

IX. CURRENT ARCHITECTURE

A. INTRODUCTION

The Current architecture of the USMC Marine Air Ground Task Force (MAGTF) is a Combined Arms and self-sustaining task-organized force, commonly a MEB within the framework of a Marine Expeditionary Force (MEF) establishment. The MEB bridges the gap between the MEU, task-organized to provide a forward deployed presence, and the much larger MEF. The composition of the MEB is scalable and flexible, and varies with changing scenarios and nature of operations. The current architecture introduced here is based on a force structure required for conventional littoral assault scenario designed exclusively for the ExWar studies. With 30 days of sufficient supplies for sustained operations, the MEB is capable of conducting Amphibious Assault Operations and MPF operations. During potential crisis situations, a MEB may be forward deployed afloat for an extended period to provide an immediate combat response. A MEB can operate independently or serve as the advance echelon of a MEF. In essence, the MEB comprises the Command Element (CE), Ground Combat Element (GCE), Aviation Combat Element (ACE), and Combat Service and Support Element (CSSE), operating from amphibious ship platforms operated of the United States Navy.

B. STRUCTURE AND ORGANIZATION

A notional MEB structure and organization specific to the ExWar studies have been conceived based on the ideology and concept of operations of the existing USMC MEF doctrines. The “notional” MEB is a tasked organized force designed to respond to a full range of operations. The “notional” MEB size force is about 17,000 men and women.

1. Command Element (CE)

The MEB command element is embedded in the MEF command element and identified by line number for training and rapid deployment. The MEB consists of a CE

that is equipped with C2 and reconnaissance/surveillance assets, provided by the parent MEF staff with the Deputy MEF Commander as the MEB Commander. When the MEB is activated, designated personnel and equipment assigned to the MEF command element form the MEB command element. The CE is the C2 headquarters of the MEF, commanding and coordinating all Marines activities at sea and ashore. If required, a MEB command element is capable of assuming the role of joint task force headquarters for small operations with additional MEF command element augmentation.

2. Ground Combat Element (GCE)

The GCE is built on an Infantry Regiment as the main maneuver effort, integrated with a wide range of ground combat support elements as follows to accomplish its ground combat missions. The estimated force size of the GCE is approximately 5500 Marines.

- 1 x Infantry regiment (3 x Infantry battalion)
- 1 x Artillery battalion
- 1 x Tank battalion
- 1 x AAV battalion
- 1 x Combat Engineer battalion
- 1 x Light Armored Reconnaissance Company
- 1 x Headquarters battalion

3. Aviation Combat Element (ACE)

The ACE consists of a composition of Marine Aircraft Groups, capable of conducting all functions of Marine Aviation including Offensive Air Support, Assault Support, Electronic Warfare, Control of Aircraft and Missiles, Anti-Air Warfare, and Air Reconnaissance. The ACE comprises a combination of fixed and rotary wing aircraft and Anti-Air and Support squadrons to accomplish air combat missions as well as provide support for ground combat missions.

- a. Marine Air Control Group (MACG)

The MACG mainly comprises headquarters elements, communications detachments, and a Low Altitude Air Defense (LAAD) battalion.

b. Marine Wing Support Group (MWSG)

The MWSG is formed by two Marine Wing Support Squadrons (MWSS), one for fixed wing and another for rotary wing aircraft. They provide technical support for all aircrafts within the ACE.

a. Marine Air Group (Fixed Wing) comprises

- (1) 1 x Marine Aerial Refueler Transport Squadron (VMGR)
- (2) 1 x Marine Tactical Electronic Warfare Squadron (VMAQ)
- (3) 1 x Marine Attack Squadron (VMA)
- (4) 2 x Marine Fighter Attack Squadron (VMFA)
- (5) 1 x Marine All-Weather Fighter Attack Squadron (VMFA-AW)

b. Marine Air Group (Rotary Wing) comprises

- (1) 2 x Marine Heavy Helicopter Squadron (HMH)
- (2) 3 x Marine Medium Helicopter Squadron (HMM)
- (3) 1 x Marine Light/ Attack Helicopter Squadron (HMLA)

4. Combat Service Support Element (CSSE)

The CSSE is a logistical support function undertaken by the Brigade Service Support Group (BSSG). The BSSG comprises a wide range of service and support elements capable of supporting the entire MEB from sea and ashore in all its missions. The size force of a BSSG is approximately 2000 Marines.

- a. Headquarters battalion
- b. Maintenance battalion
- c. Supply battalion
- d. Engineer Support battalion

- e. Transportation Support battalion
- f. Health Services Company

5. Amphibious Ship (N75 Website)

An Amphibious Force normally consists of a Navy element – a group of ships known as an Amphibious Task Force (ATF) and a landing force (LF) of U.S. Marines. The ATF is sized and organized to support landing forces ranging from the smallest to the largest. It consists of a mix of amphibious ships, support ships, and in some cases MPF assets, which carry equipment and sustainment for Marine forces. In most cases, the ATF is deployed under the protective umbrella of a CVBG, which provides cover for the ATF and combat support to operations ashore. However, for analytical purposes, the CVBG has been precluded from the ATF operations. The Amphibious fleet, supporting a MEB, is formed from 3 Amphibious Readiness Groups (ARG). Each ARG will normally consist of a large-deck amphibious assault ship, either an LHA or an LHD; an amphibious transport dock of the LPD-4 class; and a dock-landing ship of the LSD-41 or LSD-49 classes. Additionally, there may be 6 more MPF ships that will sustain the MEB for 30 days logistically. The notional Amphibious fleet in this Current Architecture includes the following sea platforms.

- 1 x LHA
- 2 x LHD
- 3 x LSD-49
- 3 x LPD-4
- 16 x LCU
- 23 x LCAC
- 6 x MPF ships

C. CAPABILITIES

The operational capabilities of the MEB are explicitly derived from the tasks it is required to fulfill. These capabilities basically address how the tasks can be

accomplished. The key tactical-level tasks and the corresponding capabilities to fulfill them are as follows:

a. Deploy forces/ Conduct maneuver

- a. Sufficient sealift to position forces and sustain power-projection once committed.
- b. Ability to conduct all aspects of expeditionary maneuver warfare.
- c. Surveillance, reconnaissance and reachback assets sufficient to provide active and passive hydrographic survey, surf observation, and climatological, meteorological, and tactical oceanographic analysis in support of the amphibious operations.
- d. Amphibious ships capable of supporting independent Air operations.
- e. MPF capable of building up an “Iron Mountain” to re-supply forces at the Area of Operations.

b. Develop Intelligence

- a. Access to a variety of organic sensor networks.
- b. Ability to task and focus sensor networks as required.
- c. Rapid and thorough processing of intelligence data.
- d. A secure, accurate, and accessible database, available to all levels of command on “push/ pull” basis.
- e. Timely and secure transmission to and from all levels of command.

c. Exercise Command and Control

- a. Display and transmit data in real time to accurately develop a common operational picture.
- b. Control efficient Naval Surface Fire Support (NSFS), artillery, and close air support operations.

- c. Share information, coordinate, and plan with forces closing from out of theater.
- d. Plan, train, and conduct virtual rehearsal en route to seamlessly transition to assault phase.
- e. Plan, execute, exploit, and defend against the various Information Warfare threats.

d. Employ Firepower

- a. Use all fires from all assets.
- b. Conduct offensive and defensive operations against an enemy, both at sea and in support of forces ashore.
- c. Coordinate all fire support functions from ashore.
- d. Process targets.
- e. Organize and integrate fire support assets.

e. Perform Logistics and Combat Service Support

- a. Provide total asset visibility and conduct selective offload operations.
- b. Provide bulk liquids, particularly fuels, and potable water quickly and efficiently to landing force elements via “Iron Mountain.”
- c. Provide immediate maintenance and repair support for both Sea Based aviation and ground equipment ashore.
- d. Provide all medical and dental support ashore, to include casualty operations and mortuary affairs, taking into account the type and volume of casualties that could result from weapons of mass destructions (WMD) and urban combat operations.
- e. Reconstitute the forces ashore and redeploy in support of other operations, in or out of theater.
- f. Conduct underway replenishment operations and sustain forces at sea and ashore.

- g. Conduct recovery and salvage operations.

f. Protect the Force

- a. Self-protection measures that ensure each ship can operate independently in a threat environment.
- b. Passive defensive capabilities to protect against Chemical, Biological and Radiological (CBR) attack.
- c. The ability to remove battle space hazards, including decontamination and Explosive Ordnance Disposal (EOD) support.
- d. The ability to conduct rescue and recovery operations, including search and rescue (SAR) and non-combatant evacuation.
- e. The ability to ensure ship security in port using both active and passive measures.

D. CONCEPT OF OPERATIONS

The purpose of the MPF MEB is to rapidly project combat power into an area, playing a key role as the precursor for larger Marine Corps forces. Once established ashore, the MEB is ready for combat and is capable of sustaining operations for 30 days. The MEB is deployed by a continuous flow of task-organized forces. As an expeditionary force, it is capable of rapid deployment and employment via amphibious shipping, strategic air/sealift, marriage with geographical or maritime prepositioning force assets, or any combination thereof.

The 3 MEUs are organized into 3 ARGs, consisting of 3 amphibious ships each. 2 of the ARGs are forward deployed in Yokosuka, Japan and Southern Arabian (Persian) Gulf, and ready to respond for operations. Another ARG will be deployed from San Diego. The 3 ARGs will sail to the launching area and prepare for operations ashore. The 6 MPF ships in the Maritime Prepositioning Ship Squadron (MPSRON) are located at Diego Garcia. The MPSRON carries sufficient equipment and supplies to sustain 17,000 Marine Corps Air Ground Task Force personnel for up to 30 days. Each ship can

discharge cargo either pier-side or while anchored offshore using lighterage carried aboard. When trouble arises, these ships respond immediately, deploying to the assembly area, and subsequently ashore to provide rapid deployment forces with critical sustaining support. The prepositioning of the ARGs and MPF equipment afloat reduces strategic airlift requirements and global response time. Apart from the 3 ARGs, the other Marines of the MEB are flown into the AO by strategic airlift.

The Marines from the ARG will be projected ashore to the landing beach and objective area utilizing surface crafts and helicopters organic to the amphibious ships. An 'iron mountain' with port facilities will be established in the vicinity of the landing area as a base for combat force and logistics build-up. Once the iron mountain is established and secured, the MPS will pull in to unload their equipment and supplies. At the same time, the combat forces will proceed for operations at the objective area. Subsequent re-supplies will be transferred from CONUS to the "Iron Mountain" by commercial ships at regular intervals.

Other than organic artillery support, fire support for the fighting forces is primarily provided by aircraft and helicopters stationed onboard the amphibious ships or at the iron mountain, and by naval gunfire if within range. At the end of the operations, the Marine forces will be reconstituted and transported back to the amphibious ships, where they may be tasked for a follow-on mission.

E LIMITATIONS

1. Background

Current Marine Corps ExWar doctrine and capabilities require the ATF to assemble in a pre-determined location, launch an amphibious assault, seize a beachhead, build an iron mountain of supplies, equipment, and personnel, and from there, proceed to and secure the objective. This traditional way of expeditionary warfare, although a revolution in military affairs during the 1930's and 40's does not meet the challenges faced by expeditionary forces today. Today, expeditionary forces must be maneuverable, flexible, scalable, and rapidly deployable.

The future vision of the Marine Corp is based on OMFTS and STOM. OMFTS relies on the following principle tenets (Headquarters Marine Corps, 1996, V-11):

- Focuses on an operational objective.
- Uses the sea as a maneuvering space.
- Generates overwhelming tempo and momentum.
- Pits strength against weakness.
- Emphasizes intelligence, deception, and flexibility.
- Integrates all organic, joint, and combined assets.

STOM employs maneuver warfare to project combat power ashore, by air and surface means against inland objectives (Marine Corps Combat Development Command, 1997, II-6). By executing STOM, landing forces will be deployed at the enemy's weakest points, reducing the traditional iron mountain and operational pause at the beachhead. Combat forces will deploy over the horizon directly to the objective in overwhelming strength and surprise to achieve tactical success.

Both OMFTS and STOM require highly flexible and maneuverable forces. The current Navy and Marine Corps force structure presents serious limitation for the conduct of OMFTS and STOM. These limitations are primarily evident in three capabilities, combat, logistics, and sea and airlift.

2. Combat

Current Marine Corps combat capabilities although highly flexible, do not fully project the capability to conduct STOM. Legacy systems such as the Abrams M-1A1 tank are too heavy to be airlifted, require massive amounts of fuel, are manpower demanding, and place an enormous burden in the logistical system. The Amphibious Assault Vehicle (AAV) with a speed of only 8.2 miles per hour (mph) over water cannot launch an attack from over the horizon and achieve deep land penetration. Field artillery pieces, such the M 198 Towed Howitzer, require a crew of 10, and its ammunition and related support require a considerable logistical effort.

The increasing numbers of aging aircraft in the Marine Corps inventory do not have the capabilities to support combat units ashore in a manner required by STOM. Aircraft such CH-46 and CH-53, although formidable lifters, lack the agility and speed required to conduct STOM. The AV-8 Harrier Short Take-Off Vertical Landing (STOVL) aircraft is range and time-on-station deficient. But, perhaps the greatest disadvantage common to all current weapons system is they all require extensive logistical support, demanding lots of manpower.

3. Logistics

One of the most important factors for the successful execution of STOM is logistics. As mentioned in the previous paragraph, current weapons systems demand a tremendous manpower and logistical effort. It is highly unlikely that this requirement for the legacy systems will dramatically decrease in the future. New doctrine and design philosophy require more lean, reliable, efficient, and reduced manning weapons systems.

To summarize the overwhelming task faced by current logisticians, the following table presents the daily requirements for a 5, 694 personnel MEB (Naval Studies Board, 1999).

Food	Water	Fuel	Ammunition	Other Cargo
12.53	158.86	152.23	32.07	22.21

Table IX-1: Daily Sustainment Requirements for a MEB (short tons)
(Source: Naval Studies Board, 1999)

In addition, future Marine Corps requirements demand the projection of combat units to a range of 200 miles inland from a standoff distance at sea. Therefore, the movement of supplies and personnel will be executed from a distance of 25 miles to 250 miles from the shoreline and up to 200 miles inland. The problem gets more complicated if the ground combat units are dispersed among several objectives. These requirements rely heavily on aviation assets. In a thesis, *An Evaluation of Sea-Base Sustainment of Forces*, conducted at NPS by Christopher Frey, he concluded that given the forces ashore

and the days of the operation, the ability to deliver all required sustainment to forces ashore with only aircraft is feasible when operating at short to medium (35-140 NM) ship-to-objective distances, even when attrition of aircraft is relatively high. When ship-to-objective distances are long (100-140 NM), though, the delivery of all required sustainment ashore with only aircraft is not feasible (Frey, 2000,61).

4. Sealift

Currently, U.S. forward presence relies heavily on ARG's and CVBG's. The existing amphibious assets are able to provide lift capacity for only 2.1 MEB. Projecting forward with the expected ship constructions plan, a 2.5 MEB lift capability would be available by the year 2015. The operational requirement for the Marine Corps requires a 3.0 MEB lift capability. The shortage in amphibious lift is a result of the decommissioning of aging amphibious assault ships without unit replacement, and the increase in lift capabilities required by Marine Corps operational concepts. The newest family of amphibious assault ships is the LPD -17 Class. The first of this class, USS San Antonio, is schedule to be commissioned in 2005, and the entire class will not enter into service until 2013. The future of the LHA (R) is also uncertain. The newest of the current LHA's will exceed its service life by 2015.

USMC also relies on 3 MPSRONs. One MPSRON consist of 5 to 6 ships and can provide equipment and sustainment for one MEB for 30 days. However, the MPF's current capabilities require the offloading of their cargo to be conducted in a port facility or through the heavy use of lighterage; and the correspondingly aircraft flying combat troops into a nearby airfield in order to "marry up" with their equipment. The entire process requires up to 10 days of offloading and re-constitution to complete the assembly for forces.

F. SUMMARY

Neither the current Naval Amphibious Force nor the MPF is capable of conducting and supporting OMFTS and STOM. Limitations such as an inability to indefinitely sustain the forces ashore, the heavy logistical footprint at the "Iron

Mountain,” and the dependence on adequate port and offloading lighterage facilities of the MPF to off load their cargo, preclude the current force structure from truly executing STOM.