

Chapter I

Organization of Marine Corps Artillery

1001. Fire Support System

The artillery has three components which function together as a fire support system to provide effective fire support: target acquisition, weapon systems, and a command and control system.

a. Target Acquisition. Targets must be detected, identified, and located in sufficient detail (to include location accuracy and target description) in order to permit the effective employment of munitions. The artillery obtains targets primarily from its organic forward observers (FOs), weapons locating radars, artillery observation posts (OPs), as well as other sources; e.g., air observers, unmanned aerial vehicles (UAVs), intelligence, etc.

b. Weapon Systems. A weapon system is the weapon and those components required for its operation. A weapon system consists of a delivery vehicle and weapon combination including all related equipment, materials, services, and personnel required for the system to be self-sufficient in its operational environment. Support and sustainment are crucial to the employment of the weapon system. Weapon systems are manned by firing batteries.

c. Command and Control System. The command and control system must have the facilities, equipment, communications, procedures, and personnel to enable the commander to plan, direct, and control operations of assigned forces. Command is exercised primarily by the regiment and the battalions. A firing battery exercises control when employed independently.

1002. Mission of Marine Artillery

The mission of artillery in the Marine division is to furnish close and continuous fire support by neutralizing, destroying, or suppressing targets which threaten the success of the supported unit.

To accomplish its mission, artillery conducts three tasks:

- Provides timely, close, accurate, and continuous fire support.
- Provides depth to combat by attacking hostile reserves, restricting movement, providing long-range support for reconnaissance forces and disrupting enemy command and control systems and logistics installations (i.e., shaping the battlefield).
- Delivers counterfire within the range of the weapon systems to ensure freedom of action of the ground forces.

1 1003. Principles of War

2
3 The Marine Corps' warfighting philosophy of maneuver warfare is rooted in the principles of
4 war. These principles apply across the strategic, operational, and tactical levels. Successful
5 application of the principles requires a commander's judgment, skill, and experience to adapt
6 to constantly changing conditions and situations.

7
8 The principles of war apply to artillery as to all other arms. They are useful aids to a
9 commander as he considers how to accomplish his mission. They assist the commander in
10 organizing his thinking about his mission, the enemy, the battlespace, and his forces. They
11 should not be considered as prescriptive steps or actions that must be accomplished, rather as
12 tools the commander can use to help him plan, execute, and assess operations.

13
14 **a. Objective.** The commander should direct every military operation toward a clearly
15 defined, decisive, and attainable objective. The ultimate military objective of war is to defeat
16 the enemy's forces or destroy his will to fight. The objective of each operation must contribute
17 to this ultimate objective. Intermediate objectives must contribute quickly and economically to
18 the purpose of the operation. The selection of an objective is based on consideration of the
19 ultimate goal, forces available, the threat, and the area of operations. Every commander must
20 clearly understand the overall mission of the higher command, his own mission, the tasks he
21 must perform, and the reasons therefore. He considers every contemplated action in light of its
22 direct contribution to the objective. He must communicate clearly to his subordinates the
23 overall objective of the operation. The artillery supports the objective of the supported or
24 reinforced unit based on its assigned tactical mission.

25
26 **b. Offensive.** Offensive action is the decisive form of combat. Offensive action is
27 necessary to seize, retain, and exploit the initiative and to maintain freedom of action. It allows
28 the commander to exploit enemy weaknesses, impose his will upon the enemy, and to
29 determine the course of the battle. A defensive posture should only be a temporary expedient
30 until the means are available to resume the offensive. Even in the conduct of a defense, the
31 commander seeks every opportunity to seize the initiative by offensive action. Artillery
32 supports offensive actions through preparation fires and accurate, timely fires.

33
34 **c. Mass.** Superior combat power must be concentrated at the decisive place and time to
35 achieve decisive results. Mass applies to fires, combat support, and combat service support as
36 well as numbers of forces. Proper use of the principal of mass, together with the other
37 principles of war, may achieve decisive local superiority by a numerically inferior force. The
38 decision to concentrate requires strict economy and the acceptance of risk elsewhere,
39 particularly in view of the lethality of modern weapons that mandate rapid assembly and
40 speedy dispersal of forces. The artillery's gunnery techniques and command and control
41 system allow for the massing of artillery fires. It is not necessary to physically mass the
42 weapons. Often, massed fires can serve in lieu of troops occupying an area. The greater the
43 range of the weapons, the larger the area in which fires can be massed without displacement of
44 artillery units. Artillery tactical missions are assigned in order to mass.

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1 **d. Economy of Force.** Economy of force is the reciprocal of the principle of mass. The
2 commander allocates the minimum essential combat power to secondary efforts. This requires
3 the acceptance of prudent risks in selected areas to achieve superiority at the decisive time and
4 location with the main effort. To devote means to unnecessary efforts or excessive means to
5 necessary secondary efforts violates the principles of mass and objective. Economy of force
6 measures are achieved through limited attacks, defense, deceptions, or delaying actions.
7 Artillery is employed to obtain the maximum effect on target and strict control of ammunition
8 expenditure. Artillery delivers fires to support mission accomplishment to the degree required
9 (i.e., some targets must be neutralized or destroyed; others will require only suppression).
10 Coordination must be such that the artillery is placed on those targets which cannot be engaged
11 with equal or greater effect by other means.

12
13 **e. Maneuver.** Maneuver is the employment of forces on the battlefield through
14 movement in combination with fires, or fire potential, to achieve a position of advantage in
15 respect to the enemy to accomplish the mission. Maneuver alone cannot usually produce
16 decisive results; however, maneuver provides favorable conditions for closing with the enemy
17 in decisive battle. Maneuver contributes significantly to sustaining the initiative, exploiting
18 success, preserving freedom of action, and reducing vulnerability. Effective maneuver, in
19 combination with mass, surprise, and economy of force, allows an inferior force to achieve
20 decisive superiority at the necessary time and place. While mass implies the ability to
21 concentrate a large volume of fire on a single target, maneuver implies the ability to transfer
22 and distribute fire rapidly over a wide frontage from one point to another. Artillery moves its
23 weapons, shifts its fires, or rapidly alters the organization for combat to place the bulk of fires
24 where needed. At all echelons, successful application of this principle requires not only fire
25 and movement, but also flexibility of thought, plans, organization, and command and control.

26
27 **f. Unity of Command.** Unity of command is based on the designation of a single
28 commander with the authority to direct and coordinate the efforts of all assigned forces in
29 pursuit of a common objective. The artillery regiment is under the same commander as the
30 infantry regiments and separate maneuver battalions. All artillery in the division comes under
31 the command of the artillery regimental commander. The goal of unity of command is unity of
32 effort. The commander may enhance unity of effort through—

33
34 **1) Commander's Intent.** The commander's intent provides the purpose of an
35 operation. While situations and objectives may change during the course of events, the purpose
36 will endure, thus enabling subordinates to understand the larger context of their actions and
37 exercise initiative and judgment in a manner consistent with the higher commanders' aims.

38
39 **2) Main Effort.** Another tool for providing unity is the main effort. It is the
40 commander's bid to achieve success—the focal point upon which converges the combat power
41 of the force. The main effort is designed to achieve decisive results through interactions with
42 enemy critical vulnerabilities. The actions of the entire command are predicated on ensuring
43 the main effort succeeds. Like commander's intent, the main effort serves as a harmonizing
44 force for subordinate initiative. Through economy of force the artillery commander is able to
45 provide necessary firepower in support of the main effort.

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1
2 **3) Single Battle.** While the battlespace may be conceptually divided to facilitate
3 planning and execution, every commander, in an effort to promote unity, should view his fight
4 as a single battle. Using single battle, there is one concept of operations for the MAGTF that
5 unites the actions of the major subordinate commands. The artillery's approach to the single
6 battle assists the GCE commander in shaping the battlefield.

7
8 **g. Security.** Security is those measures taken to prevent surprise, ensure freedom of
9 action, and deny the enemy information about friendly forces, capabilities, and plans. Security
10 is essential to the preservation of combat power. However, since risk is an inherent condition
11 of war, security does not imply over-cautiousness or the avoidance of calculated risk. In fact,
12 security can often be enhanced by bold maneuver and offensive action, which deny the enemy
13 the chance to interfere. Adequate security requires an accurate appreciation of enemy
14 capabilities, sufficient security measures, effective reconnaissance, and continuous readiness
15 for action. Artillery is able to support bold maneuver and offensive actions through
16 positioning and improved ammunition as well as provide fires in support of defensive
17 operations.

18
19 **h. Surprise.** The commander seeks every possible means to achieve surprise by striking
20 the enemy at a time or place, or in a manner, for which he is unprepared. It is not essential that
21 the enemy be taken unaware, but only that he become aware too late to react effectively.
22 Factors contributing to surprise include speed, the use of unexpected forces, operating at night,
23 effective and timely intelligence, deception, security, variation in tactics and techniques, and
24 the use of terrain that appears unfavorable. Surprise can decisively affect the outcome of a
25 battle and may compensate for numerical inferiority. Surprise is important to artillery
26 effectiveness and survivability. Artillery achieves surprise by practicing concealment and
27 camouflage, displacement methods, deception measures, survey and MET, firing from
28 unexpected directions and in unexpected volume, avoidance of stereotyped methods, and the
29 judicious use of special ammunition. The greatest effect of artillery is achieved when surprise,
30 massed fire is delivered on a target. Positioning and sound gunnery techniques (as outlined in
31 MCWP 3-16.4, *Artillery Manual Cannon Gunnery*) allow artillery to achieve accurate,
32 predicted fires which are critical to surprise.

33
34 **i. Simplicity.** Plans should be as simple and direct as the situation and mission dictate.
35 Direct, simple plans, and clear, concise orders reduce the chance for misunderstanding and
36 confusion, and promote effective execution. In combat, even the simplest plan is usually
37 difficult to execute. Other factors being equal, the simplest plan is preferred.

43 1004. Considerations

44
45 The basic considerations in tactical employment of artillery are as follows:

- **Fire Support Requirement.** Allocation of artillery varies with the situation. Allocation of artillery solely for the purpose of uniformity should be avoided. For allocation to be effective, the artillery commander must completely understand what the supported commander is trying to achieve.
- **Ability to Mass.**
- **Exploitation of Weapon Capability.** Consider the capabilities of the weapons being employed when deciding how to employ artillery.
- **Facilitate Future Operations.** Artillery employment must anticipate future requirements and operations. These requirements include, but are not limited to, O/O missions, ammunition, and positioning.
- **Exploitation of Mobility.** Artillery weapons are highly mobile. For example, artillery can be helicopter-lifted into areas not accessible by surface (see Appendix F).

1005. Combat Tasks

Artillery has the following combat tasks:

- **Coordinate artillery support.**
- **Acquire targets.**
- **Deliver conventional and chemical fire (Shoot).**
- **Survive.**
- **Communicate.**
- **Maneuver (Move).**
- **Maintain and resupply.**
- **Maintain trained and ready personnel.**

1006. Artillery Regiment

a. Organization. The GCE of each MAGTF has an artillery component. At the division level, artillery is organized into an artillery regiment. The artillery regiment and its elements are capable of employing with and supporting the GCE of any size MAGTF. Artillery supports the operations of other MAGTF elements as required.

(1) For combat, the notional artillery regiment will have a headquarters battery and four artillery battalions to support the GCE of a Marine Expeditionary Force (MEF) (see figure 1-1).

Artillery Regiment

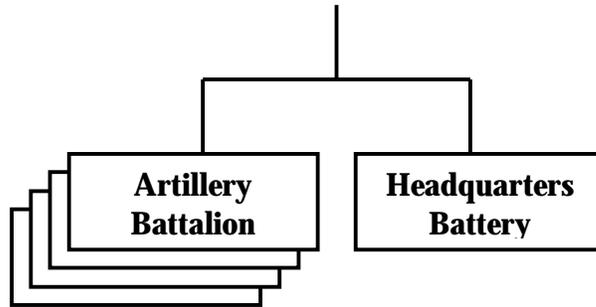


Figure 1-1. Artillery Regiment.

The headquarters battery has functional staff groupings to assist the regimental commander control the operations, combat service support (CSS), and administrative support of the regiment (see figure 1-2). The headquarters battery provides the equipment and personnel for the regiment's command echelons. It also provides personnel and equipment to the division fire support coordination center (FSCC). Personnel of the headquarters battery may be employed to augment an artillery battalion operating independently of the regiment.

(2) The regimental headquarters may be employed in two echelons; a main echelon which has the necessary staff and equipment to direct tactical operations; and the rear echelon which has the necessary staff and equipment to direct sustainment operations. A forward echelon may be formed from the staff and equipment of the main echelon to facilitate the incremental displacement of the main echelon. Combat operations centers (COCs) are formed at each echelon to plan, direct, control, and coordinate assigned functions in the name of the commander. The regimental commander positions himself where he can best exercise command and control of the regiment and function as the division artillery officer and fire support coordinator (FSC).

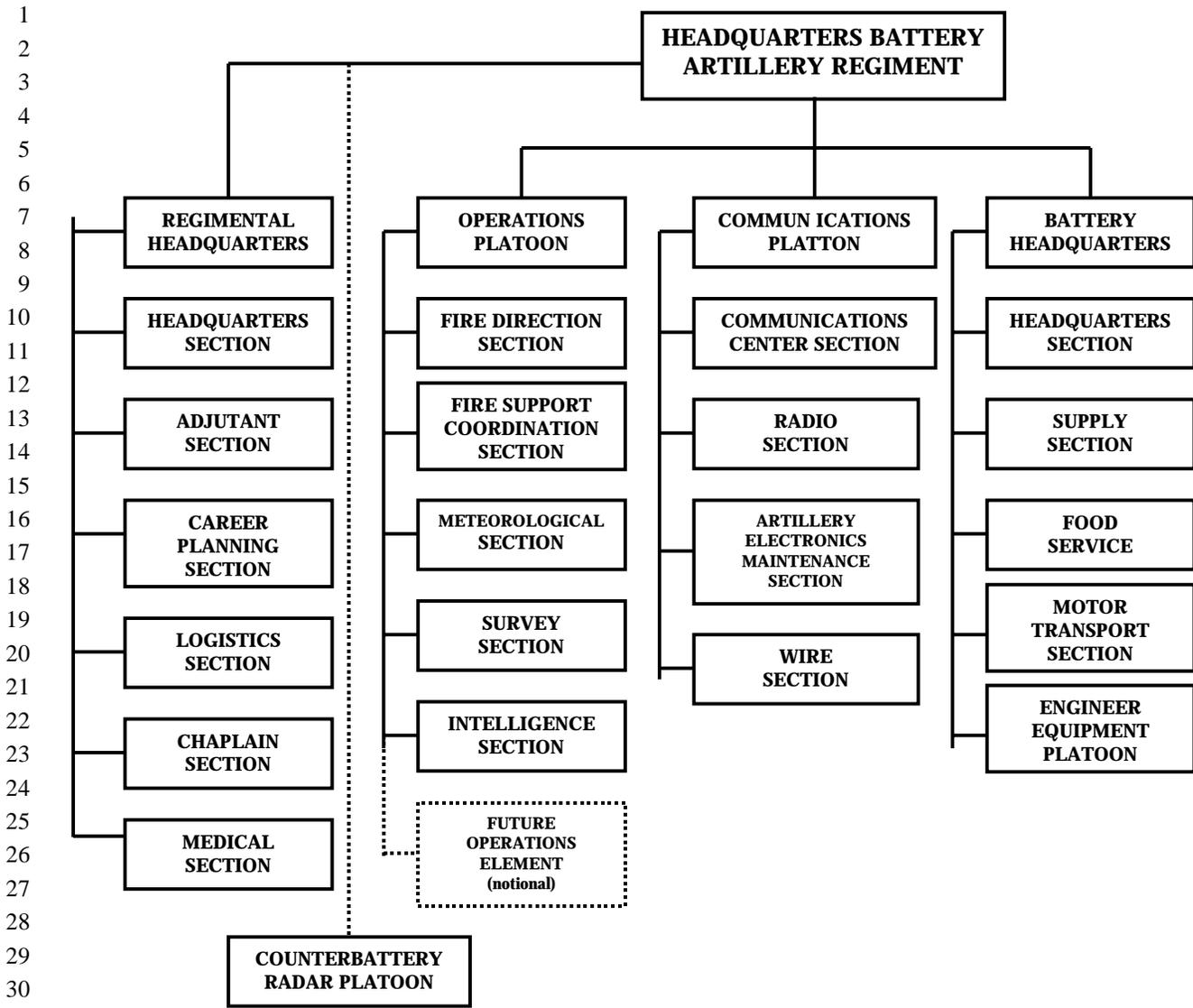


Figure 1-2. Headquarters Battery, Artillery Regiment

b. Functions and Employment. The regimental commander organizes the artillery for combat based on the guidance given by the commander of the GCE of which the artillery regiment is part. Each artillery battalion is assigned a tactical mission which defines its inherent fire support responsibilities. The regimental main COC performs tactical fire direction, targeting, and counterfire functions. The hub of artillery operations is the fire direction center (FDC), normally located at the main or forward COC. From there, communications are established with subordinate units and higher/supported unit headquarters. Normally, one of the artillery battalion COCs will be designated as the alternate regimental CP. A regimental COC, with personnel and/or equipment augmentation, may be used as the alternate division CP for a limited period (see Chapter 2).

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1 **c. Combat Service Support Capabilities.** The CSS capability of the regiment is the
2 sum of the capabilities of the regimental headquarters battery and battalions. For detailed
3 discussion on artillery CSS, see MCWP 3-16.1B, *Logistics for Artillery Units*.

4
5 **(1) Maintenance.** Maintenance is a continual, concentrated effort by all personnel in
6 an artillery unit on a wide spectrum of equipment. Artillery battalions perform organizational
7 maintenance on all equipment except fire control. The regiment does intermediate maintenance
8 (field) on electronics systems within the command and provides maintenance contact teams
9 (MCTs) to support subordinate units. Intermediate field maintenance exceeding the capability
10 of the regiment is obtained from maintenance support teams (MSTs) or maintenance facilities
11 of the Force Service Support Group (FSSG).

12
13 **(2) Supply.** The regimental headquarters battery and each battalion perform each
14 supply function to some degree. Particular emphasis is on Class I, III, V, and IX supply.
15 External supply support is obtained from the FSSG. When artillery is attached to another unit,
16 the artillery may obtain supplies from the unit to which attached within that unit's capability.

17
18 **(3) Transportation.** Artillery units can move their personnel, equipment, and
19 limited supplies using organic assets. External support may be required to supplement the
20 artillery's capability for such tasks as hauling Class V (ammunition) supplies. Artillery units
21 can be transported by landing craft, transport aircraft, and to a limited extent, by helicopter.

22
23 **(4) General Engineering.** The regiment has significant organic engineering
24 capabilities. Organic equipment includes utilities equipment (3 to 60 kilowatt generators) and
25 earth moving equipment (bulldozers). The regimental engineer equipment platoon also has
26 forklifts and decontamination equipment. The regimental commander distributes engineer
27 assets to support artillery operations, as required. The combat engineer battalion of the Marine
28 division and the engineer support battalion of the FSSG provide additional support, as
29 required.

30
31 **(5) Health Services.** Artillery units render limited routine treatment, first-aid, and
32 emergency medical care. Each firing battery has corpsmen assigned and battalions and
33 regiments have aid stations. The regimental medical section supports the regimental
34 headquarters and provides technical supervision and coordination of all medical activities
35 within the regiment. The FSSG provides medical care exceeding the capability of the aid
36 stations and provides dental care.

37
38 **(6) Services.** Artillery units receive services such as postal, disbursing, law
39 enforcement, legal, graves registration, civil affairs, exchange, and information systems from
40 the FSSG. Control over these services is decentralized. The artillery unit has limited enemy
41 prisoner of war (EPW) and civil internee handling capability consisting of the collection and
42 evacuation of personnel to the FSSG. When a qualified interrogator is not available, EPWs,
43 foreign nationals, refugees, and repatriates may be questioned by artillery intelligence
44 personnel for information of immediate tactical value.

1 **(7) Messing.** Messing capability (i.e., preparing and cooking rations) exists at
2 regimental and battalion levels.

3
4 **d. Survey and Meteorology.** Survey and meteorology (met) data are necessary for
5 accurate artillery fires. Artillery regiments and battalions maintain survey capabilities. The
6 regimental headquarters battery has a meteorological section which provides electronic and
7 visual met data to support artillery operations.
8
9

10 **1007. Artillery Battalion**

11
12 **a. Organization.** An artillery battalion consists of a headquarters battery and firing
13 batteries (see figure 1-3). The headquarters battery provides the equipment and personnel to
14 assist the battalion commander in controlling and supporting his battalion. Like the regiment,
15 the battalion headquarters may be employed in a main and rear echelon configuration.
16 Artillery battalions have three firing batteries of six 155mm howitzers and one headquarters
17 battery.
18

19 **b. Functions and Employment**

20
21 **(1)** The artillery battalion is the basic tactical fighting unit of the artillery. It has
22 enough firing units to effectively mass its fires and to engage several targets simultaneously.
23 The battalion normally employs as a unit to meet fire support requirements defined by its
24 assigned tactical mission. The battalion maintains communications with its batteries and any
25 attachments, the supported/reinforced unit, and the artillery regiment, as appropriate. When a
26 battalion deploys independently, it is augmented with appropriate support from the regiment
27 (i.e., met).
28

29 **(2)** The battalion FDC exercises tactical fire direction. Fire direction personnel are
30 proficient in all aspects of fire direction. They supervise, advise, and augment battery FDC
31 personnel, as required. Battalion FDC personnel use their knowledge of technical fire
32 direction to enhance tactical fire direction functions and to facilitate fire planning. They also
33 assist in troubleshooting gunnery problems encountered by firing batteries enabling battery
34 FDC personnel to focus on the delivery of artillery fires. In addition, Battalion FDC personnel
35 supervise weapons and ammunition management.
36

37 **(3)** Whenever possible, an artillery battalion is habitually associated through training
38 and liaison with a ground combat regiment of the division. Such habitual association fosters
39 efficiency in combat. On deployments, battalions normally support the GCE by providing
40 artillery liaison officers, FOs, and shore fire control parties to these regiments, as required.
41 Artillery and naval gunfire (NGF) personnel may also be provided to separate maneuver
42 battalions or other units as dictated by the tactical situation and the tactical mission assigned to
43 an artillery unit.
44

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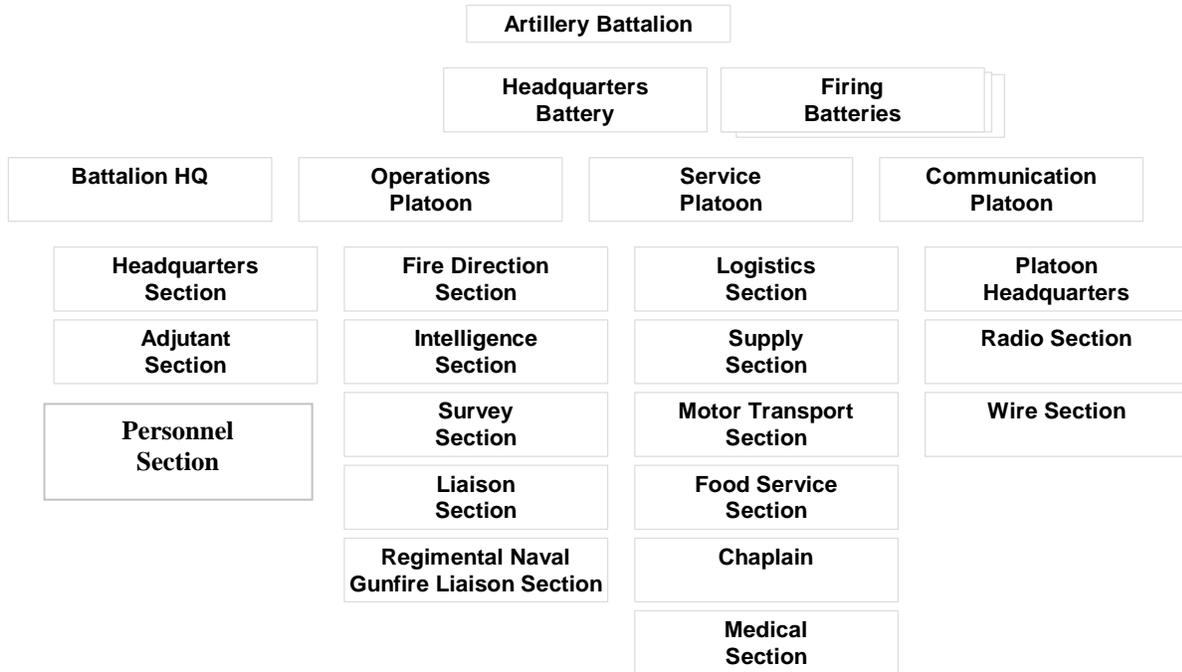


Figure 1-3. Artillery Battalion.

1008. Firing Battery

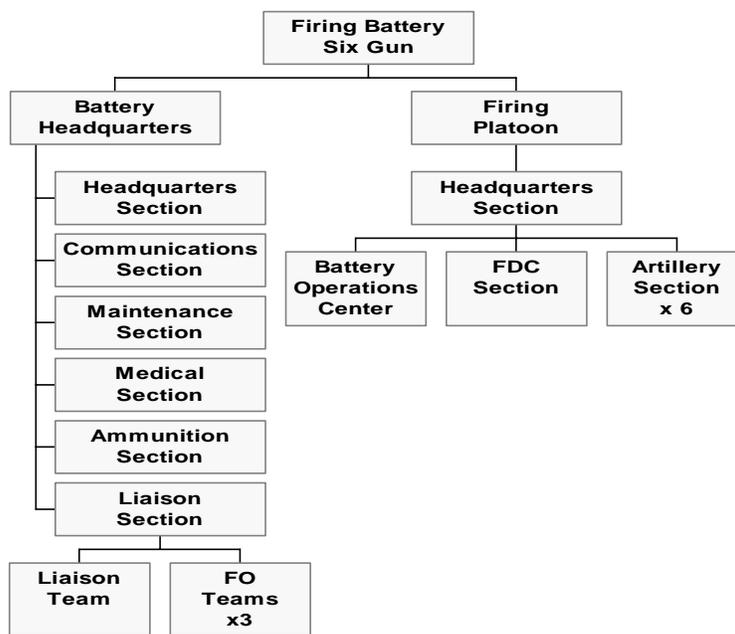
a. Organization. The firing battery is the firing unit of the artillery battalion. It possesses personnel and equipment necessary to shoot, move, and communicate. Its organization includes a battery headquarters and one firing platoon. Figure 1-4 depicts the sections within the battery. The T/O includes sufficient fire direction personnel to establish an FDC and a Battery Operations Center (BOC). Each artillery cannon section has one howitzer, a prime mover, and crew.

b. Functions and Employment

(1) Firing batteries normally operate as integral parts of the battalion. The firing battery is not assigned a tactical mission unless operating independent of the battalion. The firing battery can deploy independently when augmented with appropriate service and support personnel and when supported by the infantry battalion to which attached. It can also function as a provisional rifle company, if required.

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1 **(2)** Battery operations are normally conducted from a single firing position. The
2 firing position includes the firing platoon and sections of the battery headquarters, as required.
3 Through his headquarters section, the battery commander exercises command and control of
4 his battery (see MCWP 3-16.3, *Tactics, Techniques, and Procedures for the Artillery Battery*).
5 The liaison section provides artillery liaison personnel, FOs, and equipment to operate with the
6 FSCC and companies/teams in a designated battalion of the supported regiment. See MCWP
7 3-16, *Techniques and Procedures for Fire Support Coordination* and MCWP 3-16.6,
8 *Supporting Arms Observer, Spotter, and Controller*. The ammunition and maintenance
9 sections operate with the battery in the firing position. These sections can also operate from a
10 separate location in situations where the battery must be capable of moving quickly. The FDC
11 evaluates the information received from target acquisition assets and determines firing data.
12 The FDC issues firing data in the form of firing commands to the howitzer sections. The FDC
13 is equipped with the Battery Computer System (BCS) and communications equipment
14 necessary to conduct fire direction. The BOC is established to serve as an alternate FDC and
15 as the battery COC. The BOC can also be equipped with a BCS and communications
16 equipment necessary to maintain a fire direction capability. During displacement, the BOC
17 may displace forward with the advance party, as discussed in Chapter 4.



18
19
20
21
22

Figure 1-4. Firing Battery

23 1009. Organization for Combat

24
25 The allocation of artillery is accomplished by a process called organization for combat.
26 Organization for combat places an artillery unit within an organization (i.e., establishes a
27 command relationship) and assigns the unit a tactical mission. The higher artillery commander

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1 uses this process to allocate artillery assets to meet the needs of the force as a whole and the
2 needs of the force's subordinate units. He receives guidance from the commander of the GCE
3 of which the artillery is a part. The organization for combat is established during the planning
4 phase and will be in consonance with the supported commander's concept of operations. It
5 changes as the tactical situation dictates.
6
7

8 1010. Command Relationships

9
10 Command relationships define the degree of authority exercised by one commander over
11 another. They are based primarily on the factors of METT-T (mission, enemy, terrain and
12 weather, troops and support available, time available). The commander of the GCE exercises
13 control of artillery in his organization through the commander of the artillery unit. For
14 example, the decision to employ an artillery unit for a specific mission is made by the
15 commander of the GCE; the selection of the specific artillery unit to perform the mission is
16 made by the artillery commander. The command relationship given (or inherent) to an artillery
17 unit may be organic, assigned, attached, operational control, or administrative control.
18

19 **a. Organic.** Organic means assigned to and forming an essential part of a military
20 organization. The artillery regiment is organic to the Marine division.
21

22 **b. Assigned.** Assigned means to place units or personnel in an organization where such
23 placement is relatively permanent, and/or where such organization controls and administers the
24 units or personnel for the primary function, or greater portion of the functions, of the unit or
25 personnel. Assignments are made by the Joint Chiefs of Staff, Headquarters USMC, or
26 Headquarters, Fleet Marine Force (FMF). These assignments are made in strategic tailoring to
27 meet specific requirements of a theater of operation or a contingency plan. Artillery is part of
28 such assignments.
29

30 **c. Attached.** Attach means to place units or personnel in an organization where such
31 placements are relatively temporary. Attachments are established by tactical tailoring. The
32 commander receiving the attachment will exercise the same degree of command and control
33 over attachments as he does over the units and personnel organic to his command subject to the
34 limitations stated in the attachment order. An attachment order should specify supply and
35 maintenance requirements in terms of what the receiving unit and parent unit will provide.
36 The responsibility for transfer and promotion of personnel will normally be retained by the
37 parent formation, unit, or organization. Although attachment places the artillery unit within
38 the organization, the unit must still be assigned a tactical mission. The higher artillery
39 commander loses some capability to meet fire support requirements by attachment.
40 Attachment may apply to artillery in several situations.
41

42 **(1)** Artillery is **attached to a supported unit** when artillery requirements cannot
43 be adequately provided by the parent artillery organization and control requirements compel
44 the establishment of a command relationship between the supported and supporting
45 commander. Artillery units are not normally attached to battalion-sized or smaller maneuver

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1 units unless distance, communications, or other factors do not allow the parent artillery
2 headquarters to exercise adequate control over the artillery unit. An example of the above is
3 an artillery battery attached to the GCE of a MEU.

4
5 (2) Artillery may be **attached to another artillery unit for reinforcement**. For
6 example, an artillery battalion supporting a reinforced infantry regiment may have attached
7 firing batteries, counterbattery radar (CBR) platoon detachments, etc.

8
9 (3) When suitable artillery headquarters is unavailable, an artillery battalion or
10 battery may be attached to another of like size to form an **artillery groupment**. Groupments
11 are temporary formations used when one unit must exercise greater control over another unit
12 than is inherent in a reinforcing mission. Attachment is established for logistical and
13 administrative considerations. The senior commander of the two units is the groupment
14 commander, and he assigns missions to the subordinate unit. The groupment uses the standing
15 operating procedures (SOPs) of the groupment commander. It also carries the numerical
16 designation of the headquarters of the groupment commander; e.g., 1st Battalion Group, 11th
17 Marines.

18
19 (4) Artillery may be **task organized** in order to accomplish a specific task or
20 mission. Task organization can occur during certain phases or duration of an operation. This
21 may include designating an operating force, support staff, or logistics package of specific size
22 and composition. Some considerations for task organizing include, but are not limited to,
23 training, experience, equipage, sustainability, operating environment, enemy threat, and
24 mobility.

25
26 **d. Operational Control (OPCON)**. Operational control refers to the authority given a
27 commander to organize commands and forces and to employ those forces as the commander in
28 operational control considers necessary to accomplish assigned missions. Operational control
29 does not include control for logistics or matters of administration, discipline, internal
30 organization, or unit training. Operational control has occasional use in establishing a
31 relationship between artillery units; e.g., an artillery battalion may be given operational control
32 of a radar section. However, it is rarely used to establish a relationship between an artillery
33 unit and a supported unit.

34
35 **e. Administrative Control (ADCON)**. Administrative control is the direction or
36 exercise of authority over subordinate or other organizations in respect to administrative
37 matters such as personnel management, supply, services, and other matters not included in
38 operational missions of the subordinate or other organizations. Administrative control has
39 occasional use in establishing command relationships for artillery units.

40 **f. Command Relationship Communications Responsibilities**

41
42 (1) **Senior to Subordinate**. Communications between a supporting and a supported
43 unit is the responsibility of the senior commander.
44
45

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1 **(2) Adjacent Units.** Communications between adjacent units is the responsibility of
2 the senior commander.

3
4 **(3) Supporting to Supported.** Communications between a supporting and a supported
5 unit is the responsibility of the supporting unit commander.

6
7 **(4) Reinforcing to Reinforced.** Communications between a reinforcing and a
8 reinforced unit is the responsibility of the reinforcing unit commander.

9
10 **(5) Attached Units.** Communications between a unit and an attached unit is the
11 responsibility of the commander of the unit to which the attachment is made.

14 1011. Terms Associated with Tactical Missions

15
16 Terminology and techniques associated with the employment of artillery are discussed in the
17 following paragraphs.

18
19 **a. Priority of Fires.** When required, artillery can be further allocated by assignment of
20 priority of fires. Priority of fires is guidance to a fire support planner to organize and employ
21 fire support means according to the importance of the maneuver units' missions. Priority of
22 fires is normally used to weight the main effort or most vulnerable area.

23
24 **b. Priority Target.** Priority targets are a means of allocating artillery. A priority target
25 is a target which, when requested, for attack takes priority over all other requests. Priority
26 targets are designated by the maneuver battalion commander, who also provides specific
27 guidance as to when the targets will become priority, munitions to use, accuracy, and desired
28 effects. When not engaged in fire missions, firing units will lay on a priority target with firing
29 data and ammunition prepared and staged for responsiveness.

30
31 **c. Final Protective Fires (FPFs).** An FPF is an immediately available prearranged
32 barrier of fire designed to impede enemy movement across defensive lines or areas (Joint Pub
33 1-02). An FPF is a priority target in the defense. An artillery FPF is normally fired as a
34 barrage by the entire battery at the maximum rate of fire until the FPF mission is ended or all
35 ammunition is expended. Only one FPF may be assigned to a battery.

36
37 **d. Zone of Fire.** Artillery delivers, or is prepared to deliver, fires into an area called a
38 zone of fire. A zone of fire is an area into which a designated ground unit or fire support ship
39 delivers, or is prepared to deliver, fire support. Fire may or may not be observed (Joint Pub
40 1-02). To ensure fires are distributed and massed as required, zones of fire are designated for
41 all artillery units. Normally, zones of fire correspond with zones of action, sectors of defense,
42 or tactical areas of responsibility (TAOR) of the supported unit. Zones of fire are given in
43 agreement with the tactical mission assignment.

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1 **e. Zone of Action.** A tactical subdivision of a larger area, the responsibility for which is
2 assigned to a tactical unit; generally applied to offensive action.

3
4 **f. Sector.** An area designated by boundaries within which a unit operates, and for
5 which it is responsible.

6
7 **g. Contingent Zones of Fire.** A contingent zone of fire is an area within which a
8 designated ground unit or fire support ship may be called upon to deliver fire (Joint Pub 1-02).
9 Contingent zones of fire are used to ensure complete artillery coverage and to provide
10 maximum fire on points critical to the success of the operation. Contingent zones may also be
11 assigned to cover dead spaces in the zones of fire of DS units.

12
13 **h. Boundaries.** A boundary is a line which delineates surface areas for the purpose of
14 facilitating coordination and deconfliction between adjacent units, formations, or areas (Joint
15 Pub 1-02). Boundaries designate the geographical limits of the zone of action of a unit. A
16 commander enjoys complete freedom of fire and maneuver within his own boundaries, unless
17 otherwise restricted. Artillery units do not have boundaries; artillery operates within the
18 boundaries of the supported unit. The delivery of fires and positioning of artillery units must
19 be cleared by the appropriate commander who has control of the zone of action. Appropriate
20 FSCCs coordinate fires across boundaries with the unit to whom the area is assigned, unless
21 such fires are permitted by a fire support coordination measure.

22
23 **i. Artillery with Maneuver Units in Reserve.** Artillery is not held in reserve.
24 Artillery with a unit assigned a reserve mission is given another tactical mission within the
25 division or employed in support of another division if the parent maneuver battalion/regiment
26 is in reserve. Liaison sections may remain with the reserve unit for planning purposes.
27 Organic artillery of a reserve division must be prepared to reassemble and support their parent
28 division when it is committed. Fire support plans employing reinforcing artillery must be
29 developed so that any disruption caused by its withdrawal is minimized.

30
31 **j. Auxiliary Weapons.** When directed by the appropriate commander, the fires of units
32 with weapons capable of employment as artillery may be used to supplement artillery. These
33 units should be connected to artillery by survey, liaison, and communications. Examples of
34 such auxiliary weapons are captured and replaced weapons.

37 1012. Tactical Missions

38
39 A basic knowledge of the overall mission and tactical missions of the field artillery, to include
40 considerations in establishing command relationships and methods of assigning missions to
41 artillery units, is necessary for all Marine artillerymen. A tactical mission defines the inherent
42 fire support responsibilities of an artillery unit, normally a battalion, to a supported unit or to
43 another artillery unit. All Marine cannon battalions are capable of performing any tactical
44 mission. An artillery unit assigned a tactical mission remains under the command of the higher

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1 artillery commander. The basic requirements of delivering supporting fires, fires of a general
2 nature and the constantly changing situation on the battlefield, require that each Marine
3 artillery unit receive clear, concise instructions concerning the task it is to perform. The
4 inherent responsibilities in each type of tactical mission are set forth in figure 1-5.
5

6 **a. Direct Support (DS).** The DS mission requires a unit to furnish close and continuous
7 fires to a single supported unit, normally a regiment or separate maneuver battalion. The
8 commander of an artillery unit with a DS mission ensures that his firing units are positioned to
9 deliver fires in the zone of action/sector of the supported unit, that the fires have been planned
10 effectively, and that he has continuous communications with the liaison team and FO teams
11 located with the supported unit. He is responsible for immediate replacements for casualty
12 losses of the liaison section. Calls for fire are answered in two methods, based on the needs of
13 the supported unit:
14

15 (1) Each firing battery may have its own conduct of fire (COF) net, each monitored by
16 the battalion FDC.
17

18 (2) The battalion FDC may establish multiple COF nets, with firing batteries directed to
19 respond to calls for fire received on a designated net and to fire missions assigned by the
20 battalion FDC.
21

22 (3) The fires of a DS unit can be requested for other purposes. However, these fires
23 are not delivered when such action will conflict with the delivery of fires to the supported unit.
24 A supported unit can only have one unit in DS.
25

26 **b. Reinforcing (R).** A reinforcing mission requires a unit to respond directly to
27 requests for fire from another artillery unit. This mission is used to reinforce the fires of a unit
28 with a DS mission. A DS unit can be reinforced by more than one reinforcing unit; a
29 reinforcing unit can only reinforce one DS unit at a time. Reinforcing artillery remains under
30 the control of the higher artillery commander, but receives its zone of fire and fire missions
31 from the reinforced DS unit. The reinforcing unit commander positions his firing units in the
32 position areas identified by the reinforced unit or as ordered by higher artillery headquarters.
33

34 **c. General Support (GS).** The GS mission requires a unit to support the force as a
35 whole and be prepared to support any subordinate element. The fires of a unit in GS are
36 controlled by the higher artillery headquarters. The zone of fire may be either the zone of
37 action/sector of the force as a whole or a specific portion thereof. GS units provide the GCE
38 immediately available firepower to influence the battle or to allocate to subordinate commands
39 in order to influence widely separated actions.
40

41 **d. General Support-Reinforcing (GS-R).** An artillery unit with this mission will
42 support the force as a whole and answer calls for reinforcing fires from a designated artillery
43 unit in DS. Priority of fires of GS-R artillery units is to the higher artillery commander unless
44 otherwise specified. To increase responsiveness, a designated net (quick-fire channel) may be

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1 established between the GS-R unit and the reinforced DS unit. This is the most flexible
2 standard tactical mission.

3
4 **e. Nonstandard Tactical Missions.** When fire support requirements cannot be met or
5 conveyed by one of the standard tactical missions, a nonstandard tactical mission may be
6 assigned. A nonstandard mission amplifies, changes, or limits one or more of the inherent
7 responsibilities of a standard tactical mission. The stipulations should not degrade the ability
8 of a unit to accomplish the inherent responsibilities of the standard mission. The DS mission
9 should not be modified. The nonstandard tactical mission is normally used when there is not
10 enough artillery to cover artillery requirements. The following is an example of a nonstandard
11 tactical mission.

12
13 1st Bn, 10th Mar (155, T): GS, 2d PCFF LAR Bn
14 until 031600 AUG

15
16 (1st Bn is GS to the division, but 2d priority in calls for fire (PCFF) is to Light Armored
17 Reconnaissance battalion (LAR Bn). The positioning and communications of the battalion are
18 initially established to support LAR Bn as the main effort.)

19
20 **f. On-Order (O/O) Mission.** The O/O mission serves as a warning order to alert a unit
21 of an anticipated change to its tactical mission. The artillery commander plans and initiates the
22 preparation for transition to the new mission. The assignment of an O/O mission must take
23 into account the positioning and ammunition requirements for that mission. Often, the O/O
24 mission has a nonstandard stipulation; e.g., do not expend more than a specified amount of
25 ammunition. The higher artillery commander gives his subordinate commanders as much
26 warning as possible of the anticipated time of execution of the new mission. The following is
27 an example of an O/O mission.

28
29 1st Bn, 14th Mar (155, T): R 2d Bn, 14th Mar (155, T)
30 O/O DS 23d Mar

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1

Arty Unit with Mission of...	Direct Support (DS)	Reinforcing (R)	General Support (GS)	General Support Reinforcing (GSR)
Answers Calls For Fire in Priority From...	1. Supported Unit 2. Own Observers ¹ 3. Higher Artillery Headquarters	1. Reinforced Unit 2. Own Observers ¹ 3. Higher Artillery Headquarters	1. Higher Artillery Headquarters 2. Own Observers ¹	1. Higher Artillery Headquarters 2. Reinforced Unit 3. Own Observers ¹
Establishes Liaison with...	Supported Unit (Down to Battalion Level)	Reinforced Unit	No Inherent Requirement	Reinforced Unit
Establishes Communications with...	Supported Unit	Reinforced Unit	No Inherent Requirement	Reinforced Unit
Has as its Zone of Fire...	Zone of Action of Supported Unit	Zone of Fire of Reinforced Unit	Zone of Action of Supported Unit	Zone of Action of Supported Unit to Include Zone of Fire of Reinforced Unit
Furnishes Forward Observer and Replacements...	To Each Company Sized-Maneuver Unit of Supported Unit	Upon Request of Reinforced Unit	No Inherent Requirement	Upon Request of Reinforced Unit Subject to Prior Approval of Higher Artillery Headquarters
Is Positioned By...	Artillery Unit Commander as Deemed Necessary or Ordered By Artillery Headquarters	Reinforced Unit, or Ordered By Higher Artillery Headquarters	Higher Artillery Headquarters	Higher Artillery Headquarters or Reinforced Unit Subject to Prior Approval By Higher Artillery Headquarters
Has its Fires Planned By...	Develops Own Fire Plan in Coordination with Supported Unit	Reinforced Unit	Higher Artillery Headquarters	Higher Artillery Headquarters

¹ Includes all target acquisition assets not deployed with supported unit (radar, aerial observers, survey parties, etc.).

2

3

Figure 1-5. Tactical Missions (Inherent Responsibilities).

4

5

6

1013. Five Fundamentals of Organization for Combat

7

8

a. **AWIFM.** AWIFM is the acronym utilized when organizing artillery for combat.

9

10

(1) **Adequate Support for Committed Maneuver Elements.** Adequate fire support must be provided to units committed in close combat. What constitutes *adequate support* is determined by the commander, considering METT-T. The minimum adequate fire support for a committed unit (e.g., infantry regiment or separate maneuver battalion) is normally considered to be one artillery battalion in DS. Some situations may require more artillery

11

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1 support; e.g., reinforcing or GS-R artillery. This may result in less support or no DS to one
2 unit to increase the combat power of another.

3
4 **(2) Weight the Main Effort or Most Vulnerable Area.** Weight must be added to
5 support the main effort or to strengthen the most vulnerable area. Weight can be accomplished
6 by assignment of azimuths of fire, by allocation of additional ammunition, and by assignment
7 of priority of fires.

8
9 **(3) Immediately Available Artillery for the Commander to Influence the Action.**
10 The GCE commander retains immediately available artillery with which he can influence the
11 action. GS and GS-R missions accomplish this fundamental.

12
13 **(4) Facilitate Future Operations.** Artillery must be responsive to unforeseen events
14 and capable of smooth transition from one mission to another. Several methods accomplish
15 this: nonstandard tactical missions, O/O missions, positioning, and allocation and/or restriction
16 of ammunition.

17
18 **(5) Maximum Feasible Centralized Control.** Organization of artillery for combat is
19 most effective when control is centralized at the highest level consistent with its fire support
20 capabilities and requirements for the overall mission. Centralized control permits flexibility in
21 providing support to the force as a whole and its subordinate units. Centralized control is
22 accomplished by the GS and GS-R missions and centralized fire control. Decentralized control
23 makes artillery responsive to the needs of the front-line troops. Decentralized control is
24 accomplished by the DS mission and decentralized fire control. The optimum degree of
25 control varies with the tactical situation. An offensive force will have the initiative and will
26 want artillery responsive to subordinate units; i.e., decentralized control. A defensive force
27 will want centralized control of artillery to respond to the enemy's initiatives.

28
NOTE: Terrain and communications may influence the organization for combat. Operations
separated by terrain features (e.g., mountains, marshes, etc.) may necessitate decentralized
control. The flow of intelligence is another consideration. Artillery should be responsive to
the headquarters receiving the bulk of intelligence.

29 **b. Applying the Fundamentals of AWIFM.** The five fundamentals are applied via the
30 three broad areas listed below:

31 **(1)** By the assignment of different tactical Missions;

32 **(2)** By the allocation of artillery Ammunition; and

33 **(3)** By the Positioning of artillery units.

34
35
36
37
NOTE: The acronym **MAP** (Mission, Ammunition, Positioning) serves as a memory aid for
applying the fundamentals of AWIFM.

38

MCWP 3-16.1 Marine Artillery Operations

1 **c. Fundamentals.** The fundamentals are employed as follows:
2

3 **(1) Adequate artillery support for committed combat units.** Field artillery support
4 is most responsive to committed maneuver elements when it is given the DS tactical mission.
5 The minimum adequate support for committed units is considered to be one artillery battalion
6 in direct support of each committed maneuver regiment. In no instance can there be more than
7 one artillery unit in direct support of a maneuver unit.
8

9 **(a) Mission.** Assign missions to the artillery to support the maneuver units:
10

- 11 • Assign a DS Bn for every committed maneuver Regt.
- 12 • Assign R Bn's for committed maneuver Regts in the offense; or GSR Bns
13 in the defense; if available.
14

15 **(b) Ammunition.** Increase the Controlled Supply Rate (CSR) for the DS and
16 R/GSR units.
17

18 **(c) Positioning.** Artillery units need to be positioned close enough to support the
19 maneuver zone of action or reinforced artillery unit.
20

21 **(2) Weight to the main attack in offense or most vulnerable area in defense.** This
22 fundamental can be implemented in any of the following ways:
23

24 **(a) Mission.** Assign R or GSR missions to artillery units to provide additional
25 responsive fires to maneuver forces in contact.
26

- 27 • In the offense assign R units.
- 28 • In the defense assign GSR units.
29

30 **(b) Ammunition.** Increase the CSR for the R and GSR units.
31

32 **(c) Positioning.** Position the R and GSR units so that their zones of fire cover or
33 compliment the zones of fire of the DS units supporting the maneuver units.
34

35 **(3) Immediately available artillery support** for the commander to influence the
36 action. The force artillery commander should retain some artillery with which the force
37 commander can influence the action.
38

39 **(a) Mission.** Assign GS or GSR missions to artillery units. This will give the
40 force commander the units first priority for all calls for fire allowing him to influence the
41 action when needed.
42

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1 **(b) Ammunition.** GS and GSR units may have their Unit Basic Load (UBL) and
2 CSR altered to include more extended range projectiles / propellants (i.e., Rocket-Assisted
3 Projectile (RAP) or red bag to ensure the force commander can influence his whole zone).

4
5 **(c) Positioning.** GS and GSR units positioned for best coverage of the
6 commander's zone of action.

7
8 **(4) Facilitate future operations.** This fundamental is essential to ensure success in
9 the face of unforeseen events and to ensure smooth transition from one phase of an operation to
10 another.

11
12 **(a) Mission.** The assignment of an on-order mission (O/O) allows a unit to
13 anticipate an artillery support need for a future operation.

- 14 • Assign DS units to newly committed maneuver units (provides adequate
15 support).
- 16 • Assign R / GSR units to newly committed maneuver units (weight the main
17 effort).
- 18 • Assign GS / GSR units (immediately available support to the commander).

19
20 **NOTE:** Another way to facilitate future operations is to issue a non-standard tactical mission in
accordance with anticipated requirements.

21
22 **(b) Ammunition.** Restrict unit's use of ammunition during a part of their mission
23 to ensure that the units they support for their O/O mission have ammunition available. This
24 restriction is expressed as "Do Not Exceed (DNE) a certain % of the units controlled supply
25 rate (CSR) (i.e., DNE 20% CSR). Approximate guidelines for restrictions, given the
26 different types of missions are:

27 DS O/O R, DS O/O GSR, DS O/O GS - not normally restricted.
28 R O/O R - DNE 50% CSR
29 R O/O GSR - DNE 60% CSR
30 R O/O GS - DNE 70% CSR
31 GSR O/O DS - DNE 30% CSR
32 GSR O/O R - DNE 40% CSR
33 GSR O/O GS - DNE 60% CSR
34 GS O/O DS - DNE 30% CSR
35 GS O/O R - DNE 40 % CSR
36 GS O/O GSR - DNE 40% CSR

37
38
39 **(c) Positioning.** Position units to facilitate their transition to their O/O missions.

40 **(5) Maximum feasible centralized control.** Field artillery is most effective when
41 control is centralized at the highest force level consistent with the fire support capabilities and
42 requirements of the overall mission. Standard tactical missions represent varying degrees of

1

2 **1015. Supporting Commander's Role**

3

4 When artillery is attached to a supported unit, the artillery commander is a subordinate
5 commander and a special staff officer of the supported unit commander. In other command
6 relationships, the artillery commander is an advisor to the supported commander and an
7 independent commander who provides fire support. The artillery commander provides fire
8 support expertise to the supported commander and the FSCC. The artillery commander must
9 know, understand, and anticipate the supported commander's actions and requirements. He
10 must read the battle with the supported commander, think ahead, and project fire support. He
11 does this by direct personal contact, through liaison officers, and by encouraging staff liaison.

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