75
	A naval attack force.....	75
	A landing force.....	76
	A joint attack force.....	76
	A landing area.....	76
	A transport area.....	76
	A naval support area.....	76
	A beach.....	76
	A beachhead.....	76
	A beachmaster.....	76
	A shore party commander.....	76
	A combat team.....	76
	An artillery concentration.....	76
	Counterbattery.....	76
	A boat group.....	76
	A boat division.....	77
	A wave.....	77
	Commercial loading.....	77
	Unit loading (combat, originizational, convoy).....	77, 78
[70]	SECTION II—COMMAND	
49	Method of coordination.....	78
50	Commanders to embark on same ship.....	78
51	Liaison agents and staffs.....	78
52	Communication with subordinate units.....	78
	SECTION III—PLANS	
53	The joint basic decision and directive:	
	The decision.....	79
	A directive.....	79
54	Expeditionary force joint estimate and joint plan.....	80
55	Cooperation in planning.....	80
56	Development of plans by Army and Navy commanders.....	81
57	Plans of subordinate units.....	81
58	Flexibility of the plans.....	81
59	Details to be perfected before sailing.....	81
	SECTION IV—EMBARKATION AND MEASURES PREPARATORY THERETO	
60	Plans and orders:	
	For the Army forces.....	82
	For the naval forces.....	82
61	Procurement of sea transportation.....	83
62	Ports of embarkation.....	83
63	Special organization.....	83
64	Special equipment.....	84
65	Special equipment to be assembled before departure.....	84
66	Joint training.....	85
67	Embarkation plans.....	85
68	Joint planning.....	85
69	Loading.....	86
70	Loading aviation units.....	86
	SECTION V—THE MOVEMENT OVERSEAS	
71	Plans and orders:	
	For the Army forces.....	87
	For the naval forces.....	87
72	Time of departure.....	87

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

[77] *g. A boat division* is a subordinate task organization of a boat group, organized for transporting a subordinate unit of a combat team or other similar tactical unit.

r. *A wave* consists of the boats, within a boat group, which carry the troops that are to land approximately simultaneously. It may consist of a single boat division or two or more boat divisions.

s. *Commercial loading* utilizes to the maximum the ship space and does not contemplate tactical employment of the troops on landing until their equipment, other than personal equipment, has been issued to them. This method of loading is applicable to movements from an established port to an established and well-secured port. Troops moved by this method are not available for tactical employment in landing operations against hostile forces.

t. *Unit loading* gives primary consideration to the availability of the troops for combat purposes on landing, rather than utilization of ship space.

The degree of readiness for employment depends upon the degree to which organizations are unit loaded as follows:

(1) *Combat unit loading*, in which certain units, selected because of their probable destination and employment in landing on hostile shores, are completely loaded on one ship with at least their essential combat equipment and supplies immediately available for debarkation with the troops, together with the animals for the organization when this is practicable. This method of unit loading is particularly applicable to units which probably will be required for an assault on hostile shores by a landing from small boats. Such an operation against any one beach will require an army combat team. This, of course, is subject to modification to meet special requirements. Combat teams will be loaded in such manner as to permit simultaneous debarkation.

(2) *Organizational unit loading*, in which organizations with their equipment and supplies are loaded on the same transport, but not so loaded as to allow debarkation of troops and their equipment simultaneously. This is somewhat more economical in ship capacity than is combat unit loading. It permits debarkation of complete units available for employment as soon as the troops and their equipment have been [78] assembled on land. Like combat unit loading, this method permits diversion en route by complete ship loads, from the destination originally intended.

(3) *Convoy unit loading*, in which the troops with their equipment and supplies are loaded on transports of the same convoy, but not necessarily on the same transport. This allows a considerable utilization of ship space, particularly by using this method of loading to fill in space on transports carrying combat unit loaded organizations. Troops which are convoy unit loaded are available for tactical employment only when landed at established beachheads, and after the lapse of time necessary to assemble them on land, with their equipment and supplies.

Section II

Command

49. *Method of coordination*.—The method of coordination will be determined in accordance with the provisions of Chapter II, Joint Action of the Army and the Navy.

50. *Commanders to embark on same ship*.—The Army and the Navy commanders of a joint overseas expedition, with their respective staffs, should be embarked on the same ship, as should also the respective Army and Navy commanders of a joint attack force. This method should be applied, were practicable, through all echelons of command.

51. *Liaison agents and staffs*.—The mutual exchange of liaison agents assures a degree of cooperation between the Army and the Navy not otherwise readily obtainable. Wherever joint operations are undertaken the commander of one service should have on his staff members of the other service.

52. *Communication with subordinate units*.—It is highly important that all landing force commanders should land with their units or as soon thereafter as possible, establish communication with subordinates who have already landed, and issue orders for subsequent operations based on personal knowledge of the situation and the terrain. The senior commander ashore must act with vigor and initiative.

[79]

Section III

Plans

53. *The joint basic decision and directive*.

a. *The decision* to undertake a joint overseas expedition will be derived from a joint Army and Navy estimate. Such a decision may be contained in a joint Army and Navy basic war plan, or it may be reached at any time during the progress of the war.

b. A directive will be issued by the authority arriving at the decision to undertake a joint overseas expedition, to the commander designated to command the combined forces, or to the commanders of the Army and the Navy forces which constitute the joint overseas expedition. This directive will generally include:

- (1) Digest of available information of the enemy.
- (2) Information of any prior operations undertaken that might have an influence upon the proposed operations.
- (3) Information of any supporting operations contemplated.
- (4) The joint mission and, if required, the separate missions for the Army and the Navy.
- (5) The outline of the operations that probably will be required to accomplish the mission or missions, with designation of the initial theater of operations.
- (6) The forces assigned to carry out the operations with times and places of concentration and availability for embarkation.
- (7) The type of special equipment and supplies that may be needed.
- (8) The availability of sea transportation and the responsibility for its procurement and operation.
- (9) The method of coordination.
- (10) Any further information or instructions that may be considered of importance in order to give the commander in chief or the respective commanders of the Army forces and the Navy forces the benefit of all studies made which might have a bearing on the sources of the expedition.

[80] 54. *Expeditionary force joint estimate and joint plan.*

a. Upon receipt of the above directive the commander designated to command the combined forces in the case of coordination by unity of command or the commanders of the Army and the Navy forces in the case of coordination by mutual cooperation, will prepare such an estimate as may be desirable and, after full discussion with the interested commanders of the participating forces, will issue instructions based on the directive and in amplification thereof; these instructions, particularly when prepared prior to the war, will ordinarily be in the form of a joint plan. Such instructions will generally include:

- (1) Decision.
- (2) Such additional assignments of Army and Navy missions as appear to be necessary.
- (3) Operations to be undertaken, including both joint operations and such separate Army and Navy operations as are considered to be necessary to insure the success of the expedition, together with the designation of the respective task forces required and their commanders.
- (4) Announcement of selected landing areas.
- (5) Times and places of embarkation, departure, and rendezvous.
- (6) Provision for joint training.
- (7) Provision for logistic support of the expedition.
- (8) Provision for communications (signal) between forces.
- (9) Announcement of the hour of landing. Often this may not be announced until shortly before the landing forces are ready to debark.
- (10) Alternative plans.

b. It should be emphasized that the plans for embarkation and movement overseas should be based upon the requirements of the plan covering the actual landing operations.

55. *Cooperation in planning.*—In the preparation of these plans and of the subordinate plans it is essential that there be the closest cooperation between all Army and Navy commanders who are to be associated in the projected operations. Officers of each service

[83] 61. *Procurement of sea transportation.*—The joint basic plan or directive (see par. 53 *b* (S)) will state which service is responsible for procurement and assembly of the sea transportation required for the Army forces. Transportation required by the Navy will be procured by that service. Unless stated in the plan or directive, the designated commander, in the case of coordination by unity of command, or the commanders of the Army and the Navy forces, in the case of coordination by mutual cooperation, will decide when and where the necessary sea transportation is required and will request the War or Navy Department, as the case may be, to have it so assembled.

62. *Ports of embarkation.*—Regardless of whether the transportation employed for the movement of the Army forces overseas is under the control of the Army

or Navy, the necessary ports required for embarking the Army forces are selected, organized, and operated by agencies of the War Department not included in the forces to be employed overseas. The Army embarkation service includes the employment of experienced riggers, longshoremen, and stevedores; harbor floating equipment, etc., for loading ships.

63. *Special organization.*

a. Army forces are restricted by the necessarily limited facilities available for transportation, not only in the transports, but in the boats and small craft available to transfer them to the shore and the facilities, or lack of them, for debarkation from the boats. For support in the first stage of attack the landing of tanks is difficult and the landing of heavy artillery is impracticable. It is ordinarily impracticable to employ Army air units before and during the early stages of the landing. Special organization is, therefore, required to facilitate debarkation of intact combat units, reduce ship cargo requirements, provide increased small arms and machine-gun fire in lieu of normal artillery support, and insure mobility of the first units ashore.

b. Special naval organization is required to embark, escort, debark, and land the Army forces, including provision for the most effective possible artillery, communications, and air support until the Army can establish its own artillery and air units on shore. This involves the organization and provision of boat officers and crews for the landing boats and lighters; organization for covering landing operations by gunfire on land targets; organization to provide air-
[87] craft support and observation to serve the needs of ground troops, including observation of the fire of the Army's artillery; and organization to provide ship-to-shore communications.

64. *Special equipment.*

a. In general, in order to meet the requirements and limitations mentioned, the Army must reduce equipment to absolute essentials. Wherever practicable, motor transport will replace animal transport, and the motor transport provided will be of the types (light tractors and light trucks) which can be most easily handled, especially into and out of small boats. However, combat efficiency should not be sacrificed to facilitate sea transportation. The amount and kind of transportation is dependent on the terrain and the distance of the advance.

b. Because of the special nature of the operations required in the transfer of troops, equipment, and supplies from ship to shore against enemy opposition and under supporting fire from friendly ships, special equipment must be provided by the Navy. This includes special boats for landing the assault troops, including installations of machine guns therein, and the provision of protection so far as practicable against small arms fire from shore; special boats, barges, and motor lighters for landing all other troops and their equipment, including artillery, tanks, airplanes, and motor and animal transport, and supplies; provision of special ammunition required for the artillery support; and special communications equipment.

c. The maximum number of landing boats which can be transported efficiently should be provided. The number of boats should be at least sufficient to land simultaneously the number of assault battalions to cover the frontage required in the proposed scheme of maneuver, and local reserves sufficient to hold the ground gained until reinforcements are landed later.

d. All boats possible should be carried on the transports. The standard Navy boats on combat vessels are to be used only as necessary to supplement transport equipment and for towing.

65. *Special equipment to be assembled before departure.*—Estimates of the special equipment required will be made well in advance of the date of departure of the expedition in order that it may be procured and some training in its use may be carried out before loading.

[87] of a lesser degree of readiness, which will preclude the use of Army aviation units in support of the landing.

b. If Army aviation units cannot be unit-loaded on carriers, transports should be selected which will permit the planes to be stowed between decks, almost completely set up, and the loading on the same ship of the airdrome personnel and equipment necessary to permit prompt establishment on shore of the facilities required for the operation of the units.

c. It may be necessary to employ transports of such restricted space between decks as to require that the planes be shipped knocked-down and crated. This is the least desirable method of loading, due to the docking facilities necessary for unloading and the time element involved in getting the planes ashore and ready for flying.

Section V

The Movement Overseas

71. *Plans and orders.*—The plans and orders of the Army and the Navy commanders under this heading should in general include—

a. For the Army forces:

Designation of such landing areas as may have been concurred in by the Navy, and announcement of the plan for establishment of the Army forces on shore.

b. For the Naval forces:

(1) Information of time of departure, in accordance with paragraph 72, following.

(2) Concurrence with the Army in selection of the landing areas and plan for the establishment of the Army forces on shore.

(3) Safe escort of the expedition to the landing areas and organization therefor.

72. *Time of departure.*—The time of departure from the ports of embarkation of the expedition and assembly at the designated rendezvous will be decided by the designated commander, in the case of coordination by unity of command, or the commanders of the Army and the Navy forces, in the case of coordination by mutual cooperation.

73. *Convoy and escort.*

a. Prior to departure of the overseas expedition, the naval commander will organize all noncombatant vessels, such as troop and [88] animal transports and cargo ships, into such convoy groups as may be advisable, the basis for organization being the retention in one group of the ships carrying the troops and equipment to be landed at any one beach. Each convoy group will be commanded by an officer of the Navy of suitable rank, designated by the naval commander. The naval commander will furthermore organize and station the escort for the convoy groups, whether these convoy groups are proceeding in one, or more than one formation.

b. In the event that the expedition has for its major objective the establishment of the fleet in a base in a theater of operations normally controlled by the enemy, it is probable that all transports and cargo ships will be incorporated in the fleet train which includes the auxiliary vessels necessary for the logistic support of the fleet.

74. *Navigation and defense.*

a. Whatever the type of landing operations to be undertaken, the navigation and defense of the convoys of troop transports in joint overseas expeditions at sea are entirely under the direction of the Navy, and the Navy is responsible for the safe conduct of all the forces afloat included in the operations.

b. The Army personnel are passengers and do not interfere with the formation, route, or conduct of the expedition. The troops on board may be assigned certain duties such as that of lookouts, as may be directed by the commander of the transport through the commanding officer of troops on board.

75. *Protection of the lines of supply (lines of communication).*—The Navy is always responsible for the protection of the oversea lines of supply.

Section VI

The Landing (Including Preparations Therefor)

76. *Joint plans.*—Based upon the expeditionary force joint plan, all Army and Navy commanders of larger units operating together will prepare joint plans covering their operations in the landing phase.

77. *Joint plan of the Army and Navy commanders.*—The joint plan of the Army and Navy commanders should, in general, include the necessary details concerning:

[91] 81. *Employment of the Army forces.*

a. A landing against opposition is in effect the assault of an organized defensive position modified by substituting naval gunfire support for divisional, corps, and Army artillery, and generally Navy aircraft support for Army aircraft support. However, every effort will be made to utilize all possible aircraft support, both Army and Navy.

b. Three successive phases in the operations are to be expected, each being marked by an attack or attacks with limited objectives:

(1) *First phase.*—Seizure of the necessary terrain immediately in rear of

the beach, followed when sufficient strength has been landed by an advance to secure the beach from enemy light artillery fire. This requires as the objective for this phase the establishment of a line about 10,000 yards inland.

(2) *Second phase.*—Operations to insure further advance inland to a position which denies enemy medium artillery fire on the beach. This requires as the objective for this phase the establishment of a line at last 15,000 yards inland.

(3) *Third phase.*—Further land and air operations for securing the objectives for which the landing was undertaken.

c. Simultaneous landings will be made by as many combat teams on as broad a front as the boat facilities will permit, but not to the extent of causing undue dispersion.

d. So far as practicable, the disposition of the boats within boat divisions and the disposition of boat divisions within boat groups will be such as to land troops in the formations best suited to effect a landing and to seize a suitable beach head.

e. It is imperative that the landing be made on the beach by tactical units, even down to the squad, in order that tactical team unity may be preserved and the fighting power of the team be at the maximum at the moment of physical contact with the enemy.

f. In the day attack, assault platoons endeavor to develop all fire power practicable, making free use of machine guns while in the boats. In the night assaults, fire of the assaulting troops before reaching the beach will be used only as a last resort.

82. *Employment of the Naval forces.*

a. The commander of the naval attack force is responsible for the preparation of plans for and the actual operation of landing on [92] the beach of all personnel and material pertaining to the Army forces with which he is associated in accordance with Army debarkation tables; the support of the landing by gunfire; the employment of the Navy air forces in support of the Army; the maintenance of signal communications between the Army and Navy forces both afloat and in the air; all this in addition to the normal functions involved in protecting the forces against hostile naval attack.

b. If the distance from the transports to the beach is considerable, consideration should be given to towing the boats by mine sweepers or light surface craft as close to the beach as the depth of the water permits, in order to minimize confusion due to breakdown and failure to keep to the designated courses. However, every care should be exercised in the methods of handling boats and in boat formations to minimize excessive losses from hostile fire.

83. *Organization of the Army forces.*

a. The Army forces designated to land at each beach or group of beaches and the necessary reserves are organized into subordinate commands adhering to normal formations. In order to effect the closest possible cooperation, Army commanders of the various echelons should be embarked initially on the ships of the commanders of the corresponding naval echelons, as far as practicable.

b. As the beach or group of beaches at which the landing will prove successful cannot be foreseen, the appropriate echelons or command should provide for adequate, highly mobile reserves afloat which may be promptly moved to exploit the situations developing on shore.

84. *Naval organization for landing.*

a. Preparatory to landing, the transports, cargo ships, and supporting naval vessels engaged in a joint overseas expedition will, if not already so organized, be organized into one or more *naval attack forces* and the forces so formed designated by the geographical name of the locality or by the term "right", "left", "center", etc. A naval officer will be designated to command each attack force. (See par. 48c.)

b. Such *naval attack force* is further subdivided into *task groups*, which will generally include the following:

(1) *The fire support group*, consisting of combatant naval vessels which are assigned the following fire missions: [97] should be selected with a view of determining the enemy's weakest point.

b. Since tactical considerations governing the employment of the troops on shore are paramount, final decision as to the landing area of Army forces, its breadth, beaches to be used, and order of landing of the troops, will be made by the Army commander from among those areas and beaches that the Navy commander states are practicable so far as naval considerations are concerned.

a. Decision as to the hour of landing involves several factors which will be considered jointly by the Army and Navy commanders in charge of the operations.

b. Advantages of landing during darkness.—A landing before or just at daybreak greatly increases the chance of securing some measure of tactical surprise, materially lessens the efficacy of any fire the defense may employ except prearranged fires or defensive barrages, reduces the losses to be anticipated while the troops are in small boats, and prevents the enemy from gaining the necessary information on which to dispose his forces, particularly the reserves. Advantage may be taken of fog or smoke as a protection against searchlights and flares. However, fog and smoke may increase the difficulty of landing at the desired beaches.

c. Advantages of landing during daylight.—In a daylight landing the movements of both ships and small boats are made under favorable circumstances, as positions and courses can be accurately fixed and as troops can be loaded into small boats more easily than during darkness. Likewise, the attack is assured of better gunfire and air support, and better defense against mines, submarines, light naval forces, and hostile aviation. The attackers, by means of naval gunfire and aviation, are better able to pin the enemy to the ground and interdict movements of his reserves, thus preventing his exploitation of the fuller and more accurate information which daylight permits him to obtain.

d. Smoke.—In case the landing is not made under cover of darkness, the resulting disadvantage may, to some extent, be overcome by the use of smoke. A smoke screen laid by destroyers or aircraft may be utilized to conceal the movements and dispositions [98] of the transport groups, while an airplane smoke screen laid on hostile positions when known or at the shore line may serve to protect the small boats from hostile fire and at the same time keep the enemy in doubt as to the exact strength and point of attack. In planning for the use of smoke the direction and velocity of the wind must be carefully considered.

e. Daylight essential for exploitation.—The landing must be made early enough to allow sufficient daylight for the Army forces to reach their first objectives.

f. Other considerations.—In addition to the above considerations, a particular combination of tide, wind, fog, or moon may be desirable in selecting the hour as well as the day for the landing.

g. Final decision as to the hour of landing will be made by the designated commander, in the case of coordination by unity of command, or jointly by the commanders of the Army and the Navy forces, in the case of coordination by mutual cooperation.

90. Approach to and occupation of landing area.

a. The approach to the landing area and the occupation of the sea area included therein are conducted under orders of the commander of the naval attack force or forces. Careful calculation must be made as to the time required to embark the troops into the leading boat groups and the length of time required to reach the beach. This result is applied to the previously determined hour for the landing and the approach so conducted that the transports will be in position at the time required. In order to minimize risk of detection as well as torpedo attack by enemy submarines, vessels should not be required to arrive within the landing area until they are needed. Where hydrography allows, transports may be anchored in water of such depth as to afford protection against hostile submarines. It is highly desirable that the submarine danger be eliminated prior to making landings. Submarine nets may be used to protect transport groups.

b. When the waters of the proposed landing area are known or suspected of being mined, breaches must be made before the landings begin. The necessary mine sweeping is performed by the Navy.

c. The Navy is responsible for the demolition or removal, when possible, of underwater obstacles near the beach. Consideration will be given to the possibility of destroying such underwater obstacles as barbed-wire entanglements by cutting devices rigged on the small boats of the assault wave.

[101] prearranged schedule on targets visible from the firing ships, from observation points on land, or from spotting aircraft. Concentrations should be placed on other targets as they disclose themselves by groups specially designated beforehand. Although possible, map firing should be employed only as a last resort; observed firing is always to be preferred. However, liberal use should be made of maps in the designation of artillery objectives in the plan of fire support.

e. Reduced charges may be used to advantage in cases where the design of the gun permits this. High angle fire may be obtained by the design, manu-

facture, and supply of artillery for the particular purpose of supporting a landing force in joint operations. Naval antiaircraft guns will be used throughout against enemy air operations, but if not needed for this purpose they may be used advantageously against shore objectives.

d. The gunfire support furnished by the naval forces should be continuous. It will usually start with a preparation fire and continue throughout the successive stages of the landing until the limit of range of guns is reached or until the Army's own artillery is in a position to furnish adequate support. During the time the troops are disembarking from the transports into the leading boat groups and until the leading boats reach the beach, the fire will be placed on known hostile artillery positions, organized strong points, machine-gun nests, defiles on routes over which supports and reserves must pass and, generally, on such other objectives the neutralization of which will lessen the enemy's defense. Artillery support plans will provide for effective fire on the beach to cover the movement of the leading waves ashore. Just before our troops reach the shore the fire will lift to targets farther inland. The terrain beyond the beach will influence the amount of lifting of the fire. In any event it must be kept far enough in advance of our infantry to assure against losses from our own fire.

c. There are two general methods which may be employed by naval forces in affording artillery support in a forced landing where two or more Army divisions land simultaneously. One is to keep all firing units centralized under the highest commander; the other is to decentralize naval support groups to support subordinate Army [102] units. The following are examples of the second method: When two infantry divisions land simultaneously and the naval units have been divided into two naval attack forces, it might be desirable to have the naval vessels of one naval attack force support one division, and the naval vessels of the other naval attack force support the other division, or to divide the naval force into three supporting groups—one being assigned to support each division and one to support the operation as a whole; or a division might be made by calibers, the large caliber main batteries of large ships being assigned to general support while the smaller caliber secondary batteries are assigned to support subordinate units to include divisions, and sometimes brigades.

94. *Cooperation in gunfire support.*

a. Complete plans for gunfire support should be worked out prior to embarkation between the commanders of the naval groups which are to give the support and of the respective Army units they are to support. Army commanders will indicate the objectives upon which they desire fire, the purpose of the fire, and the times they are to be fired upon. The naval commander concerned will indicate exactly how much of the desired support he can give. In case the Navy has not sufficient guns to cover the desired objectives, every effort will be made to secure additional ships rather than defeat the Army plan by reducing below the minimum the artillery support required by it.

b. Since the effectiveness with which naval gunfire support plans and orders are carried out is largely dependent upon the maintenance of adequate liaison and communications between shore and ship, such plans and orders should include adequate provisions for the installation and maintenance of all means necessary to assure this. To assist in securing effective support, liaison officers will be interchanged between Army and Navy units. Advantageous use may be made of Army officers of artillery organizations which do not debark initially. All liaison officers should report to the headquarters to which assigned in plenty of time—probably prior to embarkation—to become thoroughly familiar with their duties. They should be sufficiently familiar with the other service as to be able to interpret the desires and needs of the commanders of the units whom [103] they represent in the case of Army liaison officers and the capabilities of naval firing groups in the case of naval liaison officers.

c. In addition to normal communication through the beach master as provided in paragraph 101 *a.*, each naval liaison officer should have direct communication with his commander whom he represents. For this purpose each should be accompanied by a signal party with facilities for maintaining radio and visual communications with his commander.

95. *Debarcation of troops.*

a. A wave is defined in paragraph 48*r.* The organization of the troops of each wave, with the time of arrival at the beach, is determined by the debarcation tables which are prepared by the Army officer commanding the unit. Such organization is based on best information on hand and upon information received

from the naval attack force commander as to availability and capacity of boats.

b. The tactical requirement of deployment in depth will cause the debarkation to be made in successive waves.

c. The number of waves to be under way at the same time will depend upon the tactical plan and the number and kind of boats available. After the initial tactical force has been carried ashore by successive waves, the remaining Army units will be sent ashore in as orderly and expeditious a manner as is feasible by the use of such boats and lighters as remain available, unless the necessity for tactical formations demands continuation of movement by waves.

d. The Navy is responsible that the waves are so spaced that they will arrive at the beach in the order and at the time intervals requested by the Army.

e. In order to reduce the time that the troops may be under fire in the boats, it is desirable that small, fast, power boats be used for the leading boat groups, the larger and slower boats being reserved for succeeding boat groups in which larger groupings are not objectionable. The provision of special boats for the purpose of landing the troops is highly desirable and is a duty of the Navy.

f. All boats of the leading boat groups should mount machine guns to be manned by either the Army or Navy, and should be provided with as much protection as possible against the effects of small-arms and machine-gun fire directed at them from the beaches and from aircraft.

[104] g. All boats used for landing troops, equipment, or supplies will be manned by Navy crews and commanded by Navy personnel.

96. *Debarcation of supplies and light equipment.*

a. The plan covering the landing phase will provide for the supply of the troops on shore. Their needs must be foreseen and transports loaded in accordance with the plan of supply. The first administrative orders to be issued after landing will be prepared, at least in tentative draft form before the expedition sails.

b. Troops usually carry only enough rations and ammunition upon landing to last 1 or 2 days. However, a beach reserve of rations and ammunition for at least 10 days should be built up as soon as possible, preferably from supplies carried in the transports for this purpose. Ordinarily, a few stores other than ammunition and water can be unloaded and landed on the first day.

c. The troops embarked in each boat group should carry the signal communication equipment appropriate to the units involved.

d. Debarcation of supplies and equipment and the priorities therefor should be provided in the Army debarcation tables.

97. *Debarcation of artillery and other heavy equipment.*

a. The plan of debarcation should avoid encumbering the troops embarked in the leading boat groups with nonessential equipment. Field artillery, though difficult to land, is essential. The landing of field artillery heavier in weight than light artillery upon open beaches is difficult, and the terrain may be such as to make the prompt movement or employment of such artillery, after landing impracticable. In favorable situations, on a good beach, a small amount of light artillery and tanks may be landed early. Such artillery will usually have to be moved into position by hand. Light tractors suitable for moving field guns into position can be debarked more easily than animals.

b. There are no suitable boats at present carried by vessels of war or merchant ships for transporting a large amount of army supplies or the heavier army equipment, such as medium field artillery pieces, tanks, motor trucks, airplanes. Special barges or lighters, preferably self-propelled, should be provided by the Navy for this purpose prior to embarkation.

c. All equipment and supplies which cannot be handled easily from boats to shore require improvised ramps and piers and some special naval equipment for handling. For landing a limited [105] amount of light equipment and supplies to accompany troops, the Navy will require small sheltered bights or inlets along the coast, and for handling the bulk of supplies and heavier Army equipment, fairly well protected harbors with temporary piers and wharves and appliances for unloading.

98. *Debarcation of animals.*—The number of animals that can be debarked or handled on an open beach is limited, yet provision will have to be made for transportation, debarcation, and landing of some animals, probably early in the operations. The Army will provide for the supply of proper slings, transportation stalls, and such other equipment as will facilitate the handling of the animals to be landed. Tidal currents should be considered in swimming animals ashore. Animals may be debarked as follows: From the transport to small boats by using flying stalls; from the boats into the water by ducking ramps; from the transports into mine sweepers or similar light craft, by flying stalls

or slings; from mine sweepers or similar light craft into the water by slings or a ducking ramp; from the transport into the water by slings.

99. *Debarcation of air forces.*

a. The method of debarking Army air units will depend upon the plans for their initial employment and the manner in which transported.

b. When the situation is such that it has been planned to transport Army aircraft crated, and not to use them until a suitable landing field has been secured as a result of the seizure of a beach head, the aircraft will not be debarked until suitable means for transferring them from ship to shore are available. Such a situation would exist when the operation was directed against an enemy known to be unable to offer effective air opposition to the landing operation.

c. However, the normal situation will require a maximum employment of all available air force, Army and Navy. Every effort should be made to transport Army aircraft so that they can participate in the initial operations. Navy aircraft carriers are taxed to capacity to care for their own planes and usually would not be available for handling Army aircraft; but if available should be used.

[106] d. Often it will be possible to debark aircraft at some distance from the landing area of the main operation, but within flight reach. The seizure and protection of a suitable area may constitute a secondary landing operation. Such an operation might be carried out in advance of the main operation, in order to make additional aircraft available to participate in the latter, but at the possible sacrifice of secrecy.

e. A favorable situation is one in which the area selected for the operation is within flight distance of friendly territory, thus permitting Army air units, flying from such territory, to participate in the initial phase of the operation.

100. *Supply of water to the troops.*—If the landing is made during hot weather or in a tropical climate, the amount of water that can be carried may be considerably less than the landing troops require. When there are no facilities for supply of water ashore in the landing area, arrangements must be made by the Navy to furnish water for the troops ashore. The Army's estimate and the Navy's arrangements for the water supply must be liberal. Allowance will be made for loss of water and containers, including damage by hostile fire. Until the tactical situation ashore permits water being delivered by water boats to be provided by the Navy, at least one cask of water will be placed in each boat going ashore. Plans will provide for the continuous supply of water by the Navy until the Army has developed its supply ashore.

101. *Organization of the beach.*

a. *The beachmaster* is a naval officer. One will be appointed for each beach where a landing is to be made. He will be provided with ample assistance. The beachmaster has complete control of the beach from the high-water mark seaward; of all naval operations thereat, together with all landing facilities. He causes the beach to be promptly marked to facilitate its recognition by approaching waves; organizes, maintains, and controls all communication with the Navy; transmits all Army messages from shore to ship, and receives and transmits to the shore party commander all messages from ship to shore which apply to the Army except as provided in paragraph 94 c; and cooperates with the shore party commander. The beachmaster and a few of his principal assistants land with the leading boat groups. [107] The beachmasters headquarters should be provided with such protection from enemy fire as may be practicable. Previously trained Army artillery and Army air corps liaison personnel, in addition to competent naval communication personnel, will be established at the beachmaster's communication center, so that messages may be transmitted in terms and manner to which each service is accustomed.

b. The shore party commander is an Army Officer. One will be appointed for each beach where a landing is to be made. He will be provided with ample assistance. The shore party commander takes charge of all engineer and labor troops, equipment, and supplies on arrival at the beach; organizes the beach facilities, such as the establishment of dumps, collecting stations, and prisoners' inclosures; establishes information and message centers; facilitate the movement of all troop inland; and cooperates with the beachmaster. The shore party commander lands with the leading combat team.

c. *Military police.*—Confusion is likely to occur at the beaches, due to the irregular arrival of troops and supplies, hostile fire, movement of wounded and stragglers to the rear, and to the arrival of runners with messages. It is necessary, therefore, to have the beach well policed, and a sufficient number of military police should be detailed to assist the shore party commander.

d. An engineer party will be landed with or soon after the first troops. The shore party commander will detail necessary engineers to assist the beachmaster in establishing at once improved landing places for boats and in removing obstructions. A wharf of some kind is usually the next work, and it must be completed with the least possible delay. Army ponton equipment may be valuable for this purpose, and such equipment should be loaded with a view to its early use. The shore party commander will arrange for the construction of routes of communication to the interior. The location of these routes of communication may be determined by a study of maps beforehand, and this will be done wherever practicable.

e. Boat repair party.—Casualties to the hulls of boats and to the machinery of power boats due to enemy fire, sea conditions, and the hazards of landing on open beaches will likely occur at a high rate. It is desirable, therefore, to land as soon as practicable a repair party, including carpenters' mates, machinists' mates, and electricians' mates, under competent leadership, to assist the beachmaster in salvaging and repairing damaged boats.

f. Medical service.

(1) The Army evacuates to the shore line; the Navy is responsible from the shore line to the shore line at the base port, where the Army again becomes responsible.

(2) Attached medical troops will accompany combat units, taking with them the necessary supplies to meet initial requirements. Such mobile medical installations as are established at the beachhead do not carry out definitive treatment. This will be carried out on shore after fixed hospital units have been landed and established. As soon as sufficient terrain has been secured to afford protection, additional medical facilities, such as collecting stations, ambulances, hospital stations, and evacuation hospitals, in the order named, will be landed. Until a systematic service is provided, such evacuation as is practicable will be handled by the beachmaster from shore to ship in such manner as will not interfere with landing of essential troops and supplies. Systematic evacuation of all cases to hospital ships or transports will be established as early as practicable. A plan of evacuation will be prepared prior to debarkation of the expeditionary forces.

g. Marking routes inland.—It is highly important that all Army units thoroughly understand and have identified routes inland. Each unit will mark promptly and plainly its routes inland, together with location of message and information centers. This marking will be displayed so as to be visible from seaward only.

102. *Subsidiary landings.*

a. In addition to the main landing, certain subsidiary landings may be advantageous, namely, those pertaining to demonstrations or feints, and those which may be termed secondary landings.

b. Demonstrations or feints have as their missions the diversion of enemy reserves from the area of the main effort, or the retarding of the movement of enemy reserves thereto. To be effective they must be directed against objectives of importance to the enemy. They also should be so coordinated as to time and directed against points at such a distance from the area of the main landing that they will insure, to a reasonable degree, the containing of the forces

[111] 107. *Naval support.*

a. The operations of the Navy forces during a withdrawal of the Army forces from the shore are similar to those during a landing operation, the phases occurring in reverse order.

b. In addition to providing the sea transportation and the small boats to reembark the Army forces, including crews to man the boats, the Navy will be prepared to furnish gunfire and air support during the withdrawal. The Navy will, as in the case of the initial stages of the landing operation, provide for signal communications between ship and shore until the last unit is evacuated.

Section VIII

Communications

108. *Plans.*

a. In accordance with paragraph 54a (8), provision must be made for communications between forces. While the particular situation and the designated directive will greatly influence the preparation of specific instructions, the following general directive should apply to all such plans, in order that advance preparations, including training, may be accomplished and any obstacles to the successful culmination of the plans may be avoided.

b. The joint communication plan and the communication plans of subordinate commanders of both the Army and the Navy shall cover the following phases:

- (1) Movement overseas.
- (2) Landing.
- (3) Operations subsequent to landing.

c. All communication plans shall include:

- (1) Frequency plans.
- (2) Provisions for communication security.
- (3) Provisions for radio intelligence.
- (4) Designation of procedure to be followed.

(5) Requirements that portable radio sets and other communication material be tested prior to embarkation.

[112] 109. *Communications between ship and shore.*—Efficient signal communications between ship and shore are of primary importance. It is the duty of the Navy to establish and maintain, through the beachmaster, necessary signal communications facilities for both Navy and Army requirements. The Army communication net ashore will be connected up with the Navy's communication center at the beachmaster's headquarters. The Army prolongs its axis of signal communications inland as the attack progresses. In this connection see paragraph 94c.

110. *General.*—In drawing up communication plans reference should be made to paragraphs 63b; 77b; 82a 93a; 94c; 98c; 101a, b, c, d, and g; 104; 107b; 108; and 109.

[129]

CHAPTER VIII

AGENCIES FOR EFFECTING COORDINATION

Section I

Sanction of Joint Agencies

125. The existing joint agencies for coordination between the Army and the Navy have no legislative nor executive basis for existence. These agencies exist as a result of agreement between the Secretaries of the War and Navy Departments. Except as noted in paragraph 135, below, the recommendations of these joint agencies are advisory only and become effective upon approval by both Secretaries, and in some cases upon further approval by the President.

Section II

The Joint Board

126. The authority for The Joint Board is contained in War Department G. O. No. 94, 1919, as amended by G. O. No. 29, 1923, and G. O. No. 10, 1936, and Navy Department G. O. No. 7, 1935, as amended by G. O. No. 73, 1935, and G. O. No. 82, 1936. The board consists, on the part of the Army, of the Chief of Staff, the Deputy Chief of Staff, and the Assistant Chief of Staff, War Plans Division, General Staff; and on the part of the Navy, of the Chief of Naval Operations, the Assistant Chief of Naval Operations, and the Director, War Plans Division, Office of Naval Operations. The [139] board is provided with a secretary detailed alternately from officers of the Army and the Navy.

127. Any matter which, to either the War or the Navy Department, seems to call for consideration as to cooperation between the two services may be referred by that department to The Joint Board. The Joint Board may also originate consideration of such subjects as in its judgment are necessary. The board confers upon, discusses, and reaches such common conclusions as may be practicable regarding such matters. Proceedings and reports of the board are confidential. Each department receives a copy of the report of the board.

128. The authority for the Joint Planning Committee is contained in War Department G. O. No. 94, 1919 (as amended by G. O. No. 29, 1923, and G. O. No. 10, 1936), and in Navy Department G. O. No. 7, 1935 (as amended by G. O. No. 73, 1935, and G. O. No. 82, 1936). The Committee consists of three or more members of the War Plans Division, War Department General Staff, and three or more members of the War Plans Division of the Office of Naval Operations; and, in addition thereto, in cases involving procurement and the allocation of industry, one officer of the Office of the Assistant Secretary of War and one officer from the Office of Naval Operations.

129. The committee is an agency of The Joint Board for the detailed investigation, study, and development of policies, projects, and plans relative to the national defense and involving joint action of the Army and the Navy. The committee may also originate consideration of such subjects as, in its judgment, are necessary. The members are authorized to consult and confer freely on all matters of defense and military policy in which the Army and the Navy are jointly concerned, and to consider this joint work as their most important duty. Its procedure is informal; its reports and recommendations are confidential; its reports and recommendations go to The Joint Board.

Section III

The Aeronautical Board

130. The authority for the Aeronautical Board is contained in War Department G. O. No. 6, 1936, and Navy Department G. O.

[133] defense are required to be referred to The Joint Board for consideration before submission to the Secretaries of War and Navy.

Section V

Joint Merchant Vessel Board

136. The Joint Army and Navy Board of Survey of Merchant Vessels was established August 21, 1916, as the result of an agreement entered into by the Secretary of War and the Secretary of the Navy. The Secretary of the Navy approved the final form of the agreement on August 2, 1916, and the Secretary of War on August 19, 1916. In order to simplify the name of the board it was changed to "The Joint Merchant Vessel Board." This change in name was approved by the Secretary of War April 30, 1917, and by the Secretary of the Navy May 5, 1917. The board consists of one Army officer and three Navy officers as members, with one of the latter acting as recorder.

137. The board inspects and classifies merchant vessels with a view to their possible use in war. The board is assisted by local sections consisting of Army and Navy officers who conduct the actual inspection.

Section VI

Local Joint Planning Committees

138. The authority for agencies for cooperation between Army and Navy activities within departments, armies, and corps areas of the Army and naval districts is War Department G. O. No. 19, 1923, and Navy Department G. O. No. 103, 1923. Commanding generals of departments, armies, and/or corps areas, and commandants of naval districts whose headquarters are in the same vicinity, appoint from among their immediately available officer personnel not more than three officers from each service to constitute a permanent local joint planning committee. In cases where superior headquarters for a given department, army, corps area, or district are widely separated, more than one planning committee may be organized. In addition, the commanding general and the commandant of the naval district [134] designate one or more officers on their staffs through whom close contact with other services is maintained.

139. The local joint planning committee takes cognizance of questions referred to it by proper authority and originates questions on such local subjects as, in its judgment, are necessary. Its reports and recommendations are made jointly to the commanding general and commandant of the naval district concerned.

Section VII

Joint Economy Board

140. The authority for the Joint Economy Board is contained in War Department G. O. No. 11, 1933, and Navy Department G. O. No. 237, 1933. The board is charged with the continuing responsibility of investigating and reporting to The Joint Board on economies which can be effected, from time to time, without loss of efficiency, by the elimination of overlap or the simplification of functioning in those activities of the War and Navy Departments concerned with joint operations of the two services or which have approximately parallel functions.

141. The membership of the Joint Economy Board will comprise five or more officers from each service and will include the following:

a. For the Army.—The Chief of Budget and Legislative Planning Branch and four other officers of the Budget Advisory Committee of the War Department.

b. For the Navy.—The Assistant Budget Officer, Navy Department; the Director, Central Division, Office of Chief of Naval Operations; the Director, Material Division, Office of Chief of Naval Operations; an officer from the Shore Establishments Division, Office of the Assistant Secretary of the Navy; and an officer from the Bureau of Supplies and Accounts (not below the rank of commander).

142. The Secretary of the Joint Economy Board will be detailed from the permanent personnel of either the War Department or the Navy Department.

143. Reports and recommendations of the Joint Economy Board will be presented to The Joint Board for action.

[137]

CHAPTER IX¹

COMMUNICATIONS

Section A

Policy for Coordination of Radio Activities of the Army and Navy

1. Joint Board reports, J. B. No. 319 (Serial No. 183), of January 16, 1923, "Utilization of the radio services of the War and Navy Departments for the transmission of Government dispatches," and J. B. No. 319 (Serial No. 253), "Proposed draft of Executive Orders re regulation of radio in the event of war or national emergency," are rescinded. The following policy, approved by the Secretary of War and the Secretary of the Navy, is published for information and guidance:

I. Purpose of Radio Policy.

2. The purpose of this statement of policy is to establish an authoritative basis for the coordination of the Army and Navy in the development of radio material, the establishment of radio stations, and in the conduct of radio activities.

II. Basic Policy.

3. The Army and Navy shall provide, control, and operate such transmitting and receiving stations as, augmented by private and [138] other Government-owned radio facilities, will insure the existence and availability upon the outbreak of war or other national emergency of a militarily controlled, thoroughly indoctrinated radio system adequate to meet the requirements of national defense, having in view the prevention of undesirable duplication and the practical and definite limitation on expenditure imposed by economy.

III. Primary Responsibility of the Army and the Navy in Radio Activities.

4. (a) The assignment of *primary responsibility* to the Army or to the Navy for radio activities serving a definite area or purpose imposes upon the designated service the responsibility for the establishment and efficiency of radio serving such area or purpose, but allows the other service to use radio to serve the same area or its own purposes of a similar nature, provided no serious radio interference is caused thereby.

(b) In war time unity of command in certain areas or theaters of operation may be assigned to the Army or the Navy, in accordance with the approved War Plans, and radio activities therein will be coordinated by the responsible commander of the service in which such unity of command is vested.

(c) In order to avoid uneconomical duplication in time of peace:

(1) The Navy only shall operate radio apparatus of high power (10 kilowatts in the antenna or greater).

(2) The Army shall not handle overseas radio communications commercially or for other Government departments except between the United States and Alaska, nor operate upon frequencies which will cause serious interference with Fleet or Navy overseas circuits.

¹ NOTE.—Ch. IX—Communications—is a reprint of ch. VI—Communications, Joint Action of the Army and the Navy, 1927, and is effective until completion of revision now in progress. Paragraph numbering of old ch. VI is retained pending revision.

IV. Assignment of Primary Responsibility.

5. Subject to the provisions of subparagraphs (a) and (b) of the preceding paragraph, primary responsibility is assigned as follows:

(a) To the Army in radio communication—

(1) With and between Army units wherever located.

(2) Within the Territory of Alaska.

(3) With and between Army vessels, excluding such vessels as may be placed under Navy control.

(b) To the Army in radio intelligence—

(1) For the Army wherever operating.

[*Id*] C.J.A.3.

CHANGE NO. 3, JOINT ACTION OF THE ARMY AND THE NAVY, 1935

J. B. No. 319-1 (Serial 653).

THE JOINT BOARD,
WAR AND NAVY DEPARTMENTS,
Washington, June 28, 1940.

The following changes in Joint Action of the Army and the Navy, 1935, have been approved by the Secretary of War and the Secretary of the Navy and should be made in all copies of this publication.

Add the following new pages.

Page Nos.	Subject matter
Id-Ic.....	Promulgation of Change No. 3.

Remove and destroy the pages listed below and substitute the reprinted pages containing changes as indicated.

Old page Nos.	Changes on reprinted pages -
II-IIa	C. J. A. 3—List of effective pages (revised June 28, 1940)
137-164.....	Chapter IX, revised, with diagrams Nos. I and II.

The office of The Adjutant General, War Department, and the Registered Publications Section, Navy Department, require no report of this change.

WILLIAM P. SCOBAY,
Lieutenant Colonel, Infantry,
United States Army, Secretary.

1122 CONGRESSIONAL INVESTIGATION PEARL HARBOR ATTACK

[II]

JOINT ACTION OF THE ARMY AND THE NAVY, 1935

LIST OF EFFECTIVE PAGES

[Revised June 28, 1940]

Subject matter	Change in effect	Page Nos. ¹
Title page.....	Original	No number
Navy letter of promulgation of November 15, 1935 (Navy copies only).....	"	0-00*
Promulgation of Change No. 1, July 22, 1936.....	1***	1-Ia
Promulgation of Change No. 2, November 30, 1938.....	2	1b-1c
Promulgation of Change No. 3, June 28, 1940.....	3	1d-1e
List of effective pages.....	3	II-IIa
Joint letter of promulgation of September 11, 1935.....	Original	III-IV**
Contents.....	2	V-VI
Contents, Part I.....	2	VII
Contents, Part I, continued.....	Original	VIII
Chapter I.....	"	1-2
Chapter I, continued.....	1	3-4**
Chapter II.....	2	5-6
Chapter III.....	2	11
Chapter III, continued.....	Original	12 to 16**
Chapter IV.....	"	17
Chapter IV, continued.....	2	18
Chapter IV, continued.....	Original	19-20**
Contents, Part II.....	"	21-22**
Contents, Chapter V.....	"	23-26
Chapter V.....	2	27
Chapter V, continued.....	Original	28 to 41
Chapter V, continued.....	2	42 to 44
Chapter V, continued.....	Original	45 to 47
Chapter V, continued.....	2	48
Chapter V, continued.....	Original	49 to 64
Chapter V, continued.....	2	65-66
Chapter V, continued.....	Original	67
Chapter V, continued.....	2	68
Contents, Chapter VI.....	2	69
Contents, Chapter VI, continued.....	Original	70 to 72
Chapter VI.....	"	73 to 76
Chapter VI, continued.....	2	77 to 80
Chapter VI, continued.....	Original	81-82
Chapter VI, continued.....	2	83-84

*Should be so numbered in ink in Navy copies only.

**Original blank pages IV, 4, 16, 20, and 22 should be so numbered in ink.

***Navy copies "2."

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

[IIa]

C.J.A.3

Subject matter	Change in effect	Page Nos. ¹
Chapter VI, continued.....	Original	85-86
Chapter VI, continued.....	2	87
Chapter VI, continued.....	Original	88 to 90
Chapter VI, continued.....	2	91
Chapter VI, continued.....	Original	92 to 97
Chapter VI, continued.....	2	98
Chapter VI, continued.....	Original	99-100
Chapter VI, continued.....	2	101
Chapter VI, continued.....	Original	102
Chapter VI, continued.....	2	103-104
Chapter VI, continued.....	Original	105
Chapter VI, continued.....	2	106-107
Chapter VI, continued.....	Original	108 to 110
Chapter VI, continued.....	2	111
Chapter VI, continued.....	Original	112
Contents, Chapter VII.....	"	113-114**
Chapter VII.....	"	115 to 126**
Contents, Chapter VIII.....	"	127-128**
Chapter VIII.....	2	129-130
Chapter VIII, continued.....	1	131-132
Chapter VIII, continued.....	Original	133
Chapter VIII, continued.....	2	134
Chapter VIII, continued.....	Original	135-136**
Chapter IX.....	3	137-164
Chart of Organization for Coastal Frontier Defense.....	Original	No number
Diagram No. I, Coastal Frontier. Joint Radio and Wire Communication.....	3	No number
Diagram No. II, Joint Overseas Expedition—Landing Phase. Typical Communication Circuits for One Beach.....	3	No number

**Original blank pages 114, 126, 128 and 136 should be so numbered in ink.

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

[137]

CHAPTER IX¹

COMMUNICATIONS

Section I

Policy For Coordination of Radio Activities of the Army and Navy

1. Joint Board reports, J. B. No. 319 (Serial No. 183), of January 16, 1923, "Utilization of the radio services of the War and Navy Departments for the transmission of Government dispatches," and J. B. No. 319 (Serial No. 253), "Proposed draft of Executive Orders re regulation of radio in the event of war or national emergency," are rescinded. The following policy, approved by the Secretary of War and the Secretary of the Navy, is published for information and guidance:

I. Purpose of Radio Policy.

2. The purpose of this statement of policy is to establish an authoritative basis for the coordination of the Army and Navy in the development of radio material, the establishment of radio stations, and in the conduct of radio activities.

II. Basic Policy.

3. The Army and Navy shall provide, control, and operate such transmitting and receiving stations as, augmented by private and other Government-owned radio facilities, will insure the existence and availability upon the outbreak of war or other national emergency of a military controlled, thoroughly indoctrinated radio system adequate to meet the requirements of national defense, having in view the prevention of undesirable duplication and the practical and definite limitation on expenditure imposed by economy.

[138] III. Primary Responsibility of the Army and the Navy in Radio Activities.

4. (a) The assignment of *primary responsibility* to the Army or to the Navy for radio activities serving a definite area or purpose imposes upon the designated service the responsibility for the establishment and efficiency of radio serving such area or purpose, but allows the other service to use radio to serve the same area or its own purposes of a similar nature, provided no serious radio interference is caused thereby.

(b) In war time unity of command in certain areas or theaters of operation may be assigned to the Army or the Navy, in accordance with the approved War Plans, and radio activities therein will be coordinated by the responsible commander of the service in which such unity of command is vested.

(c) In order to avoid uneconomical duplication in time of peace:

(1) The Navy only shall operate radio apparatus of high power (10 kilowatts in the antenna or greater).

(2) The Army shall not handle overseas radio communications commercially or for other Government departments except between the United States and Alaska, nor operate upon frequencies which will cause serious interference with Fleet or Navy overseas circuits.

IV. Assignment of Primary Responsibility.

5. Subject to the provisions of subparagraphs (a) and (b) of the preceding paragraph, primary responsibility is assigned as follows:

(a) To the Army in radio communication—

(1) With and between Army units wherever located.

(2) Within the Territory of Alaska.

(3) With and between Army vessels, excluding such vessels as may be placed under Navy control.

(b) To the Army in radio intelligence—

(1) For the Army wherever operating.

(c) To the Navy in radio communication—

(1) For the establishment, maintenance, and operation of an overseas radio service for efficient communication with and between Navy units wherever

¹ Ch. IX—Revised and republished June 28, 1940. Section I of the revised Chapter IX is a republication of old Section A, with a redesignation of the section. Paragraph numbering of old Section A, 1 to 9, is retained pending revision and republication of Section I. Section II is new matter replacing old Section B the contents of which is withdrawn from Joint Action of the Army and the Navy, 1935, and issued as a separate document under a "restricted" classification. Paragraphing in Section II begins with 156.

located; this service to be available to all departments of the Government and for commercial purposes.

(2) For communication with insular possessions, the Panama Canal Zone, and with foreign territory occupied by the Navy.

(3) With and between ships at sea, exclusive of Army vessels, except such of the latter as may have been placed under Navy control in case of war or national emergency.

[139] (4) For the establishment and operation of radio-compass stations along the coasts of the United States, Alaska, overseas possessions, or occupied foreign territory.

(d) To the Navy in radio intelligence—

(1) For the Navy wherever operating.

V. War-time Jurisdiction over Nonmilitary Radio.

6. In time of national emergency, when directed by the President according to law, the Army and the Navy will assume jurisdiction as follows:

(a) The Army and Navy shall each assume complete control over such nonmilitary radio stations as may be allocated to them by the President to augment their peace-time facilities.

(b) For purposes of censorship and supervision over such nonmilitary radio stations as are permitted to operate:

(1) The Army will assume jurisdiction over all nonmilitary stations within the United States, Alaska, and foreign territory occupied by the Army except the stations assigned to the Navy in the following paragraph:

(2) The Navy will assume jurisdiction over all nonmilitary stations wherever located that are permitted to communicate overseas, with ships, or with aircraft flying over the sea other than Army aircraft, and over all nonmilitary stations in Panama, the insular possessions, and in foreign territory exclusively occupied by the Navy.

(c) For the purpose of suppression of unauthorized radio:

(1) The Army will assume jurisdiction over the continental United States, Alaska, Panama, and in insular possessions or foreign territory occupied by the Army.

(2) The Navy will assume jurisdiction over shipping and over insular possessions or foreign territory occupied exclusively by the Navy.

VI. Principles to be Observed in Radio Coordination.

7. Coordination in radio operation will be effected:

(a) In the development of types of radio equipment suitable for intercommunication.

(b) By the assignment of call letters, frequencies, transmitting time periods, the adoption of a common procedure, and the formulation of codes and ciphers for joint Army and Navy communication.

(c) All air radio stations of the Navy and air radio stations of the Army along the coast and in the insular and outlying possessions shall be equipped to send and receive on a common intermediate frequency and a common high frequency, and all aircraft carrying radio, except fighting and pursuit planes, shall as soon as practicable, [140] consistent with proper economy, be equipped to send and receive on one of these common frequencies.

(d) The radio field sets provided for the use of the Marine Corps on shore shall be capable of intercommunication with the radio provided for the operation of similarly equipped units of the Army.

(e) The radio communication equipment provided for the vessels of the Army Transport Service shall be of a character normally provided for commercial shipping of the same general class and shall be capable of sending and receiving on at least two frequencies assigned by the Navy Department for Naval Transportation Service communication.

VII. Coordination with Radio Stations of Other Departments and Civilian Stations During Peace.

8. Coordination of the operation of Government radio stations with each other and with the operation of civilian radio stations in time of peace will be governed by the provisions of the radio act of 1927 (secs. 6, 8, and 25).

VIII. Coordination of Development Programs.

9. The Chief Signal Officer of the Army and the Director of Naval Communications will coordinate the peace-time radio operation and operational

development of the two services. The Chief Signal Officer of the Army and the Chief of the Bureau of Engineering of the Navy Department will coordinate their recommendation for the procurement programs of the Army and the Navy and will coordinate technical radio matters of joint concern to the two services.

Approved by the Secretary of War and the Secretary of the Navy June 24, 1927.

[141]

Section II

Doctrines and Guides Governing Communication (Signal) Effectiveness in Joint Operations of the Army and the Navy

	<i>Paragraphs</i>
SUBSECTION I. General.....	156-158
II. Coastal Frontier Defense.....	159-162
Joint channels and means of inter-communication.....	159
Aircraft communication principles.....	160
Aircraft warning service.....	161
Preparation and distribution of communication (signal) plans and instructions.....	162
III. Joint Overseas Expeditions.....	163-168
Introduction.....	163
General.....	164
General principles.....	165
Aircraft communication principles and aircraft warning service.....	166
Joint communication (signal) training.....	167
Special equipment.....	168
IV. Communication Security.....	169-171
General.....	169
Grouping of Army and Navy units into categories for classified communications.....	170
General instructions.....	171
V. Joint Communication (Signal) Plan.....	
General.....	172
VI. Miscellaneous.....	
Other joint communication requirements.....	173

Subsection I—General

156. Effective signal communication in joint operations of the Army and Navy requires—

a. The interconnection of the appropriate elements of the Army and the Navy by the appropriate means of signal communication.

b. Joint communication (signal) training.

c. The preparation and proper distribution of important items of information and instructions governing signal communication.

d. Appropriate provisions for communication security.

e. Adequate provision for cryptographing.

157. The information presented hereinafter should serve as a guide, to indicate—

a. The elements that are to be interconnected during joint operations.

[142] b. The distribution that should normally be given important items of information and instructions governing signal communication.

c. The cryptographic systems to be employed in joint operations.

d. The essentials of a Joint Communication (Signal) Plan.

158. *Miscellaneous considerations.*—Details for communication between the Army and the Navy shall be made by the senior officers of the two services in the area concerned. The following items are here presented for the guidance of all concerned:

a. *Liaison officers.*—The importance of detailing qualified liaison officers for joint operations is indicated in chapter V, section V, paragraph 42i(15) and in chapter VI, section II, paragraph 51.

b. *Means and methods of communication.*—All suitable means of communication are to be considered available for joint use. When a choice is available, the most reliable means should be selected, with due consideration for speed and security. Attention is particularly invited to the advantages of effecting simultaneous delivery of messages to numerous addressees by radio broadcasting (F-method) without obtaining a receipt, or by teletype in case addressees are all on a teletype net. Scheduled F-method radio transmissions should usually be on an especially prescribed frequency and should be regularly copied by most addressees. Such transmissions should be relayed to those addressees who either are not able to copy, or are not required to copy them. However, F-method

transmissions may be made at any time on the same frequency as that usually employed for the 2-way R-method (i. e., in which receipts are obtained for each message transmitted).

c. Precedence.—In the absence of specific instructions to the contrary, messages of the same precedence, whether originating in the Army or the Navy, will be handled in the order of filing for transmission, or of receipt for relaying. Messages are divided into precedence groups to show the relative order in which they shall be transmitted and acted upon. This order is as follows:

(1) The URGENT designation is reserved for messages requiring the greatest speed of handling. Any message designated as URGENT will be sent immediately upon receipt, except when communication involving another URGENT message is being carried on. URGENT precedence is reserved for use during combat, or when combat is imminent, real or simulated, to indicate that the message so designated conveys the most important orders, information or request pertaining to the combat, [143] and thus requires immediate attention. A primary example of this type of message is a so-called Army "flash" message which is employed to report air observation of surface or air forces and ground observation of surface or air forces and ground observation of air forces. For joint communication purposes, an Army "flash" message may be considered to be an urgent message of the highest priority. A primary example of a Navy message of the highest priority is a major contact report.

(2) The PRIORITY designation is reserved for messages of less urgency than those entitled to URGENT precedence, but of such nature as to warrant precedence ahead of messages designated as ROUTINE or DEFERRED. Any message designated as PRIORITY will be transmitted before any routine or deferred messages which may be awaiting transmission, but transmission of a *short* routine or deferred message will not usually be interrupted to send a PRIORITY message.

(3) The ROUTINE designation is reserved for messages requiring no special precedence. They are transmitted in the order in which they are received or in such order as will clear the traffic most expeditiously. Any message designated as ROUTINE usually will be transmitted before any deferred messages which may be awaiting transmission, but transmission of a *short* deferred message will not usually be interrupted to send a ROUTINE message.

(4) The DEFERRED designation is reserved for messages requiring no special precedence, and whose delivery to the addressee may be delayed until the beginning of office hours following the day on which they are filed. This will sometimes necessitate transmission of Deferred messages ahead of Routine messages, in order to effect delivery before the time indicated.

d. Address and signature.—While all official messages will be sent by authority of the commanding officer, no signature will ordinarily be transmitted. Messages intended for an addressee on board a ship or airplane, or within a command on shore, will be routed by use of the appropriate call sign of the ship, airplane, or shore command. Delivery to any specific addressee within the ship, airplane or shore command is a function of the command to which delivered. [144] If call signs are assigned for joint use to particular commanders, as well as to particular ships, airplanes and shore commands, such commander call signs may also be employed to indicate routing, addressees and originators.

e. Use of clear or cryptographic language.—The general rules governing the use of clear and cryptographic language are set forth in subsection IV of this chapter, wherein communication security is discussed.

f. Operating instructions and procedure.—Operating instructions are special instructions for transmitting, receiving, and when required, for relaying messages. These instructions are set forth in a separate restricted pamphlet entitled, "Joint Army and Navy Radio Procedure."

g. Time.

(1) The time of origin is the time at which the message is released or authenticated by the originator. If this time does not appear on the message, it will be the time when the message is filed for transmission.

(2) The time of origin in joint communications is expressed in the 24-hour clock system and transmitted as a group of four figures, the first two digits representing the hours from midnight and the last two the minutes past the hour.

Examples: 6:00 A. M. is 0600 and 7:43 P. M. is 1943.

(3) For communication within the Army, the 12-hour clock system is used.

Examples: 6:00 A. M. is 600 A, and 7:43 P. M. is 743 P.

h. Dates.

(1) The date is expressed for joint communication purposes by two figures preceding the time of origin, indicating the day of the month. If the date number is less than ten, it is always preceded by zero. For example, the first day of the month is 01, and the tenth day is 10. "071626" means date was 7th day of month, and time of origin was 1626.

(2) The month and year may be added to the date and time of origin group when necessary for reference purposes in the text of messages. For example: "Your 071626 DEC 1938" means "Referring to your message, with time of origin 1626 on the 7th day of December 1938 * * *".

[145] (3) In the text of messages, if times indicated are not given particular descriptions, the time prescribed for use by the originator shall be understood.

i. Addressees.—In drafting messages, the various classes of addressees may be indicated:

- (1) Action addressees.
- (2) Information addressees.
- (3) Both action and information addressees.

Subsection II—Coastal Frontier Defense

159. *Joint channels and means of intercommunication* (See ch. V, Sec. III, Par. 32*h* (3) and Diagram I.).—The radio, visual, and wire communication which may be required between the two services in joint coastal frontier defense operations are indicated below. Certain Army-to-Army communication circuits and certain Navy-to-Navy communication circuits are also included where considered desirable to indicate the more important of such circuits. No attempt has been made herein to prescribe the number of separate circuits to be provided between stations. The number and the type of circuits should be determined in each case by the nature and amount of the traffic to be transmitted and by geographical considerations. If practicable, separate wire circuits should be provided for command, intelligence, and administration.

a. Coastal frontier headquarters (Army).

(1) Wire to: Various naval district headquarters within the coastal frontier.
(2) Radio (2)* to: Various naval district headquarters within the coastal frontier.

b. Corps area headquarters.

- (1) Wire to: Nearest naval district headquarters.
- (2) Radio (2)* to: Nearest naval district headquarters.

c. Sector headquarters (Army).

- (1) Wire to: Nearest naval district headquarters.
- (2) Radio (2)* to: Nearest naval district headquarters.

d. Subsector headquarters (Army).

- (1) Wire to: Inshore patrol headquarters.
- (2) Radio (2)* to: Nearest naval district headquarters from those subsector headquarters that are identical with defensive coastal area headquarters and harbor defense headquarters and forts.

[146] (3) Radio (2)* to: Inshore patrol. This communication will necessarily be on the frequency assigned for communication between ships and inshore patrol headquarters. Subsector headquarters normally only intercepts radio messages from the inshore patrol to inshore patrol headquarters, but may transmit also, when necessary.

(4) Wire through: Sector headquarters to nearest naval district headquarters—for receiving information from the offshore patrol.

e. Harbor Defense Headquarters.

- (1) Wire to: Inshore patrol headquarters.
- (2) Radio (2)* to: Inshore patrol headquarters from harbor defense headquarters that are located at forts.

f. Forts (Army).

- (1) Wire to: Inshore patrol headquarters through subsector headquarters.
- (2) Radio (2)* to: Inshore patrol headquarters.

g. Army aviation headquarters.

- (1) Radio (1)* to: Navy airplanes, when required.
- (2) Wire to: Navy air station (if in coastal frontier).
- (3) Radio (2)* to: Navy air stations.

(1) *See par. 160—Aircraft communication principles.

(2) *Indicates radio two ways—for transmitting and receiving, to be placed in operation if wire is not available, or fails for any reason.

h. Army reconnaissance airplanes (1) (5)**

(1) Radio to: (a) Navy airplanes (in emergencies and/or when jointly engaged in a mission).

(b) Navy air station (in emergencies and/or when operating therefrom).

(c) Inshore patrol (via inshore patrol headquarters when engaged in joint missions with the inshore patrol).

(d) Offshore patrol ships (in emergencies and when Army airplanes are assigned offshore patrol missions).

[147] (2) Visual to: Inshore and offshore patrols.

i. Army and Navy airplanes (combat) (1) (When present in coastal frontier defense).*

(1) Radio (4)* to: (a) (For air command purposes) between squadron, group, and higher commanders of Army and Navy joint task force elements.

(b) (For air and air-ground liaison purposes) between reconnaissance and scouting airplanes, and the commander of the joint task force. Also, between squadron, group, and higher commanders of Army and Navy joint task force elements. Between reconnaissance aviation or bombardment aviation and the following:

1. To elements of the fleet at sea (if present).

2. To the joint task force headquarters—air (Army or Navy). Also, between pursuit, fighter, and bombardment aviation and Navy air station and/or Army aviation headquarters from which operating as well as with the headquarters of antiaircraft regiments and antiaircraft gun battalions (for recognition purposes).

j. Navy airplanes (1) (5)*.*

(1) Radio to: (a) Army airplanes (in emergencies and/or when jointly engaged in a mission).

(b) Army aviation headquarters (in emergencies and/or when operating therefrom).

[148] (2) Visual to: Land antiaircraft defenses

k. Navy air station (If present in coastal frontier).

(1) Radio (1)* (5)* to: Army airplanes (in emergencies and/or when operating therefrom).

(2) Wire to: Army aviation headquarters.

(3) Radio (2)* to: Army aviation headquarters.

l. Offshore patrol ships (Navy).

(1) Radio (1)* (5)* to: Army airplanes (in emergencies and when Army airplanes are assigned offshore patrol missions).

m. Inshore patrol ships (Navy).

(1) Radio (1)* to: (a) Army airplanes, via inshore patrol headquarters when engaged in joint missions with inshore patrol.

(b) Forts.

(c) Subsector headquarters (when identical with defensive coastal area and harbor defense headquarters).

(2) Visual to: Batteries, forts.

(3) Visual to: Those subsector headquarters which are identical with defensive coastal area and harbor defense headquarters.

(4) Visual to: Outpost forces (if present).

n. Inshore patrol headquarters.

(1) Wire to: Subsector headquarters.

(2) Wire to: Harbor defense headquarters.

(3) Radio (2)* to: (a) Subsector headquarters (if identical with defensive coastal area and harbor defense headquarters).

(b) Harbor defense headquarters when located at forts having radio facilities.

[149] o. Naval district headquarters (3).*

(1) Wire to: Nearest corps area headquarters.

(2) Wire to: Nearest subsector headquarters.

(3) Wire to: Coastal frontier headquarters.

(4) Wire to: Nearest sector headquarters.

(5) Radio (2)* to: Coastal frontier headquarters.

(6) Radio (2)* to: Nearest corps area headquarters.

(1)*See par. 160—Aircraft communication principles.

(2)*Indicates radio two ways—for transmitting and receiving, to be placed in operation if wire is not available, or fails for any reason.

(3)*In certain areas it may be practicable and desirable for communication purposes to have various shore headquarters located in the same building, or sufficiently close to facilitate intercommunication and cooperation.

(4)*Not shown on diagram I, being too variable.

(5)*Circuits for use in emergencies are not shown on diagram I.

(7) Radio (2)* to: Nearest subsector and sector headquarters.

(8) Wire to: Information Center, Aircraft Warning Service.

p. Coastal force.

(1) Radio to: (a) Naval district headquarters.

(b) Commander offshore patrol.

q. Escort force.

(1) Radio to: (a) Naval district headquarters.

(b) Commander offshore patrol.

(2) Visual to: Army and Navy units as necessary.

160. *Aircraft communication principles.*—The following principles governing aircraft communication should usually be observed in joint coastal frontier defense:

a. When Army or Navy airplanes are used jointly as a part of a task force organization, the frequencies for communication would be as prescribed by the Army or Navy commander of the task force.

b. When not otherwise specifically provided, Army airplanes will work with Army ground stations and Navy airplanes will work with Navy stations afloat or ashore.

c. In emergencies, if the Army wishes to communicate directly with a Navy airplane, the Army will utilize a frequency which is known to be guarded by that Navy airplane. Similarly, when the Navy wishes to communicate directly with an Army airplane, the Navy will utilize a frequency which is known to be guarded by that Army airplane.

d. Airplanes will not be required to shift frequency for joint communication purposes while in the air. Any airplane which is able to communicate on more than one frequency at a time may do so when required.

[150] *e.* It is expected that those various commands of the Army and Navy, which may have need of information to be transmitted by particular aircraft of either service, will, whenever practicable, arrange to receive such information direct, by having receiver (intercept) watches set on the aircraft frequencies involved.

f. Normally, all joint radio communication, except for command purposes between airplanes in flight, should be by radiotelegraph.

161. *Aircraft warning service.*—The various elements of the Army and the Navy involved in joint operations must be interlinked with an Aircraft Warning Service Information Center in a communication net that will insure the prompt receipt and distribution of warnings of the approach of enemy aircraft. While the elements included in this net will vary according to conditions, the information center should usually be connected with the following for the purpose indicated:

The *reception of warnings* from—

Civilian reporting stations.

Army elements:

Ground reporting stations.

Aviation elements engaged in missions which would enable them to advise of approach of hostile aircraft.*

All Army elements in a position to report the approach of hostile craft.

Naval elements:

Escort Force.*

Coastal Force.*

Offshore patrol:

Airplanes*

Ships*

Inshore patrol:

Airplanes*

Ships*

Naval direction finder stations.*

Coast Guard stations:

Lighthouses.

[151] The *distribution of warnings* to—

Army aviation headquarters for the warning of:†

Army aviation bases.

†These elements are connected by wire with the Information Center. Aircraft warnings may be distributed by radio broadcast.

* Information Center radio receivers will intercept for this purpose the normal frequencies which these elements are using.

Army aviation elements.
 Army aviation fields.
 Air defense headquarters.† (When present in coastal frontier.)
 Antiaircraft artillery headquarters.† (When an air defense headquarters is not located in the coastal frontier or when so located, it does not control all antiaircraft artillery defense elements in the coastal frontier.)
 Coastal frontier and/or Army or corps area headquarters (for the warning of civilian population and Army ground elements and establishments).†
 Naval aviation headquarters (for the warning of naval aviation units).†
 Naval district headquarters for warning of:†
 Navy bases—air, ship, and submarine.
 Navy yards and other Navy shore establishments.
 Escort force.
 Coastal force.
 Offshore patrol.
 Inshore patrol.
 All units of fleet present.

162. *Preparation and distribution of communication (signal) plans and instructions* (See ch. VI, sec VI, par. 77 and sec. VIII, par. 108a).—It will be necessary for each service to have certain items of information and publications pertaining to the other service. The items of information as well as the distribution should be prepared to suit each operation. The importance of early preparation and distribution of these plans and instructions should be impressed upon all concerned. For illustrative "Joint Communication (Signal) Plan," see paragraph 173.

Subsection III—Joint Overseas Expeditions

163. The specific circuits for the movement overseas of a joint overseas expedition are not herein presented diagrammatically, as in the case of joint communication for coastal frontier defense, since each joint overseas expedition presents a varied set of forces and conditions. However, the following discussion is intended to cover all major items concerning communication for any joint overseas ex- [152] pedition, and to serve as a guide therefor. Diagram II should be considered merely as a guide to indicate the joint circuits which *may* be employed during the landing phase of an oversea expedition. The circuits and the number and type thereof should be determined in each case by the nature and amount of traffic to be transmitted and by geographical considerations.

164. *General* (See ch. VI, sec. III, par. 54.).—Many of the measures necessary to insure effective communication (signal) in joint overseas expeditions must usually be completed prior to, and during, the embarkation phase. *Prior* to this phase, the following measures should be undertaken: (1) the design and production of the appropriate equipment and publications which will be required for communication (signal) between the Army and the Navy, and (2) the training of communication officers and enlisted men of both services that will participate in the joint overseas operations in the use of prescribed joint communication procedure and methods. *During* the embarkation phase, the necessary communication (signal) plans and instructions should be prepared, distributed, and studied, and the particular training required for communication and for security should be undertaken.

165. *General principles*.—The following general principles which concern communication have been established:

a. During the movement overseas, the Army and Navy commanders of a joint overseas expedition, with their respective staffs, should be embarked on the same ship, as should the commanders of a joint attack force, and, where practicable, the method should be extended throughout all echelons of command. Each transport should have a communication center operated by Navy personnel. The complement of this center will be augmented by the addition of Army personnel who will remain on duty therewith until their services are no longer required for the routing of messages pertaining to the Army. The communication (signal) officers should be informed of—

(1) The particular ships in which the commanders of their next subordinate and next superior units are embarked.

(2) The naval communication arrangements for handling communications

†These elements are connected by wire with the Information Center. Aircraft warnings may be distributed by radio broadcast.

between the ships, mentioned in (1) above, to the end that they may arrange for the transmission of orders and information under the circumstances.

b. (See ch. VI, sec. II, par. 50-52.) The liaison officers exchanged between the commands of the Army and the Navy should have copies of the cryptographic systems of their own service for handling messages applying particularly to that service. These liaison officers may have messages transmitted in these systems, regardless of the service [153] operating the agencies of communication (signal), provided the restrictions on communication (signal) then in effect, are not violated.

c. *Landing phase* (See ch. VI, sec. VI, par. 82, and sec. VIII, par. 109.).—The Navy, during the landing phase will—

(1) Have responsibility for shore-ship communication, and communication with Navy boats used for landings.

(2) Have the beachmaster establish a communication center at each landing place to handle communication between ship and shore. (See ch. VI, sec. VI, par. 101a.)

(3) Provide a naval liaison detachment to accompany each combat team to provide the radio and visual communication and operation facilities necessary for effective naval gunfire support of the combat team. (See ch. VI, sec. VI, par. 93a, 94b and c.) (See also par. 163b.)

d. As soon as possible, the Army will establish all of its own signal communication for combat, and, in addition, provide wire communication and messenger service from the command post of each Army combat team to the commander of the naval liaison detachment assigned to accompany that particular unit.

e. The Army shore party commander will establish a message center at each landing place and will connect by wire and messenger service with the Navy beachmaster's communication center at that landing place. (See ch. VI, sec. VI, par. 101a, c, and d, and sec. VIII, par. 109.)

166. *Aircraft communication principles and aircraft warning service.*—So far as they are applicable to communication in a joint overseas expedition, the principles set forth in paragraphs 160 and 161, in connection with joint coastal frontier defense, should usually be observed.

167. *Joint communication (signal) training.*—The various elements of the Army and the Navy to be jointly trained are indicated below. In particular, training during the embarkation phase should include communication between the elements which will have to communicate during the landing phase, the familiarization by all concerned with the cryptographic systems prescribed for all phases.

a. *Army and Navy aviation elements.*

(1) *Navy observation airplanes.*—Even though Army observers may be provided in Navy observation airplanes, it is essential that Navy personnel therein be trained as indicated below, since in the early phases of the landing they will usually be required to undertake liaison, reconnaissance, and Army artillery adjustment missions.

[154] (a) In communication with the ground units to be supported during the landing.

(b) In recognition of Army panel and pyrotechnic signals used in lieu of radio.

(c) In picking up messages from and dropping messages to ground troops.

In addition, such Navy personnel should be cognizant of so much of the communication plans and instructions issued to ground troops as may be necessary for effective operations.

(2) *Navy reconnaissance and spotting airplanes.*—The Navy personnel engaged in air reconnaissance and air spotting of Navy gunfire in support of landing operations should be trained in the pyrotechnic and panel signals displayed by ground troops, particularly those used to indicate:

Location of front lines.

Gunfire is falling short.

Lift gunfire to next objective.

Put down gunfire on a particular objective.

(3) *Navy observation airplanes with Army observers.*—Army observers who may be assigned to Navy observation airplanes during the early phases of a landing on missions involving liaison, reconnaissance, and Army artillery adjustment should be trained in the use of the Navy radio equipment and in Navy spotting procedure.

(4) *Combat aircraft task forces.*—It is especially important that the combat elements of the aviation task forces of both services be jointly trained in communication (signal) methods and procedure to the end that the highest degree of effectiveness may be attained in the operations of such joint task forces as will be required to support the landing operations.

b. Other elements of both services.

(1) *Army ground elements.*—All Army ground elements should be trained to distinguish friendly Naval aircraft from hostile aircraft. In addition, the personnel of those Army radio stations that will be required to communicate with Navy air planes engaged in reconnaissance, liaison, and Army artillery adjustment missions should receive training in communicating with the Navy aviation personnel that will be assigned to cooperate with them in the actual landing. Elements of the anti-aircraft defense forces should be informed of the recognition signals (visual or radio) that will be employed by Navy aircraft operating in support of the landing.

[155] (2) *Naval liaison and communication detachments.*—Naval liaison officers and Naval communication (signal) detachments assigned to accompany the Army assault elements (in order to handle the observation and communication (signal) required to bring about effective Naval gunfire support of the Army assault units) should be trained in the use of—

(a) The mobile field radio equipment required.

(b) The Army visual (including pyrotechnic) signals, particularly those used to indicate—

Landing successful.

Landing not successful.

Reached objectives.

Location of front lines.

Gunfire is falling short; and lift gunfire to next objective.

Put down gunfire on a particular objective.

This liaison and communication personnel through rehearsals in the embarkation phases should be familiarized with the operations of ground troops and the other means of communication that are available in case it is necessary to use the Army Communication (signal) system to get Naval messages back to the commander of the Naval fire support group via the Naval beachmaster (see par. 168b). •

(3) *Liaison officers.*—Liaison officers who are exchanged between the higher elements of command of the two services should be thoroughly familiar with—

(a) Provisions governing responsibility for communications during the various phases of a joint overseas expedition.

(b) Actual command "set-up" of the communication systems.

(c) Rules of both services governing communication security.

(4) *Communication officers.*—All communication officers should be made cognizant of the following, during the embarkation phase:

(a) The three items listed in (3) above under liaison officers.

(b) The communication channel requirements, cryptographic systems and frequency plans for all phases. (See ch. VI, sec. VII, pars. 104 and 107.)

[156] 168. *Special equipment.*—The special communication (signal) equipment that should be provided and with which the personnel concerned should be thoroughly familiarized prior to and during the embarkation phase consists in general of the following items (i. e., when normal equipment of the particular element will not meet the needs of the situation):

a. Radio sets that will permit of intercommunication between the airplanes of such joint task forces as may be established.

b. Radio sets for such Navy liaison detachments as are to accompany the Army combat teams. These sets should be of appropriate size and weight to permit ready transportation to all locations where an infantry battalion command post may be established, and should permit direct communication between the Navy liaison detachment commander and the commander (and ships) of the Navy fire support group which is supporting the operations of the particular Army combat team. As it is probable that radio equipment now available for this purpose may not be effective under all conditions to be encountered, substitute means for this communication should be provided—such as aircraft radio or Army wire back to the beachmaster and thence by radio to ships concerned.

c. Cryptographic systems for joint communications during all phases of the operation, including sufficient Army fire-control and airground liaison codes

to supply copies to all Navy observation airplanes assigned to Army reconnaissance, liaison, and artillery adjustment missions.

d. Radio sets for the beachmaster, for the small boats, used in the landing, and possibly for transports of such characteristics as to permit direct communication between units linked, as shown in Diagram II.

e. Pyrotechnics for use in the landing boats and on the beach.

When Navy airplanes are assigned to Army reconnaissance, liaison, and artillery adjustment missions, arrangements shall be made, if practicable, to permit communication between the Army ground stations and Navy airplanes.

Subsection IV—Communication Security

169. *General*—a. Classified communication between the Army and the Navy will be divided into the following security classes:

(1) *Secret*.—Messages and written communications will be classified and marked secret when disclosure of the information contained therein might endanger national security, cause serious injury to the interests or prestige of the nation or any governmental activity, or would be of great advantage to a foreign nation.

[157] (2) *Confidential*.—Messages and written communications will be classified and marked confidential when disclosure of the information contained therein, although not endangering the national security, might be prejudicial to the interests or prestige of the nation, a governmental activity, or an individual, or be of advantage to a foreign nation.

(3) *Restricted*.—Messages and written communications will be classified and marked restricted when information contained therein is for official use only, or when its disclosure should be limited for reasons of administrative privacy or denied the general public.

Secret, confidential, and restricted messages and written communications, plus the information contained therein, will be handled and safeguarded in a manner appropriate to their classification, as defined above, and in accordance with the instructions of the service(s) concerned.

b. The following doctrines will govern in the classification of messages and the use of the various cryptographic systems:

(1) *Reliability, security, and speed*.—Reliability is paramount and shall never be sacrificed for security or speed.

(2) *Use of clear and cryptographic language*.

(a) In time of war or emergency, all messages to be transmitted by radio, or by other means when danger of hostile or unauthorized interception exists, are to be cryptographed except in the following cases: when the tactical situation is such that time cannot be spared for cryptographing or the information to be transmitted if intercepted by the enemy could not be acted upon in time to influence the situation in question, a commanding officer or his authorized representative may order the transmission of a message in plain language. Such messages will be marked "Send in clear", over the signature of the commander or his authorized representative.

(b) So far as practicable, during joint exercises and joint communication training exercises, each message will be given the same classification and handling as would be given to the same subject matter in war.

(3) *Mutual observance of classifications*.—The classification of a message with respect to security may be changed only by the originator of the message or by superior authority.

[158] (4) *Rules governing communication security*.

(a) The communications of one service must not be permitted to compromise the operations of the other service.

(b) Radiotelegraph is the preferred method of joint Army-Navy radio communication.

(c) The rules governing cryptographic security in the Army and the Navy are based on the same doctrines and are, in general, similar. Compliance with the rules of either service should insure the necessary cryptographic security.

c. Classified communication between Army and Navy commands or units resolves itself into the following categories or echelons as regards distribution of cryptographic systems:

Category A—Cryptographic systems used in communication between special high commands of the Army and Navy.

Category B—Cryptographic systems used in communication between all high commands of the Army and Navy.

Category C—Cryptographic systems used in communication between intermediate commands of the Army and Navy.

Category D—Cryptographic systems used in communication between smaller units of the Army and Navy.

d. The foregoing categories should, in general, be followed, but may be varied, if necessary, at the discretion of the senior commander of either service in each theatre of operation. The senior commander of the other service shall be immediately notified.

e. The cryptographic systems prescribed for the various categories will be used as circumstances require. For this reason, all commands will be supplied with the cryptographic systems prescribed for lower categories.

f. The cryptographic systems authorized for safeguarding classified communication for each category are prescribed in the documents mentioned in paragraph 171a.

g. Only the prescribed cryptographic system shall be used for classified communication between the Army and the Navy.

h. Classified communication between Army and Navy units of categories A and B will be facilitated by an exchange of liaison and communication (signal) officers between the Army and the Navy elements involved.

[159] 170. *Grouping of Army and Navy units into categories for classified communications.*—The categories authorized for classified communication, and the Army and the Navy units grouped therein, are as stated below:

a. Category A.

Army:

War Department.

Commanders, theatres of operations.

Commanders, field armies.

Any other commanders designated by the War Department.*

Navy:

Navy Department.

Commanders-in-Chief, United States Navy.

Any other commanders designated by the Navy Department.*

b. Category B.

Army:

All commanders listed under category A above.

Coastal frontier commanders.

Commanders, expeditionary task forces.*

Commanders, Hawaiian, Philippine, Panama Canal, and Puerto Rican Departments.

Commander, troops in Alaska.

Commanders, all corps areas.

Commanders, GHQ Air Force and wings.

Commanders, Air Corps wings in oversea departments.

Commanders of major air fields likely to be engaged in joint operations.*

Navy:

All commanders listed under category A above.

Force commanders, United States Fleet.

Type commanders, United States Fleet.

Commanding general, Fleet Marine Force.

Commanders, major detached task forces, United States Fleet.*

Commander, attack force.

Commander, transport group.

Commanders, detached squadrons.*

Commanders, destroyer flotillas.

Commanders, patrol wings.

Commandants, all naval districts.

Commanders, major naval air stations.*

[160] *c. Category C.*

Army:

All commanders listed under categories A and B above.

Commanders, coast artillery districts.

Commanders, sectors (coastal frontier).

Commanders, subsectors (coastal frontier).

*The other Department will be informed of the commanders designated under this provision in order that all concerned may be notified.

Commanders, harbor defenses.
 Commanders, shore parties.
 Commanders of units down to and including brigades which will communicate with Navy units.
 Commanders, Air Corps coastal stations likely to be engaged in joint operations.*
 Commanders, air force groups and squadrons.
 Commanders, ports of embarkation.

Navy:

All commanders listed under categories A and B above.
 Commanders, fire support group.
 Beachmasters.
 Destroyers, light mine layers, all larger combatant surface ships, and division and squadron commanders thereof.
 Squadron commanders of submarines, minecraft, and train vessels.
 Air squadron commanders.
 Commander, inshore patrol.
 Commander, inshore air patrol.
 Commander, offshore patrol.
 Commander, offshore air patrol.
 Commander, escort force.
 Commander, coastal force.
 Commanders, fleet Marine force brigades.
 Naval operating bases.
 Naval advanced bases.
 Naval air stations, air bases, and seaplane tenders.
 Destroyer, submarine, and section bases.

d. Category D.

Army:

All commands listed under categories A, B, and C above.
 Commanders of all mobile ground units down to and including infantry battalions and cavalry squadrons.
 Commanders, landing force combat teams.
 Commanders, individual forts or groups (harbor defenses).
 Army transports and mine planters.
 Aircraft in joint operations.

[161]

Navy:

All commands listed under categories A, B, and C above.
 Vessels of inshore patrol and offshore patrol.
 Aircraft of inshore air patrol and offshore air patrol.
 Coastal force vessels and aircraft.
 Escort vessels and aircraft.
 All vessels and aircraft (not a part of or attached to the local defense forces) engaged in joint operations.
 Commander, Marine Corps units down to and including battalions.

171. General instructions.

a. The authorized cryptographic systems for the categories of classified communication, the distribution of the various systems and the effective publications governing their use are prescribed in the current editions of the following documents:

Army: SIGNAN.

Navy: CSP 817, 818, 819, 820.

b. The communication (signal) plans should normally prescribe the cryptographic systems to be used.

c. Whenever practicable, in joint tactical exercises or communication training exercises simulating coastal frontier defense, oversea expeditions and landing force operations, exercise or training editions of the prescribed cryptographic systems shall be used.

d. For emergency use in peacetime by all categories of command, the cylindrical cipher device (Army: M-94; Navy: CSP 488) shall be used. A universal emergency key for use with this device shall be determined jointly by the Chief Signal Officer and the Director of Naval Communications and shall be communicated to both services from time to time. Cipher keys for use in local emergencies shall

*The other Department will be informed of the commanders designated under this provision in order that all concerned may be notified.

be determined locally and jointly by the senior commanders of the Army and Navy units involved. The United States Coast Guard holds this device and is furnished the universal emergency key by the Director of Naval Communications.

Subsection V—Joint Communication (Signal) Plan

(See ch. VI, sec. VIII, par. 108–110).

172. *General.*—The joint communication (signal) plans (or orders) for joint operations of the Army and the Navy (whether for coastal frontier defense or joint overseas expeditions) will in general include the following items, in the sequence indicated below:

a. Information.

(1) Such information of enemy communication (signal) as may be essential from the point of view of joint operations of the Army and the Navy.

[162] (2) Such information of friendly commercial communication facilities as are to be used (or are available for use) as may be necessary for the coordinated action of the two services in joint operations.

(3) Such information of the communication (signal) systems of the two services as may be necessary for understanding by one service of the capabilities and limitations of the communication (signal) systems of the other service.

(4) Such information of the aircraft warning service communication system as is necessary to insure the prompt reception and distribution of the information of approach of hostile aircraft.

(5) Such information pertaining to the command "set-up" (i. e., location of the headquarters or command posts) of the two services as may be necessary for the effective installation and operation of communication (signal) system.

(6) Designation of the time systems to be used for communication purposes and in the texts of messages.

b. Radio.

(1) General radio instructions, as necessary, including radio silence restrictions, etc.

(2) Call signs and frequencies, to include such instructions covering the assignment and distribution of radio call signs and frequencies as may be necessary—

(a) To insure coordinated action and avoid mutual interference between the two services.

(b) To provide a guide for the two services in distributing the particular items or publications to the interested elements of the two services.

(c) *Time* when call signs and frequencies become effective (see par. 172a (6)).

(3) Instructions for the establishment and operation of such special channels of radio communication as may be required for joint operations include—

(a) The assignment of personnel and special equipment when necessary

(b) Operating schedules, etc.

(c) Authentication instructions.

[163] *c. Radio intelligence* (radio direction finding and radio intercept)—include such information and instructions as to radio intercept and direction finding as may be necessary for—

(1) The coordinated action of the radio intelligence service of the Army and Navy.

(2) The distribution (or exchange) of radio intelligence.

d. Visual.

(1) General instructions, as necessary, including—

(a) Restrictions as to use of visual signal equipment, daylight and darkness.

(b) Priority of various means (flags, searchlights, etc.).

(c) Meanings of special pyrotechnic signals.

(2) Visual call signs.

(a) Call signs needed for communication between the Army and Navy.

(b) Guide for the distribution of call signs to interested elements of the two services.

(c) Designation of such visual codes as may be required for joint operations.

(d) *Time* when call signs are effective. (See par. 172a(6).)

(3) Instructions for the establishment and operation of such special visual channels as may be required between elements of the two services.

e. Wire.—Instructions necessary for the installation, operation, and maintenance of such wire communications as may be needed between the two services should include provisions for a wire teletype (telegraph printer) or telegraph antiaircraft intelligence net and an aircraft warning service net. (See Diagram I.) If required, authentication instructions should be issued.

f. Messenger (or courier) service.—Instructions necessary for the operation of a messenger service between Army and Navy elements when practicable and necessary, should state schedules, means of transportation, and whether officer or enlisted man.

g. Recognition signals.

- (1) Recognition doctrine.
- (2) List of the types to be used—day and night—with statements of time when each becomes effective.
- (3) Guide for distribution.
- (4) Identifying silhouettes of—
Ships: Friendly and enemy.
Aircraft: Friendly and enemy.
- [164] (5) Recognition signals (surface craft, submarines, and aircraft)—
Type or types to be used.
Prescribed signals or maneuvers.
Identifying marks on ships, special flags, lights, etc.

h. Communication security and cryptanalytic activities.—Such instructions should be promulgated as may be necessary to insure the coordination of the communication security activities of the two services and the prompt exchange of technical information between the cryptanalytic elements of the two services.

i. Codes and ciphers.

- (1) Such instructions as are not included in existing regulations and publications concerning the codes, ciphers and cipher keys to be used in joint operations.
- (2) Guide for the distribution of codes and ciphers.

j. Commercial communication facilities.

- (1) Such allocations to the Army and the Navy as may be required.
- (2) Special instructions covering traffic to be handled by commercial stations.
- (3) Special instructions covering supervision of commercial communication facilities.
- (4) Call signs and frequencies.

Subsection VI—Miscellaneous

173. *Other joint communication requirements.*—In addition to the intercommunication necessitated by simulated or real joint coastal frontier defense and joint overseas expeditions, intercommunication may be necessary daily in peacetime for liaison purposes between various units of the Army and the Navy (and the Coast Guard), and when specially required in cases of earthquake, flood, riot, and other emergencies, both natural and man-made. During neutrality, intercommunication may be necessary in the joint maintenance of a patrol in United States coastal waters. For the purposes indicated above, the doctrines set forth herein will, insofar as applicable, govern.

(At this point in Exhibit No. 6 there appear Diagrams I and II bearing captions "Coastal Frontier, Joint Radio and Wire Communication" and "Joint Overseas Expedition—Landing Phase, Typical Communication Circuits for One Beach", respectively. These diagrams will be found reproduced as Items Nos. 3 and 4, EXHIBITS-ILLUSTRATIONS, Navy Court of Inquiry. These illustrations are bound together following the printed exhibits of the Navy Court of Inquiry.)

[If] C. J. A. 4.

CHANGE No. 4, JOINT ACTION OF THE ARMY AND THE NAVY, 1935

J. B. No. 301 (Serial 671).

J. B. No. 319 (Serial 664).

THE JOINT BOARD,
WAR AND NAVY DEPARTMENTS,
Washington, January 25, 1941.

The following changes in Joint Action of the Army and the Navy, 1935, have been approved by the Secretary of War and the Secretary of the Navy and should be made in all copies of this publication.

1138 CONGRESSIONAL INVESTIGATION PEARL HARBOR ATTACK

Add the following new pages:

Page Nos. ¹	Subject matter
If-Ig.....	Promulgation of Change No. 4.

¹Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

Remove and destroy the pages listed below and substitute the reprinted pages containing changes as indicated:

Old page Nos. ¹	Changes on reprinted pages
II-IIa.....	C. J. A. 4—List of effective pages (revised January 25, 1941).
129-130.....	Paragraph 128, sentences added.
137-140.....	Chapter IX, Section I revised.

¹Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

The office of The Adjutant General, War Department, and the Registered Publications Section, Navy Department, require no report of this change.

WILLIAM P. SCOBEE,
Lieutenant Colonel, G. S. C.,
United States Army, Secretary

[II]

JOINT ACTION OF THE ARMY AND THE NAVY, 1935

LIST OF EFFECTIVE PAGES

(Revised January 25, 1941)

Subject matter	Change in effect	Page Nos. ¹
Title page.....	Original	No number
Navy letter of promulgation of November 15, 1935 (Navy copies only).....	"	0-00*
Promulgation of Change No. 1, July 22, 1936.....	1***	I-Ia
Promulgation of Change No. 2, November 30, 1938.....	2	Ib-Ic
Promulgation of Change No. 3, June 28, 1940.....	3	Id-Ie
Promulgation of Chicago No. 4, January 25, 1941.....	4	If-Ig
List of effective pages.....	4	II-IIa
Joint letter of promulgation of September 11, 1935.....	Original	III-IV**
Contents.....	2	V-VI
Contents, Part I.....	2	VII
Contents, Part I, continued.....	Original	VIII
Chapter I.....	1	1-2
Chapter I, continued.....	2	3-4**
Chapter II.....	2	5-6
Chapter III.....	2	11
Chapter III, continued.....	Original	12-16**
Chapter IV.....	"	17
Chapter IV, continued.....	2	18
Chapter IV, continued.....	Original	19-20**
Contents, Part II.....	"	21-22**
Contents, Chapter V.....	"	23-26
Chapter V.....	2	27
Chapter V, continued.....	Original	18-41
Chapter V, continued.....	2	42-44
Chapter V, continued.....	Original	45-47
Chapter V, continued.....	2	48
Chapter V, continued.....	Original	49-64
Chapter V, continued.....	2	65-66
Chapter V, continued.....	Original	67
Chapter V, continued.....	2	68
Chapter V, continued.....	2	69
Contents, Chapter VI.....	Original	70-72
Contents, Chapter VI, continued.....	"	73-76
Chapter VI.....	2	77-80
Chapter VI, continued.....	Original	81-82

*Should be so numbered in ink in Navy copies only.

**Original blank pages IV, 4, 16, 20, and 22 should be so numbered in ink.

***Navy copies "2."

¹Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

[11a]

Subject matter	Change in effect	Page Nos. ¹
Chapter VI, continued.....	2	83-84
Chapter VI, continued.....	Original	85-86
Chapter VI, continued.....	2	87
Chapter VI, continued.....	Original	88-90
Chapter VI, continued.....	2	91
Chapter VI, continued.....	Original	92-97
Chapter VI, continued.....	2	98
Chapter VI, continued.....	Original	99-100
Chapter VI, continued.....	2	101
Chapter VI, continued.....	Original	102
Chapter VI, continued.....	2	103-104
Chapter VI, continued.....	Original	105
Chapter VI, continued.....	2	106-107
Chapter VI, continued.....	Original	108-110
Chapter VI, continued.....	2	111
Chapter VI, continued.....	Original	112
Contents, Chapter VII.....	"	113-114**
Chapter VII.....	"	115-126**
Contents, Chapter VIII.....	"	127-128**
Chapter VIII.....	4	129-130
Chapter VIII, continued.....	1	131-132
Chapter VIII, continued.....	Original	133
Chapter VIII, continued.....	2	134
Chapter VIII, continued.....	Original	135-136**
Chapter IX.....	4	137-140d
Chapter IX, continued.....	3	141-164
Chart of Organization for Coastal Frontier Defense.....	Original	No number
Diagram No. I, Coastal Frontier. Joint Radio and Wire Communication.	3	No number
Diagram No. II, Joint Overseas Expedition—Landing Phase. Typical Communication Circuits for One Beach.....	3	No number

**Original blank pages 114, 126, 128, and 136 should be so numbered in ink.

¹Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

[129]

CHAPTER VIII

AGENCIES FOR EFFECTING COORDINATION

Section I

Sanction of Joint Agencies

125. The existing joint agencies for coordination between the Army and the Navy have no legislative nor executive basis for existence. These agencies exist as a result of agreement between the Secretaries of the War and Navy Departments. Except as noted in paragraph 135, below, the recommendations of these joint agencies are advisory only and become effective upon approval by both Secretaries, and in some cases upon further approval by the President.

Section II

The Joint Board

126. The authority for The Joint Board is contained in War Department G. O. No. 94, 1919, as amended by G. O. No. 29, 1923, and G. O. No. 10, 1936, and Navy Department G. O. No. 7, 1935, as amended by G. O. No. 73, 1935, and G. O. No. 82, 1936. The board consists, on the part of the Army, of the Chief of Staff, the Deputy Chief of Staff, and the Assistant Chief of Staff, War Plans Division, War Department General Staff; and on the part of the Navy, of the Chief of Naval Operations, the Assistant Chief of Naval Operations, and the Director, War Plans Division, Office of Naval Operations. The board is provided with a secretary detailed alternately from officers of the Army and the Navy.

[130] 127. Any matter which, to either the War or the Navy Department, seems to call for consideration as to cooperation between the two services may be referred by that department to The Joint Board. The Joint Board may also originate consideration of such subjects as in its judgment are necessary. The board confers upon, discusses, and reaches such common conclusions as may be practicable regarding such matters. Proceedings and reports of the board are confidential. Each department receives a copy of the report of the board.

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129. The committee is an agency of The Joint Board for the detailed investigation, study, and development of policies, projects, and plans relative to the national defense and involving joint action of the Army and the Navy. The committee may also originate consideration of such subjects as, in its judgment, are necessary. The members are authorized to consult and confer freely on all matters of defense and military policy in which the Army and the Navy are jointly concerned, and to consider this joint work as their most important duty. Its procedure is informal; its reports and recommendations are confidential; its reports and recommendations go to The Joint Board.

Section III

The Aeronautical Board

130. The authority for the Aeronautical Board is contained in War Department G. O. No. 6, 1936, and Navy Department G. O.

[137]

CHAPTER IX

COMMUNICATIONS

Section I

Policy for the Coordination of Communication Activities of the Army and the Navy

145. *General.*

a. The policy and the proposed actions set forth in this chapter are based on the fact that the Army and the Navy together constitute the Nation's military power of which, under the Constitution, the President is Commander in Chief; therefore their acts derive authority from the direction of the President either expressed or implied.

b. The policy for the coordination of communication activities of the Army and the Navy, approved by the Secretary of War and the Secretary of the Navy, is set forth herein for information and guidance.

c. Censorship is not considered to be a communication activity.

146. *Purpose of communication policy.*—The purpose of this statement of policy is to establish an authoritative basis for the coordination of the Army and the Navy in the development of communication matériel, the establishment of communication stations, and in the conduct of communication activities, in order to insure adequate and efficient intercommunication between the Army and the Navy especially in joint operations, to prevent interference and conflict between the communication services of the Army and the Navy, to provide for the effective physical control of their communications in time of war or other national emergency, or when the United States is likely to become a belligerent, and to indicate the views of the War and Navy Departments as to the extent communications control is to be exercised by other Government agencies under the situations mentioned.

147. *Basic policy.*

a. The Army and the Navy shall provide, control, and operate such transmitting and receiving stations, together with the necessary [138] interconnecting equipment as, augmented by nonmilitary communication facilities and services, will insure the existence and availability upon the outbreak of war or other

national emergency of militarily controlled, thoroughly indoctrinated communication systems adequate to meet the requirements of national defense, having in view the prevention of undesirable duplication and the practical and definite limitation of expenditure imposed by economy.

b. While the communication requirements of the Army and the Navy for purposes of national defense must be considered paramount, adequate provision also must be made for the needs of other governmental agencies, of industry, and of other civilian activities.

148. *Military and naval communications.*

a. The Army and the Navy shall have full authority respectively over all military and naval communications, and over all other communication facilities allocated in whole or in part to the Army and the Navy.

b. For operation in time of war as may be necessary, it is contemplated that the allocation of additional nonmilitary communication facilities to the Army and the Navy will be recommended by the Defense Communications Board created by Executive Order on September 24, 1940, or by a similar board subsequently created, and that changes in the initial allocation will be similarly recommended. It is further contemplated that all allocations will be made by Executive Order.

c. In order that the Army and the Navy may plan for essential acquisitions of nonmilitary communication facilities and services for wartime or other emergency use, it is assumed that allocations will be based generally upon the following:

(1) The Army assumes prior right to utilize, in whole or in part, nonmilitary communication stations within the United States, Alaska, and foreign territory occupied by the Army, except the stations over which the Navy is assigned prior right to utilize in the following subparagraph.

(2) The Navy assumes prior right to utilize, in whole or in part, nonmilitary communication stations wherever located that are permitted to communicate overseas, with ships, or with aircraft flying over the sea, and non-military communication stations in Panama, the insular possessions, and in foreign territory exclusively occupied by the Navy.

149. *Wartime jurisdiction over nonmilitary communications.*

a. The civil authorities, including the established courts, will continue their control of the civil communication agencies in the [139] continental United States in nonmilitary matters, as far as practicable, except in theaters of military or naval operations.

b. If, at some time subsequent to the declaration of war, the President should declare martial law, the control of all communication facilities within the affected area shall devolve upon the Army or the Navy in accordance with the principle of unity of command as set forth in paragraph 151b below.

c. As general policy, whatever essential wartime functions nonmilitary Government communication systems are responsible for performing in peacetime and can continue to perform in wartime, they shall be permitted to continue to perform, provided that such arrangements are compatible with the requirements of the military services for national defense, and provided that all nonmilitary Government communication agencies so conduct the operation of their communication facilities as to render the greatest possible assistance to the Army and the Navy. Accordingly it is contemplated that among others—

(1) The Federal Communications Commission will continue to perform its peacetime functions, including especially the detection, location, and suppression of unauthorized radio stations so far as its jurisdiction, facilities, and personnel permit. Beyond its jurisdiction and the capabilities of its facilities and personnel, such functions may become the responsibilities of the Army and the Navy. When functions normally performed by the Federal Communications Commission devolve upon the Army and the Navy—

(a) The Army will assume jurisdiction over the continental United States, Alaska, Panama Canal Zone, and in insular possessions and foreign territory occupied by the Army.

(b) The Navy will assume jurisdiction over shipping and over insular possessions and foreign territory occupied exclusively by the Navy.

(2) The Department of Commerce (Civil Aeronautics) will continue to perform its peacetime functions, and to operate its regular communication facilities, except in areas such as in actual theaters of operation, where national defense may require such facilities to be put under control of the Army or the Navy by Executive Order.

d Although nonmilitary communication agencies will normally operate as

indicated in the preceding subparagraphs, it may be necessary in the interest of national defense for the Army and the Navy [140] temporarily to take over and operate some nonmilitary communication facilities not allocated to the respective services. For example, in case of threatened attack by hostile aircraft, it might be essential summarily to close certain nonmilitary radio stations by order of the military or naval commander having responsibility for the safety or defense of the threatened area. Or, instead of closing certain radio stations, it might be essential for the responsible commander summarily to utilize some or all communication facilities temporarily—for example, to promulgate an air-raid warning and to give notice when the danger has passed. Provision for such actions shall be made by Executive Order, by a Federal Communications Commission Rule or Regulation, or otherwise as appropriate.

e. Whenever necessary in the interests of national defense, and in accordance with existing law, all amateur radio stations not specifically designated by the Army or the Navy for military operation will be closed by Executive Order upon the recommendation of the Defense Communications Board mentioned in paragraph 148 above, or in the absence of such a board, upon the recommendation of the Secretaries of War and Navy. The operation of amateurs on Army and Navy frequencies, under Army and Navy control, shall not be affected by such closing.

f. Nonmilitary radio stations fall into four categories as follows:

(1) Those stations which the Army or the Navy will require in time of war or other national emergency to supplement their peacetime circuits.

(a) These stations would be taken over and operated by the respective services.

(b) It is contemplated that the number of such stations will be kept to a minimum.

(2) Those stations from which the Army or the Navy will require some circuits, or those stations all of whose facilities are required part time.

(a) The Army or the Navy would supervise the operation of such stations with direct control over the circuits serving military needs.

(b) Such circuits as are not utilized by the Army or the Navy would usually remain available to serve nonmilitary purposes.

(3) Those stations which must remain in operation as nonmilitary stations to serve Government procurement, commercial, or civilian needs. These stations would be permitted to continue in operation under jurisdiction of the Federal Communications Commission (or other Government agency normally having jurisdiction), assisted as may be necessary by the Army and the Navy.

[140a] (4) Those stations which are not required by the Army or the Navy, or for other national defense purposes.

(a) These stations may be allowed to continue in operation as in peacetime, or they may be closed.

(b) These stations whether allowed to operate or not would be under the jurisdiction of the Federal Communications Commission (or other Government agency normally having jurisdiction), assisted as may be necessary by the Army and the Navy.

150. *Authorized nonmilitary communications.*—In the case of nonmilitary communication stations not allocated for utilization in whole or in part to the Army or the Navy, but which are allowed to continue in normal operation, supervision and control may sometimes devolve upon the Army or the Navy. For purposes of such supervision and control—

a. The Army will assume jurisdiction over all such stations within the United States, Alaska, and foreign territory occupied by the Army except the stations assigned to Navy jurisdiction in subparagraph b below.

b. The Navy will assume jurisdiction over all nonmilitary stations wherever located that are permitted to communicate overseas, with ships, or with aircraft flying over the sea other than Army aircraft, and over all nonmilitary stations in Panama, the insular possessions, and in foreign territory exclusively occupied by the Navy.

151. *Primary responsibility of the Army and the Navy in communication activities.*

a. The assignment of primary responsibility to the Army or to the Navy for communication activities serving a definite area or purpose imposes upon the designated service the responsibility for the establishment and efficient operation of the communications serving such area or purpose, but allows the other service to use communication facilities to serve the same area or its own purposes of a similar nature, provided no serious interference is caused thereby.

b. In wartime, unity of command in certain areas or theaters of operation may be assigned to the Army or the Navy. Communication activities therein will be coordinated by the responsible commander of the service in which such unity of command is vested.

c. In order to avoid uneconomical duplication—

(1) The Navy only shall operate radio apparatus of high power (10 kilowatts or more in the antenna).

(2) The Army shall not handle overseas radio communication commercially or for other Government departments except between the United States and Alaska (unless the Navy is unable to handle the communication), nor [140b] operate upon frequencies which will cause serious interference with Fleet or Navy overseas circuits

152. *Assignment of primary responsibility.*—Subject to the provisions of subparagraphs a and b of the preceding paragraph, primary responsibility is assigned as follows:

a. To the Army in radio communication—

(1) With and between Army units wherever located.

(2) Within the Territory of Alaska.*

(3) With and between Army vessels, excluding such vessels as may be placed under Navy control.

b. To the Army in radio intelligence, including radio intercept and direction finding for the Army wherever operating.

c. To the Army in landline communication—

(1) Connecting headquarters, units, and establishments of the Army wherever located.

(2) Crossing the international boundaries between the United States and Canada, and between the United States and Mexico.

(3) Within the continental United States when charged therewith in accordance with the provisions of paragraph 149 above.

(4) In Alaska, Panama Canal Zone, and in insular possessions and foreign territory occupied by the Army.

d. To the Army in cable communication—

(1) Connecting headquarters, units, and establishments of the Army within the continental limits of the United States.

(2) Within the continental United States when charged therewith in accordance with the provisions of paragraph 149 above.

(3) Between the continental United States and Alaska.

(4) Within the Territory of Alaska.

(5) At points outside the continental United States occupied exclusively by the Army.

e. To the Army in aircraft warning service (see par. 161)—

For the continental United States, Alaska, Panama Canal Zone, all insular possessions of the United States garrisoned by Army troops, and all foreign territory occupied by the Army

[140c] f. To the Navy in radio communication—

(1) For the establishment, maintenance, and operation of an overseas radio service for efficient communication with and between Navy units wherever located; this service to be available to all departments of the Government and for commercial purposes.

(2) For communication with insular possessions, the Panama Canal Zone, and with foreign territory occupied by the Navy.

(3) With and between ships at sea and with and between aircraft which fly over the sea, exclusive of Army vessels and aircraft, except such Army vessels and aircraft as may have been placed under Navy control.

g. To the Navy in radio intelligence, including radio intercept and direction finding for the Navy wherever operating.

h. To the Navy in landline communication—

(1) Connection headquarters, units, and activities of the Navy wherever located.

(2) In insular possessions and foreign territory occupied exclusively by the Navy.

i. To the Navy in cable communication—

*NOTE.—Attention is invited to paragraph 151c (2). While the Navy is charged with primary responsibility for the establishment, maintenance, and operation of an overseas radio service, it is agreed that the Army shall not be prevented from handling radio communication, commercially or for other Government departments, between the continental United States and Alaska.

(1) For communication from the United States to all points outside the United States except to Alaska.

(2) At points outside the continental United States occupied by the Navy.

(3) Connecting headquarters, units, and activities of the Navy wherever located.

j. To the Navy in aircraft warning service (see par. 161)—

(1) For all vessels and aircraft of the Navy, including Army vessels and aircraft operating under Navy control.

(2) For all insular possessions garrisoned exclusively by the Navy.

(3) For foreign territory occupied exclusively by the Navy.

153. *Principles to be observed in communication coordination.*—Coordination in communication operation will be effected by—

a. The development of types of communication equipment suitable for intercommunication between the Army and the Navy.

b. The assignment of call signs, frequencies, transmitting time periods, the adoption for joint Army and Navy communication of a common procedure, and the formulation of cryptographic systems.

c. The provision of field radio sets for the use of the Marine Corps on shore which shall be capable of communication with the radio sets used by similarly equipped units of the Army.

[140d] d. The provision, on vessels of the Army Transport Service, of radio communication equipment of a character normally provided for commercial shipping of the same general class, and by provision of such equipment capable of sending and receiving on at least two frequencies assigned by the Navy Department for Naval Transportation Service communication. (If practicable, vessels of the Army Transport Service should be provided with radio equipment identical with that provided for vessels of the Navy similarly employed.)

e. The preparation of suitable joint communication plans for all joint operations.

f. The conduct of joint communication training exercises.

g. For a more detailed discussion of coordination requirements, see Section II of this Chapter.

154. *Coordination with radio stations of other departments and civilian radio stations during peacetime.*—Coordination of the operation of Government radio stations with each other and with the operation of civilian radio stations in time of peace will be governed by the provisions of the Communications Act of 1934, as amended.

155. *Coordination of development programs.*—The Chief Signal Officer of the Army and the Director of Naval Communications will coordinate the peacetime operation of communications and the operational development of the two services to insure adequate and effective joint intercommunication. The Chief Signal Officer of the Army and the Chief of the Bureau of Ships of the Navy Department will coordinate their recommendations for the procurement programs of the Army and the Navy, and will coordinate technical communication matters of joint concern to the two services.

[Ih] C. J. A. 5.

CHANGES NO. 5, JOINT ACTION OF THE ARMY AND THE NAVY, 1935

J. B. No. 301 (Serial 702).

A. G. 062.1 (5-26-41).

J. B. No. 319 (Serial 684).

J. B. No. 319 (Serial 685).

THE JOINT BOARD,
WAR AND NAVY DEPARTMENT,
Washington, July 14, 1941.

The following changes in Joint Action of the Army and the Navy, 1935, have been approved by the Secretary of War and the Secretary of the Navy and should be made in all copies of this publication.

Add the following new pages:

Page Nos.	Subject matter
Ih-II.....	Promulgation of Change No. 5.

Remove and destroy the pages listed below and substitute the reprinted pages containing changes as indicated:

Old page Nos. ¹	Changes on reprinted pages
II-IIa.....	C. J. A. 5.—List of effective pages (revised July 14, 1941).
129-130.....	Paragraph 126, second sentence changed.
131-132.....	Paragraph 133, fourth and fifth lines changed.
137-138.....	Paragraph 148, subparagraphs <i>c</i> (1) and (2) changed and (3) added.
143-144.....	Paragraph 158, subparagraphs <i>g</i> (4) and (5) added.

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

The office of The Adjutant General, War Department, and the Registered Publications Section, Navy Department, require no report of this change.

WILLIAM P. SCOEY,
Lieutenant Colonel, G. S. C.,
United States Army, Secretary.

[II] JOINT ACTION OF THE ARMY AND THE NAVY, 1935

LIST OF EFFECTIVE PAGES

(Revised July 14, 1941)

Subject matter	Change in effect	Page Nos. ¹
Title page.....	Original	No number
Navy letter of promulgation of November 15, 1935 (Navy copies only).....	"	0-00*
Promulgation of Change No. 1, July 22, 1936.....	1***	1-Ia
Promulgation of Change No. 2, November 30, 1938.....	2	1b-1c
Promulgation of Change No. 3, June 28, 1940.....	3	1d-1e
Promulgation of Change No. 4, January 25, 1941.....	4	1f-1g
Promulgation of Change No. 5, July 14, 1941.....	5	1h-1i
List of effective pages.....	5	II-IIa
Joint letter of promulgation of September 11, 1935.....	Original	III-IV**
Contents.....	2	V-VI
Contents, Part I.....	2	VII
Contents, Part I, continued.....	Original	VIII
Chapter I.....	"	1-2
Chapter I, continued.....	1	3-4**
Chapter II.....	2	5-6
Chapter III.....	2	11
Chapter III, continued.....	Original	12-16**
Chapter IV.....	"	17
Chapter IV, continued.....	2	18
Chapter IV, continued.....	Original	19-20**
Contents, Part II.....	"	21-22**
Contents, Chapter V.....	"	23-26
Chapter V.....	2	27
Chapter V, continued.....	Original	28-41
Chapter V, continued.....	2	42-44
Chapter V, continued.....	Original	45-47
Chapter V, continued.....	2	48
Chapter V, continued.....	Original	49-64
Chapter V, continued.....	2	65-66
Chapter V, continued.....	Original	67
Chapter V, continued.....	2	68
Contents, Chapter VI.....	2	69
Contents, Chapter VI, continued.....	Original	70-72
Chapter VI.....	"	73-76
Chapter VI, continued.....	2	77-80
Chapter VI, continued.....	Original	81-82

*Should be so numbered in ink in Navy copies only.

**Original blank pages IV, 4, 16, 20, and 22 should be so numbered in ink.

***Navy copies "2."

¹ Pages referred to are represented by italic figures enclosed by brackets and indicate pages of original exhibit.

[11a]

Subject matter	Change in effect	Page Nos. ¹
Chapter VI, continued.....	2	83-84
Chapter VI, continued.....	Original	85-86
Chapter VI, continued.....	2	87
Chapter VI, continued.....	Original	88-90
Chapter VI, continued.....	2	91
Chapter VI, continued.....	Original	92-97
Chapter VI, continued.....	2	98
Chapter VI, continued.....	Original	99-100
Chapter VI, continued.....	2	101
Chapter VI, continued.....	Original	102
Chapter VI, continued.....	2	103-104
Chapter VI, continued.....	Original	105
Chapter VI, continued.....	2	106-107
Chapter VI, continued.....	Original	108-110
Chapter VI, continued.....	2	111
Chapter VI, continued.....	Original	112
Contents, Chapter VII.....	"	113-114**
Chapter VII.....	"	115-126**
Contents, Chapter VIII.....	"	127-128**
Chapter VIII.....	5	129
Chapter VIII, continued.....	4	130
Chapter VIII, continued.....	1	131
Chapter VIII, continued.....	5	132
Chapter VIII, continued.....	Original	133
Chapter VIII, continued.....	2	134
Chapter VIII, continued.....	Original	135-136**
Chapter IX.....	5	137-138
Chapter IX, continued.....	4	139-140d
Chapter IX, continued.....	3	141-142
Chapter IX, continued.....	5	143-144
Chapter IX, continued.....	3	145-164
Chart of Organization for Coastal Frontier Defense.....	Original	No number
Diagram No. I, Coastal Frontier. Joint Radio and Wire Communication.....	3	No number
Diagram No. II, Joint Overseas Expedition—Landing Phase. Typical Communication Circuits for One Beach.....	3	No number

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[130] 127. Any matter which, to either the War or the Navy Department, seems to call for consideration as to cooperation between the two services may be referred by that department to The Joint Board. The Joint Board may also

originate consideration of such subjects as in its judgment are necessary. The board confers upon, discusses, and reaches such common conclusions as may be practicable regarding such matters. Proceedings and reports of the board are confidential. Each department receives a copy of the report of the board.

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129. The committee is an agency of The Joint Board for the detailed investigation, study, and development of policies, projects, and plans relative to the national defense and involving joint action of the Army and the Navy. The committee may also originate consideration of such subjects as, in its judgment, are necessary. The members are authorized to consult and confer freely on all matters of defense and military policy in which the Army and the Navy are jointly concerned, and to consider this joint work as their most important duty. Its procedure is informal; its reports and recommendations are confidential; its reports and recommendations go to The Joint Board.

Section III

The Aeronautical Board

130. The authority for the Aeronautical Board is contained in War Department G. O. No. 6, 1936, and Navy Department G. O. [131] No. 81, 1936. The board consists, on the part of the Army, of the Chief of Air Corps, the Assistant to Chief of Air Corps, and one member of the War Plans Division of the War Department General Staff; on the part of the Navy, of the Chief of Bureau of Aeronautics, the Head of Plans Division of his office, and one member of the War Plans Division, office of Chief of Naval Operations. The War Plans Division members are not eligible for duty with The Joint Board or the Joint Planning Committee. The board is provided with a secretary detailed from the permanent personnel of either the War Department or the Navy Department.

131. The function of the Aeronautical Board is to secure a more complete measure of cooperation and coordination in the development of aviation of the Army and of the Navy. It will investigate, study, and report upon all questions affecting jointly the development of aviation of the Army and of the Navy which have been referred to it by the Secretary of War, the Secretary of the Navy, The Joint Board, the Chief of the Air Corps, or the Chief of the Bureau of Aeronautics. In addition, it will also be charged with the duty of originating consideration of such subjects when in its judgment necessary and of recommending whatever it considers essential to establish sufficiency and efficiency of cooperation and coordination of effort between the Army and the Navy as to aviation.

132. In the execution of the foregoing, the Aeronautical Board will be governed by the following. It will hold regular monthly meetings and such extraordinary meetings as may be deemed advisable. It will prescribe its own procedure and will be assisted by working committees, the members of which will be appointed by the Aeronautical Board. All recommendations of the Aeronautical Board affecting joint Army and Navy policies or plans relative to the national defense will be referred to The Joint Board for consideration before submission to the Secretary of War and the Secretary of the Navy. Matters affecting the procurement of matériel in time of war to meet joint requirements will be submitted to the Army and Navy Munitions Board. All other matters will be submitted direct to the Secretary of War and the Secretary of the Navy.

[132]

Section IV

Army and Navy Munitions Board

133. The authority for the Army and Navy Munitions Board is contained in The Joint Board's letter J. B. No. 346 (Serial No. 181), of June 27, 1922, approved by the Secretary of War and the Secretary of the Navy June 29, 1922. The board consists of the Under Secretary of War and the Under Secretary of the Navy, assisted by an executive committee composed of officers on duty in the War and Navy Departments, as follows:

Three officers of the Army and three officers of the Navy to be selected by the Secretary of War and the Secretary of the Navy, respectively.

134. The board is authorized and directed to—

a. Formulate and keep up to date such pertinent plans and policies as in the opinion of the two Departments should be adopted by the Federal Government for coordinating and controlling national industrial effort in emergency.

b. Assure the necessary coordination in the procurement war plans of the two services, and in all plans, studies, and appendices thereto intended to facilitate the Government's efforts in emergency to promote orderly mobilization of industry.

c. Form and direct the activities of such joint committees as may be necessary to consider, investigate, and make recommendations concerning pertinent subjects falling within the purview of the Board's responsibilities.

135. Approval of action taken by the Munitions Board is not required, except that any plans prepared by it that affect joint war plans and joint Army and Navy policy relative to the national

[137]

CHAPTER IX

COMMUNICATIONS

Section I

Policy for the Coordination of Communication Activities of the Army and the Navy

145. *General.*

a. The policy and the proposed actions set forth in this chapter are based on the fact that the Army and the Navy together constitute the Nation's military power of which, under the Constitution, the President is Commander in Chief; therefore their acts derive authority from the direction of the President either expressed or implied.

b. The policy for the coordination of communication activities of the Army and the Navy, approved by the Secretary of War and the Secretary of the Navy, is set forth herein for information and guidance.

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146. *Purpose of communication policy.*—The purpose of this statement of policy is to establish an authoritative basis for the coordination of the Army and the Navy in the development of communication matériel, the establishment of communication stations, and in the conduct of communication activities, in order to insure adequate and efficient intercommunication between the Army and the Navy especially in joint operations, to prevent interference and conflict between the communication services of the Army and the Navy, to provide for the effective physical control of their communications in time of war or other national emergency, or when the United States is likely to become a belligerent, and to indicate the views of the War and Navy Departments as to the extent communications control is to be exercised by other Government agencies under the situations mentioned.

147. *Basic policy.*

a. The Army and the Navy shall provide, control, and operate such transmitting and receiving stations, together with the necessary interconnecting equipment as, augmented by nonmilitary communication facilities and services, will insure the existence and availability upon the outbreak of war or other national emergency of militarily controlled, thoroughly indoctrinated communication systems adequate to meet the requirements of national defense, having in view the prevention of undesirable duplication and the practical and definite limitation of expenditure imposed by economy.

[138] b. While the communication requirements of the Army and the Navy

for purposes of national defense must be considered paramount, adequate provision also must be made for the needs of other governmental agencies, of industry, and of other civilian activities.

148. *Military and naval communications.*

a. The Army and Navy shall have full authority respectively over all military and naval communications, and over all other communication facilities allocated in whole or in part to the Army and the Navy.

b. For operation in time of war as may be necessary, it is contemplated that the allocation of additional nonmilitary communication facilities to the Army and the Navy will be recommended by the Defense Communications Board created by Executive Order on September 24, 1940, or by a similar board subsequently created, and that changes in the initial allocation will be similarly recommended. It is further contemplated that all allocations will be made by Executive Order.

c. In order that the Army and the Navy may plan for essential acquisitions of nonmilitary communication facilities and services for wartime or other emergency use, it is assumed that allocations will be based generally upon the following:

(1) The Army shall have prior right to use, in whole or in part, nonmilitary communication stations within the United States, Alaska, and foreign territory occupied by the Army, and the stations of the inter-American commercial air routes except the stations which the Navy is assigned prior right to use in the following subparagraph.

(2) The Navy shall have prior right to use, in whole or in part, nonmilitary communication stations wherever located that are permitted to communicate overseas, with ships or with aircraft flying over the sea, exclusive of Army vessels and aircraft, except such Army vessels and aircraft as may have been placed under Navy control, but inclusive of nonmilitary communication stations in Panama and the Canal Zone, the insular possessions, and in foreign territory exclusively occupied by the Navy, except stations of the inter-American commercial air routes.

(3) Stations of the inter-American commercial air routes shall, for the purposes of the two preceding subparagraphs, be deemed to include those land airports in Central and South America, excluding Panama and the Canal Zone, at which nonmilitary facilities have been established at the primary instance of the War Department.

149. *Wartime jurisdiction over nonmilitary communications.*

a. The civil authorities, including the established courts, will continue their control of the civil communication agencies in the

[143] and thus requires immediate attention. A primary example of this type of message is a so-called Army "flash" message which is employed to report air observation of surface or air forces and ground observation of air forces. For joint communication purposes, an Army "flash" message may be considered to be urgent message of the highest priority. A primary example of a Navy message of the highest priority is a major contact report.

(2) The **PRIORITY** designation is reserved for messages of less urgency than those entitled to **URGENT** precedence, but of such nature as to warrant precedence ahead of messages designated as **ROUTINE** or **DEFERRED**. Any message designated as **PRIORITY** will be transmitted before any routine or deferred messages which may be awaiting transmission, but transmission of a *short* routine or deferred message will not usually be interrupted to send a **PRIORITY** message.

(3) The **ROUTINE** designation is reserved for messages requiring no special precedence. They are transmitted in the order in which they are received or in such order as will clear the traffic most expeditiously. Any message designated as **ROUTINE** usually will be transmitted before any deferred messages which may be awaiting transmission, but transmission of a *short* deferred message will not usually be interrupted to send a **ROUTINE** message.

(4) The **DEFERRED** designation is reserved for messages requiring no special precedence, and whose delivery to the addressee may be delayed until the beginning of office hours following the day on which they are filed. This will sometimes necessitate transmission of Deferred messages ahead of Routine messages, in order to effect delivery before the time indicated.

d. *Address and signature.*—While all official messages will be sent by authority of the commanding officer, no signature will ordinarily be transmitted. Messages intended for an addressee on board a ship or airplane, or within a command on shore, will be routed by use of the appropriate call sign of the ship, airplane, or shore command. Delivery to any specific addressee within the ship, airplane

or shore command is a function of the command to which delivered. If call signs are assigned for joint use to particular commanders, as well as to particular ships, airplanes and shore commands, such [144] commander call signs may also be employed to indicate routing, addresses and originators.

e. Use of clear or cryptographic language.—The general rules governing the use of clear and cryptographic language are set forth in subsection IV of this chapter, wherein communication security is discussed.

f. Operating instructions and procedure.—Operating instructions are special instructions for transmitting, receiving, and when required, for relaying messages. These instructions are set forth in a separate restricted pamphlet entitled, "Joint Army and Navy Radio Procedure."

g. Time.

(1) The time of origin is the time at which the message is released or authenticated by the originator. If this time does not appear on the message it will be the time when the message is filed for transmission.

(2) The time of origin in joint communications is expressed in the 24-hour clock system and transmitted as a group of four figures, the first two digits representing the hours from midnight and the last two the minutes past the hour. Examples: 6:00 A. M. is 0600 and 7:43 P. M. is 1943.

(3) For communication within the Army, the 12-hour clock system is used. Examples: 6:00 A. M. is 600 A, and 7:43 P. M. is 743 P.

(4) For communication within the Navy, Greenwich civil time (G. C. T.) is used in headings of messages.

(5) Unless otherwise prescribed, the time of origin in the headings of messages in joint communication will be Greenwich civil time (G. C. T.).

h. Dates.

(1) The date is expressed for joint communication purposes by two figures preceding the time of origin, indicating the day of the month. If the date number is less than ten, it is always preceded by zero. For example, the first day of the month is 01, and the tenth day is 10. "071626" means date was 7th day of month, and time of origin was 1626.

(2) The month and year may be added to the date and time of origin group when necessary for reference purposes in the text of messages. For example: "Your 071626 DEC 1938" means "Referring to your message, with time of origin 1626 on the 7th day of December 1938 * * *".

EXHIBIT No. 7

(6)

SECRET

FOURTEENTH NAVAL DISTRICT,
Pearl Harbor, T. H., 25 April 1941.

8-A16-1/A7-3(3)/ND14

(0038)

From: Commandant, Fourteenth Naval District.

To: Distribution List for 14ND-JCD-12.

Subject: Original 14ND-JCD-42.

References:

(a) WTL-42.

(b) FTP 155, Introduction, Chapter II.

Enclosures:

(A) Original 14ND-JCD-42, Reg. No. 19 including List of Effective Pages.

(B) Receipt and Destruction Form, in duplicate.

1. The Original 14ND-JCD-42 (Army Short Title HCF-41) is hereby promulgated to the officers on the Distribution List of 14ND-JCD-42, including those on the Distribution List of 14ND-JCD-12. It was signed and placed in effect by the Commanding General Hawaiian Department and by the Commandant Fourteenth Naval District on 11 April 1941, to remain effective until notice in writing by either party of its rescission, in part or in whole, or until disapproved, in part or in whole, by either the War or Navy Departments.

2. This Original Plan, prepared in accordance with references (a) and (b), supersedes 14ND-JCD-12 (Army Short Title HCF-39) and will be handled as follows:

a. All holders of 14ND-JCD-42 remove and destroy by burning all pages now contained in 14ND-JCD-12.