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MASTER OF MILITARY STUDIES


TITLE: *Expeditionary Force 21* impacts on the Marine Expeditionary Unit Air Combat Element: Transformative, Adaptive, Innovative or just Rebranding?

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Executive Summary

Title: *Expeditionary Force 21* Impacts on the Marine Expeditionary Unit Air Combat Element: Transformative, Adaptive, Innovative, or just Rebranding?

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Thesis: While advocating a force structure and capability rebalance, EF 21 promises a return to the Marine Corps' amphibious roots and to maintain a force that is naval in character. To what extent does the publication of Expeditionary Force 21 change, modify, or impact the doctrine, composition, training, employment, and organization of the Air Combat Element in the Marine Expeditionary Unit (MEU ACE)?

Discussion: Since 2001, the Marine Corps has been preoccupied with land campaigns in Iraq and Afghanistan, resulting in the stagnation of amphibious thought and study. The expeditionary, austere mindset has not been reinforced during the last 14 years because of the massive infrastructure and supporting establishments in place in Iraq and Afghanistan. Expeditionary Force 21 refocuses the attention upon the amphibious and expeditionary roots of the Marine Corps with an emphasis on utilizing naval shipping as the key to supporting future conflicts and support missions. This has resulted in several key areas of identified materiel deficiencies as well as changes to the threats posed by the littoral regions of the world. The Marine Corps is currently implementing a plan to address future missions by utilizing today's current assets and planning for new capabilities as demanded by the changing world.

Conclusion: Expeditionary Force 21 will impact the MEU ACE by forcing a change in the organization and force laydown on amphibious ships, and how the ACE is dispersed throughout the Amphibious Ready Group (ARG) and Area of Operations (AO) in support of MEU operations. The ACE composition will need to change based upon the growing need to operate in a disaggregated fashion resulting in an increase in the number of personnel and skills required to ensure mission success.

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THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

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Preface

The events of September 11, 2001 resulted in the United States Marine Corps becoming involved in protracted land campaigns in Iraq and Afghanistan and reduced its ability and proficiency in the conduct of amphibious operations. The 13 years spent ashore atrophied amphibious mindsets and caused an expectation for, and over reliance upon, shore basing and non-expeditionary infrastructure when operating. This paper intends on outlining *Expeditionary Force 21* and the relationships it has with previous doctrinal publications as well as outline the impacts that it will have upon the pre-eminent Marine Air-Ground Task Force (MAGTF) organization, the Marine Expeditionary Unit (MEU) and its Air Combat Element (ACE).

Numerous doctrinal publications, white papers, planning guidance documents, advertising campaigns, and speeches all espouse the virtues of expeditionary naval operations. But what differentiates *Expeditionary Force 21* from the others is its targeted audience, the Marines who serve and more importantly, the United States Congress, who ultimately controls the resourcing for the Marine Corps' ability to man, train, and equip its force.

I would like to thank Dr. Craig Swanson for assisting and guiding me through this process as well as Lieutenant Colonel Micheal Russ, USMC, for his constant mentorship and sage advice from day one of this endeavor.

I would lastly like to thank my wife, Kim, for her everlasting support, mentorship, and guidance on life as well as my children Mackenzie and Andrew, for allowing me the latitude to focus on this project and spend countless hours away from them.

Expeditionary Force 21 impacts on the Marine Expeditionary Unit Air Combat Element: Transformative, Adaptive, Innovative or just Rebranding?

The Marine Corps is America's Expeditionary Force in Readiness—a balanced air-ground-logistics team. We are forward-deployed and forward-engaged: shaping, training, deterring, and responding to all manner of crises and contingencies. We create options and decision space for our Nation's leaders. Alert and ready, we respond to today's crisis, with today's force . . . TODAY. Responsive and scalable, we team with other services, allies and interagency partners. We enable and participate in joint and combined operations of any magnitude. A middleweight force, we are light enough to get there quickly, but heavy enough to carry the day upon arrival, and capable of operating independent of local infrastructure. We operate throughout the spectrum of threats—irregular, hybrid, conventional—or the shady areas where they overlap. Marines are ready to respond whenever the Nation calls . . . wherever the President may direct.

—General James F. Amos
Commandant¹

The United States Marine Corps is self-anointed as “America’s 9-1-1 force”² or “America’s rapid response force,” and the United States Congress mandates that the Marine Corps is “ready when the nation is least ready”³ by law. This view of the Marine Corps drives the creation of a specialized, naval expeditionary force organized, trained, and equipped to accomplish specific objectives. The Marine Corps operates on and from the sea, in and from the air, and on the land, but is not optimized to dominate any operational domain; the Marine Corps is optimized to be expeditionary.⁴

The expeditionary mindset and rapid response mantra drives the study, evaluation, implementation, and infrastructure of the Marine Air Ground Task Force (MAGTF) as the standard force composition for Marine Corps operations. The MAGTF, due to the expeditionary nature of the Marine Corps, is a scalable and tailorable combined arms team, capable of employment in varying sizes and composition, providing unique and incomparable capabilities to a combatant commander. A MAGTF will contain organic air, ground and logistics elements under a single command element, making them an integrated and self-sustaining force.⁵ The MAGTF is designed to balance mobility, sustainment, and capabilities to match the mission.

Five types of employable MAGTF's exist affording the scalable nature of the force to produce standing force sizes of 40,000 plus Marines/Sailors in a Marine Expeditionary Force (MEF) down to 2,300 in a Marine Expeditionary Unit (MEU). The smallest of the task organized units are Special Purpose MAGTF's (SPMAGTF) and are typically smaller than a MEU. The SPMAGTF is widely utilized for tailored mission's when a MEU is unavailable or inappropriate for the mission required. The purpose of each MAGTF ranges from a MEF that decisively defeats an enemy force to a MEU that conducts forward presence and crisis response afloat and ashore. Mission oriented, scalable forces designed to meet a specific mission set or task is how the Marine Corps views its employment in current and future global security environments. To this end, the Marine Corps re-focused itself in operational concepts on its amphibious and expeditionary roots from which the service evolved.

As the U.S. completes fourteen years of large scale, land based stability operations in Iraq and Afghanistan, the Marine Corps formulated and published a capstone concept of force deployment, implementation, and modernization called *Expeditionary Force 21* (EF 21) to persevere during a fiscally constrained environment in the United States. This document, published in 2014, establishes the path and formulates guidelines for the conduct of future expeditionary and amphibious Marine Corps operations. EF 21 envisions how the Marine Corps will operate to guide experimentation, force development activities, and to inform programming decisions for future concepts and plans over the next ten year period.⁶ While advocating a force structure and capability rebalance, EF 21 promises a return to the Marine Corps' amphibious roots and to maintain a force that is naval in character. Specifically, this paper will address and examine the extent to which EF 21 changes, modifies, and/or impacts the doctrine, composition,

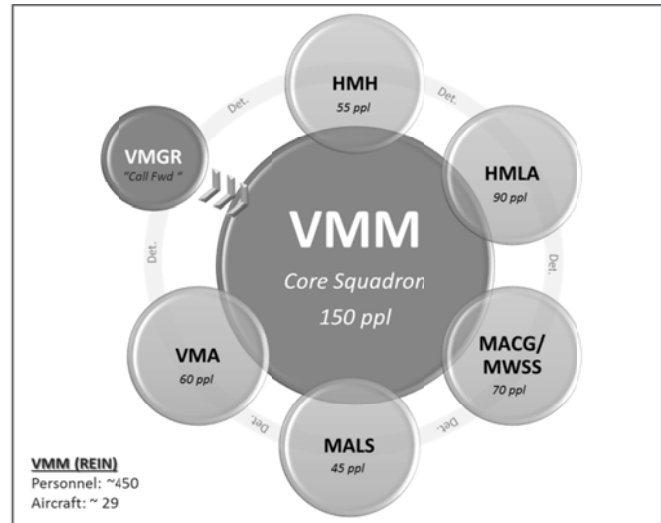
training, employment, and organization of the Air Combat Element of the Marine Expeditionary Unit (MEU ACE).

The Marine Expeditionary Unit

The Marine Expeditionary Unit (MEU) is the smallest of the standing MAGTFs that the Marine Corps has in active service. The origins of the MEU can be traced back to December 1962 when Marine Corps Order (MCO) 3120.3 became policy, but Marines have been embarked aboard U.S. Navy vessels since the days of the American Revolution and John Paul Jones commanded the *USS Bon Homme Richard*. The order specified the original four basic MAGTF constructs,⁷ but it was not until 24 April 1967 that the 26th MEU was established for a short duration mission and deactivated upon mission completion.⁸ In June 1969, the 26th MEU was reconstituted as the 36th MEU for Exercise LANDING FORCE CARIBBEAN 3-69 (LANFORCARIB 3-69)⁹ and since that time, remained an active unit. In May 1975 MEUs were renamed Marine Amphibious Units (MAU), a naming convention that remained until 5 February 1988 when all MAU's were permanently renamed Marine Expeditionary Units, adequately reflecting the units' expeditionary nature.

Currently, there are seven MEUs permanently established with standing Command Elements (CE) within the Marine Corps' permanent force structure. The 22nd, 24th, and 26th MEU headquarters are based in Camp Lejeune, North Carolina and the 11th, 13th, and 15th MEUs are based in Camp Pendleton, California. The 31st MEU is permanently forward deployed and based in Camp Hansen, Okinawa, Japan. The organizational structure of the MEU is reflective of the MAGTF construct.

The Command Element forms the nucleus of the MEU. From that nucleus the Ground Combat Element (GCE), Air Combat Element (ACE), and Logistics Combat Element (LCE) will come together and coalesces as a functional, synergistic air-ground unit. The ACE will become one of the integral elements of the MEU by joining individual components and creating a reinforced squadron. The ACE is the aviation element of the MEU and is typically composed of 29 aircraft and approximately 450 personnel. The ACE is task organized as a composite squadron whose core is a squadron of 12 medium lift



MV-22 Ospreys (VMM).¹⁰ Expanding the capabilities and range of missions of the ACE, other Type/Model/Series (T/M/S) of aircraft and supporting elements are attached to the core squadron. Augmenting elements are typically composed of: a detachment (det) of four CH-53E heavy lift helicopters (det HMH); four AH-1W/Z attack helicopters, three UH-1Y utility helicopters (det HML/A); six AV-8B short/ take off vertical landing (S/TOVL) attack jets (det VMA); as well as detachments from the Marine Air Control Group (MACG), Marine Wing Support Squadron (MWSS) and various Marine Aviation Logistics Squadrons (MALS). The MEU ACE also accesses a detachment of two KC-130J aerial refueler/transport (det VMGR) aircraft that support the MEU in a “call-forward” status from the continental United States.¹¹ Because the KC-130 is a low density asset, a formal request to deploy, from the MEU to the service component commander, is required.



Figure 2

The MEU ACE and its approximately 450 personnel are tasked with providing and/or performing all six functions of Marine Corps aviation in support of MEU operations. Those six functions are Anti-Air Warfare (AAW), Offensive Air Support (OAS), Assault Support (AS), Air Reconnaissance (AR), Control of Aircraft and Missiles¹² and Electronic Warfare (EW)¹³. The MEU is employed in support of all MEU mission sets and meets the standards outlined in the MEU mission essential tasks list (METL). The essential missions that the MEU ACE is tasked with performing are:

- 1) Conduct Amphibious Assault
- 2) Conduct Amphibious Raid
- 3) Conduct Maritime Interception Operations (MIO)
- 4) Conduct Advance Force Operations
- 5) Conduct Non-Combatant Evacuation Operations (NEO)
- 6) Conduct Humanitarian Assistance (HA)
- 7) Conduct Stability Operations
- 8) Conduct Tactical Recovery of Aircraft and Personnel (TRAP)
- 9) Conduct Joint and Combined Operations
- 10) Conduct Aviation Operations from expeditionary shore-based sites
- 11) Conduct/Support Theater Security Cooperation Activities (TSC)
- 12) Conduct Airfield/Port Seizure.¹⁴

These core MEU missions crosscut all relevant doctrinal publications and planning documents by which the Marine Corps emphasizes its role and missions.

Since inception, MEUs have deployed around the world and provided forward, deployed presence for steady state cooperative activities and contingency and crisis response operations. The MEU when operating from the sea base presents a combatant commander with a wide range of response options to support United States foreign and domestic policy. Since 1990, U.S. naval forces have conducted more than 100 amphibious operations, 79 of them involving humanitarian assistance and disaster relief (HA/DR), noncombatant evacuations (NEO), and other similar events.¹⁵ In each of the HA/DR operations, Marine aviation assets played a role in quickly transporting key personnel to the scene facilitating follow on actions, like building situational awareness or actively transporting relief supplies to point of need or displaced persons to safety.

The disaster relief capability of the MEU ACE was demonstrated during Cyclone Marian which struck Bangladesh in April 1991. The newly elected government of Bangladesh was leery of having foreign troops on its soil for fear of appearing weak and inadequate in the eyes of its citizens. Therefore, this political consideration required a support structure based and supported from the sea base with minimal personnel ashore. Each evening most U.S. personnel ashore were required to return to U.S. shipping until the resumption of operations the next day. The Joint Task Force staff quickly identified the problem of relief supply distribution as the most critical shortfall. A distribution plan based on a hub and spoke network was developed and put into action. The amphibious force was identified and the ACE was tasked to execute the mission.

The 5th Marine Expeditionary Brigade (MEB) was en route to the United States after Operation DESERT STORM and subsequently diverted to the Bay of Bengal to assist in in HA/DR operations. Although the MEB is generally larger than a MEU, the MAGTF ACE

construct remained consistent between the two types of MAGTFs. The ACE consisted of 28 helicopters and associated support personnel and units¹⁶ who were subsequently tasked to use their fixed wing cargo aircraft to deliver supplies from Dhaka to Chittigong, where ACE helicopters would pick up and deliver the supplies to outlying, rural areas. ACE helicopters were critical in rapidly distributing supplies to dispersed and isolated villages and people, literally saving lives. Over the course of 30 days, Marine helicopters flew 969 sorties and delivered 698 tons of relief supplies to a people who would otherwise have perished.¹⁷ The capability and flexibility of the ACE allowed the United States to assist a regional partner nation in need, build bi-lateral support, and gain the trust and respect of the people and nations of the region.

In another account, the Air Combat Element of the MEU was the critical enabler for an Amphibious Assault. On 25 November 2001, the MEU ACE delivered Marine combat troops more than 400 nautical miles inland and conducted the airfield seizure of Camp Rhino in Afghanistan as a part of Task Force 58. The 15th MEU, in conjunction with elements of the 26th MEU, planned and executed the insertion from amphibious shipping located off the coast of Pakistan. The six CH-53E's, four AH-1W's, three UH-1N's, six KC-130's, four AV-8B's and a Navy P-3¹⁸ all worked in an integrated flow to execute the mission over the course of 13 hours.

These two anecdotal accounts of MEU ACE employment in HA/DR and Amphibious Assault underscores the necessity and reliance upon aviation assets in today's and tomorrow's security environments. The ACE expands the MEU sphere of influence and operational reach, and shrank crisis response time. The aviation component of the MEU is the key force multiplier and enabler for rapid response and affords combatant commanders and senior leaders with time and latitude to discern and act.

Doctrine and Operational Concepts

The Marine Corps, in partnership with the Navy, developed and published numerous doctrinal publications, operating concepts, and a host of white papers in an effort to codify and institutionalize the ideals associated with amphibious operations and expeditionary capabilities. This section will focus on the examination of four relevant and often cited documents as they relate to the future of the Marine Expeditionary Unit: Air Combat Element (MEU ACE). Those documents are *Operational Maneuver from the Sea (OMFTS)*, *Seabasing*, *Ship to Objective Maneuver (STOM)*, and *Disaggregated Amphibious Ready Group/Marine Expeditionary Unit Concept of Employment*.

Speed is the essence of war. Take advantage of the enemy's unpreparedness; travel by unexpected routes and strike him where he has taken no precautions.

—Sun Tzu¹⁹

Operational Maneuver From The Sea

Operational Maneuver From The Sea (OMFTS) is a concept outlining the projection of naval power ashore when operating from sea-basing. It is based upon the white papers “From the Sea”, published in 1992, and “Forward...From the Sea”, published in 1994, new approaches for conducting amphibious naval operations. OMFTS is considered a form of maneuver warfare with an emphasis on the execution of “rapid, flexible, and opportunistic maneuver” as outlined in MCDP 1.²⁰ The baseline assumptions are that the United States will face new threats in the littoral regions of the world due to the increasing populations near the coasts, the intersections of trade routes and the emergence of mega-cities.²¹ The MEU, and the organic assets assigned, are highly suited to operate in the littoral regions providing assistance, deterrence, or conducting

combat operations. The MEU ability to operate independently, and utilize organic capabilities provides the combatant commander tangible options for immediate response or requests for assistance.

OMFTS is founded on six principles:

- 1) Operational objective.
- 2) Sea as a maneuver space.
- 3) The generation of overwhelming tempo and momentum.
- 4) Pits strength against weakness.
- 5) Emphasizes intelligence, deceptions, and flexibility.
- 6) Integrates all organic, joint, and combined assets.²²

These principles aim at providing the “naval forces at the operational level a bold bid for victory...exploiting a significant enemy weakness in order to deal a decisive blow.”²³ The principles of OMFTS are also based upon a future where a forcible entry capability independently comes from the sea regardless of diplomatic access for forward basing ashore, border crossing, or overflight rights. OMFTS utilizes the sea-base for logistics, fire support and the means to maneuver. Operating from ships avoids a large build-up of fuel, ammunition, and other logistical supplies ashore, preventing its targeting, as well as avoiding a backlog of ships waiting to offload gear and materiel. Removing the large shore based supply lodgment from the planning equation also frees up options for landing locations. If there is not a requirement to move large amounts of material/materiel ashore, then the landing location possibilities are greatly increased. A reduction in the footprint ashore also facilitates the ease of back-loading the landing force.

Speed and flexibility is correlated to high operational tempo required to exploit vulnerabilities and conduct operations at a pace such that the enemy is unable to keep up. Avoid establishing bases ashore increases the MEU’s ability to operate effectively while remaining

flexible in the maneuver space provided by the sea and littoral regions. OMFTS is imperative to the MEU ACE as it pushes the Amphibious Ready Group into positions advantageous for launching aircraft and avoiding enemy defenses to assure unimpeded access and/or routing. The ACE will rely on the ability of the ARG to maneuver to a position ideally suited for the ACE to launch an airborne amphibious assault. The positioning of the ARG will affect the operational reach of ACE aircraft and the flight paths of those aircraft to avoid and bypass air defenses which could inhibit the operation of aircraft in the defended area.

Seabasing

Seabasing is not a new idea. By definition, Seabasing is

The rapid deployment, assembly, command, projection, reconstitution, and re-employment of Joint combat power from the sea, while providing continuous support, sustainment, and force projection to select expeditionary Joint forces without reliance on land bases within the Joint Operating Area (JOA).²⁴

The doctrinal publication for planning guidance, NPW 3-62M/MCWP 3-31.7, outlines the key requirement of Seabasing as the introduction of ready to fight forces directly from the sea and across the shore, known as forcible entry operations. The United States military has extensive experience with basing forces at sea and conducting forcible entry operations ashore, especially during the World War II. At the peak the United States retained the capacity to transport and land 13 ready-to-fight infantry divisions. During the battle for Okinawa in 1945, no less than 1,200 ships provided the land, air, and sea bases for more than 88 days of continuous, combat operations.²⁵ The knowledge and capacity to conduct those types of operations has diminished greatly since the peak of its execution in 1945.

The idea and the purpose of Seabasing is to provide a national capability to project power anywhere in the world by utilizing the sea as maneuver space, reducing the dependence upon foreign land bases and the political challenges associated with gaining access to foreign soil. In addition to operating independent of political constraints of the host nation, a sea base is a movable staging area that is increasingly difficult to target and attack, especially when operating from over the horizon. Moreover, at the heart of the *Seabasing* concept is the ability to sustain the force ashore with logistical support from the sea.

The Marine Corps requires the capability to conduct operations afloat, recover to amphibious shipping, reset, conduct maintenance and then move on to conduct further amphibious operations without the constraints of operations ashore.²⁶ This requirement necessitates having shipping assets available that contain sufficient deck space, well space, and hangar space for conducting maintenance, inspections, and the in-stream, selective offloading of gear. The *Seabasing* concept calls for the creation, development, construction and innovation of new types of shipping to achieve this goal. The emphasis on Maritime Prepositioning Force (MPF) ships operating concomitant with Navy Amphibious ships is unfortunately a function of cost comparison. To build MPF shipping, \$400 million provides one a new build where a big deck LHA is estimated at \$2.5 billion a copy. Since MPF ships were never envisioned or designed to support forcible entry operations combined with a lack of sufficient Navy amphibious assault ships, the Marine Corps decided to utilize the available shipping assets to fully support its amphibious/expeditionary mission.

The Marine Corps views the *Seabasing* program as an improvement and augment force to amphibious lift, and interested in developing the ability to use MPF ships without having to offload them in port.²⁷ This push to operationalize the MPF fleet resulted in several new

requirements to facilitate the successful implementation of this doctrine, the Mobile Landing Platform (MLP) and a new surface connector vessel for transferring heavy equipment and vehicles ashore. The MLP was designed to be the intermediary transfer vessel from traditional roll-on, roll-off type of ships. The vessel is intended to serve as the Landing Craft Air Cushion (LCAC) “mother ship” as well as the debarkation point at sea for in stream transfers of rolling stock and other equipment. Current MLP vessels, USNS *Montford Point* (T-MLP-1) and USNS *John Glenn* (T-MLP-2) will be succeeded by a future flight deck capable version called the MLP Afloat Forward Staging Base (MLP AFSB). AFSB will house an ammunition magazine, support simultaneous flight operations of CH-53E’s and MV-22s and provide hangar space for two more aircraft. Berthing is expected to avail approximately 250 Marines and their associated equipment.²⁸ This shift towards a more capable platform is in stride with the operationalization of the MPF fleet.



Mobile Landing Platform-Afloat Forward Support Base (MLP-AFSB)



Mobile Landing Platform (MLP)

Figure 3

Basing assault support aircraft aboard MPF shipping greatly expands the capabilities and options for the amphibious force group and MEU commanders. The dispersion of forces is greatly increased because of the increase in aviation capable decks. Not only will the Amphibious Ready Groups, or larger formations, maintain the ability to be mutually supported from greater distances, but they also will have the ability to conduct amphibious operations from

greater range from a disaggregated formation. Sea basing increases the need for a connector strategy and concept that puts gear, personnel, and equipment ashore. At the heart of this concept is a MEU ACE that will support the connection of those assets to the shore, each other and other operational areas.

Ship-To-Objective-Maneuver (STOM)

Ship-to-Objective-Maneuver, written in 1997, is a tactical concept paper designed to address all five types of amphibious operations: Amphibious Raids, Assaults, Withdrawals, Demonstrations and Amphibious Support to Other Operations.²⁹ STOM uses OMFTS as its central scheme of maneuver for conducting amphibious operations from over the horizon. STOM proposes that, in an uncertain future, the littoral regions of the world will be focal points of unrest and natural disasters. It is estimated that by 2050 approximately 4 billion people will inhabit the littoral regions of the world³⁰ and that natural disasters in those regions will produce massive amounts of human suffering and regional instability. The focus on the littoral region is the driver for the STOM concept which “[envisions] a force with the ability to operate across a wider geographic area, in a more decentralized manner, allowing naval forces to gain entry exactly when and where needed; expanding and enhancing the Joint Forces Commander’s (JFC) options.”³¹

STOM exploits the sea as maneuver space to create area access and avoids the operational pause historically required when transitioning from the sea to land. The idea takes combat ready troops from amphibious shipping and inserts them directly into an operation ashore without the requirement of seizing a lodgment to build-up supplies and forces ashore before continuing on. STOM doctrine envisions an amphibious force that is capable of:

- 1) Conducting littoral maneuver
- 2) Applying the single battle concept
- 3) Improving options for joint forces commanders
- 4) Utilizing Seabasing to limit footprint ashore
- 5) Focusing on soft and hard power missions
- 6) Emphasizing maneuver flexibility and avoiding established defenses and obstacles
- 7) Using a cross-domain approach
- 8) Using dispersed forces.³²

STOM also identifies three challenges to area access when conducting amphibious operations; environmental, political, and military. Environmental challenges, encompasses the effects of natural disasters or an overall lack of adequate infrastructure. This lack of infrastructure causes access challenges because of the lack of useable roads, damaged buildings, water storage challenges, and sewage and electrical system failures. The combined effect of infrastructure damage contributes to human suffering and slows any amphibious access, and necessitates operating from austere environments, providing self-defense and assisting the population. The need to operate from austere environments is relevant for HA/DR operations or combat operations.

Political challenges manifest themselves when basing, overflight, and assistance ashore are required. A host nation may desperately want and need foreign assistance, but the perception of the host nation government requiring foreign assistance to provide for its own population may undermine the governments' legitimacy and cause a loss of authority and competency in the eyes of the population. For example, in Operation SEA ANGEL in Bangladesh, these types of issues were prevalent. The ability for the United States to indefinitely sit offshore, in international waters and project power ashore provides the JFC the ability to make time for diplomacy as well as demonstrate the commitment and resolve of the United States.

Military challenges address the increased capabilities of potential adversaries with regard to weapons systems and diplomatic environments that create anti-access/area denial (A2AD) situations. The enemy may attempt to contest an amphibious force while it is still afloat or once ashore or a force may be initially denied the use of the geographic littorals. Technologically speaking, an amphibious force denial of access may take many forms; coastal defense systems, integrated air defense systems, aircraft, boats and any other methods by which an amphibious force's movements may be inhibited. The potential engagement zone of enemy weapons systems and/or a country's political will to deny the right to land inhibits an amphibious force's ability to operate closer to shore.

The over-arching tenants of *Ship-to-Objective-Maneuver* advocate providing the Joint Forces Commander options by utilizing maneuver space, force dispersion, seabasing, and power projection as tools they can use to conduct amphibious operations in the littoral region. This philosophy and planning guidance relies heavily upon the ability to move amphibious forces ashore rapidly and at a place and time of the Joint Forces Commanders choosing. The only two possible modes of transport for the amphibious force to the shore is by surface connectors or via air. The A2AD threat is increasingly making the slow speed of surface transport less of a viable option, and thereafter the Air Combat Element, with the range and speed capabilities, will become the default mode of transport to circumvent and mitigate the risks posed by adversary defenses. The MEU ACE provides the capability to circumvent and bypass obstructions, thus providing the amphibious force the option to move ashore via a circuitous and potentially safer route.

Disaggregated Amphibious Ready Group/Marine Expeditionary Unit Concept of Employment

The fourth document that has significant implications for the MEU ACE is the publication of the *Disaggregated Amphibious Ready Group/Marine Expeditionary Unit Concept of Employment*. The MEU is designed to operate as a single self-contained, highly mobile, and versatile, crisis response force. The MEU is typically carried aboard three naval amphibious ships. The largest vessel, typically carrying the Command Element (CE), ACE and a portion of both the LCE and GCE, is the Amphibious Assault Ship (LHA/D). Accompanying the LHA/D are the Amphibious Transport Dock (LPD) and a Dock Landing Ships (LSD). These three ships together form the Amphibious Ready Group (ARG) which provides the transport and base of operations and support for the MEU while afloat.

Operational necessity, however, may cause a MEU/ARG to be utilized in smaller, more widely separated formations. The separation of forces usually takes two forms, Split ARG or Disaggregated ARG. The splitting of the ARG is when elements of the ARG/MEU operate separately for various durations and distances, but remain under the command and control of the MEU commander. Disaggregated ARG operations take place when the elements of the ARG/MEU function separately and independent of the MEU Commander.³³ This change in operational employment is due to the fact that combatant commanders need the amphibious forces to operate and fulfill tasking in multiple locations simultaneously. Recent notable operations were with the 26th MEU³⁴, and 13th MEU split/disaggregated operations³⁵ where real world events or tasking were identified, during pre-deployment training, and Disaggregated ARG operations were prepared, planned, and staffed accordingly prior to deployment.

The combatant commander's tasking to the naval service component force (NAVFOR) often exceeds the ARG/MEU capacity when operating as a single, composite entity. The NAVFOR's requirement to fulfill simultaneous tasks causes the MEU/ARG commanders to individually task ships and units to support disparate, simultaneous missions. While this may appear cost effective for the NAVFOR, operating in a disaggregated or split manner requires additional support to sustain its mission execution, posing serious planning implications for its ACE.

The MEU ACE is not, by standard organization, optimized to operate in a split or disaggregated fashion. First, the Aviation Intermediate Maintenance Department (AIMD) aboard the LHA/D carries most of the aviation supplies. Additionally, AIMD is the only higher echelon maintenance capability resident in the ARG and is essential to the sustainment flight operations. The MEU ACE is staffed to provide a wide range of personnel and maintenance expertise, but at a low density. The ACE is meant to function as a single entity because the required maintenance personnel cannot be split between detachments, therefore unable to operate in multiple locations effectively.

The four previously discussed publications lay the foundation for the Marine Corps plan of organization, employment, and basing of the MAGTF in amphibious/expeditionary operations. The Marine Expeditionary Unit is a key recipient and practitioner of the guidance disseminated by these documents, and as the smallest of the standing MAGTF's, it is in a perpetual state of deployment, training or dwell and constantly honing the skills required to execute the tasking of each combatant commander. The ACE is a linchpin for MEU operations as outlined in *Operational Maneuver From The Sea, Ship-To-Objective-Maneuver, Seabasing, or Disaggregated ARG Operations*. The ACE is essential to providing responsiveness, range, and flexibility to the MEU Commander, NAVFOR and combatant commanders.

Expeditionary Force 21

Expeditionary Force 21 (EF21) is a capstone operating concept that outlines the future operating concept of the Marine Corps and champions the ideas and aspirations of the four previous documents. EF 21 builds on the doctrinal foundations and operating concepts by guiding the concepts and capabilities of the Marine Corps for the next ten years.³⁶ EF 21 drives the Marine Corps to deploy rapidly, arrive quickly, and begin operations immediately whether in support of crisis response, disaster relief, or combat operations.³⁷ EF 21 places a large emphasis on the littoral region as the most likely region where the United States will respond to crises. The identification of that region is integral to the employment, planning, and acquisition of amphibious capabilities for supporting the Marines Corps stated missions, crisis response and assuring littoral access.³⁸ The guidance outlined in EF 21 addresses that MEU's should be able to provide forward presence in key regions and respond to crises as an integrated MAGTF. In order to remain flexible and accommodate the changing environment, the MEU, as a single unit, will be re-evaluated for capacity, capability, basing, and alternative platforms usage when employed. Disaggregated operations, now an accepted practice to be planned to and trained to, counter the current structure of the MEU and its major subordinate elements (MSE) and challenge the functionality of its ACE.

The impacts to the ACE are crucial to compartmentalize. In the concept of Expeditionary Advanced Base Operations, the MEU, as a part of the larger MAGTF, is required to secure advanced naval bases to disperse aviation and ground forces. The residual effect employs Marine Corps aircraft from amphibious shipping, MPF shipping, and multiple shore-bases widely distributed throughout the area of operations area to complicate the enemy's decisions making process and preserve/increase offensive advantage. The further dispersion of the ACE

involves the reorganization potentially of ACE command and control. Moreover, close integration with the Navy is critical as our bases of supply afloat may be at a range that negatively affects the flexibility afforded to the combatant commander by the expansion of the littoral inland.

EF 21 calls for maximizing the Marine Corps footprint aboard all available amphibious ships as well as aboard alternative shipping vessels in order to provide a wider range of steady-state security activities as well as provide immediate response to emergencies and episodic crisis.³⁹ EF 21 expands upon the HA/DR aspect of the MEU mission when compared to *OMFTS*, *STOM*, *Seabasing*. The Marine Corps understands that with the explosion of populations in the congested and diverse areas of the littoral regions, HA/DR missions and response times can influence U.S. policy successes just as well as combat operations. This was acutely evident during the Indonesian tsunami of 2004, when it was mentioned that “the relief effort was the only victory to date in the Global War on Terror.”⁴⁰ This understanding is articulated in EF 21 as the number two priority tasking for the assessment of capability: to focus on “a low-end crisis response, structured around a humanitarian assistance and disaster relief scenario.”⁴¹ The overall concept that EF 21 puts forward is that the Marine Corps, in conjunction with naval and joint forces, needs the ability to conduct amphibious/expeditionary operations at a place and time of their choosing, whether those operations are combat, crisis response or HA/DR. The requirement is stated “be able to maneuver in the littoral regions during an A2AD situation and employ disaggregated, distributed, and dispersed forces in order to rapidly build combat power ashore”.⁴² The ability to shrink the battlespace and execute littoral maneuver rapidly, in order to counter the A2AD threat or respond quickly to a crisis or humanitarian assistance/disaster relief operation is, in today’s MEU planning mindset, an aircraft delivered force because of the range

and speed of response. The need to disperse forces and capabilities across multiple surface vessel platforms will require the ACE to adjust the personnel composition as well as materiel composition in order to meet the dispersion demand. A small unit, small detachment mentality will be required to meet the increase of air capability demand being put forward by EF 21. The change to a detachment mentality will be a cultural shift for the ACE, which has historically been comprised of a core squadron with added on capability detachments. For the core squadron to be able to operate as dispersed detachments will be a fundamental shift to the ACE construct and training program.

Recommendations

The MEU ACE is task organized to lift its MAGTF, provide air delivered fires, conduct command and control, and support offensive and defensive MEU operations. The accomplishment of this mission set is more directly linked to the concepts outlined in *Operational Maneuver From The Sea* and *Ship-to-Objective-Maneuver*. Centrally, both documents launch combined arms teams from naval shipping and bypass enemy concentrations and/or obstacles to maneuver to the mission objective, negating the need to the buildup forces at the shoreline. Furthermore, these operational concepts are supported by the *Seabasing* concept in that operational strategy to operate from the sea base is driving capability procurement, like seen with the Mobile Landing Platform-Afloat Forward Staging Base. *Seabasing* coupled with the new themes of dispersion, disaggregated operations, and distributed operations put forward by *Expeditionary Force 21* necessitates a reorganization and restructuring of the MEU ACE.

Disaggregated operations require, first, an increase to the MEU ACE structure. Currently the MEU ACE is not optimized by table of organization and equipment (T/O&E) to operate in a disaggregated or “pure-detachment” fashion. To disperse the ACE across multiple ships or

austere land bases requires an increase of trained maintenance personnel, Individual Materiel Readiness List (IMRL) tool items, Aviation Ground Support Equipment as well as more Marine Air Control Group personnel.

The core squadron, a VMM, operating the MV-22, will also need specific restructuring as the current squadron structure does not support independent MV-22 operational detachments. The current squadron structure is built around twelve aircraft, 31 officers and 171 enlisted Marines.⁴³ Increases to the overall personnel structure within the core VMM unit will afford the squadron the capacity to source detachments and still maintain a functioning main body. Moreover, additional equipment sets would be required to support detachment organizational maintenance. Creating independent detachments within a VMM squadron enables the flexibility a MEU Commander requires to disaggregate or split his ACE and still retain the medium lift and long range capability among all the ARG components.

In conjunction with a restructuring of the MV-22 squadron, a change is required for the two-aircraft KC-130 detachment. The days of having the KC-130J detachment on tether in the Continental United States (CONUS) is no longer viable. Prior to the introduction of the MV-22 to the MEU ACE, there was a need for refueling six AV-8B's and four CH-53E's. With the addition of 12 more aircraft that can be air-to-air refueled coupled with the real world expectation of MV-22 employment at range, the KC-130J detachment needs to be permanently forward deployed to land bases in order to shadow the movement of the ARG/MEU. Moreover, the KC-130J detachment is "no longer a nice-to-have; they are a hard requirement when a MEU is operating for an extended period of time in a split or disaggregated configuration."⁴⁴ The KC-130J detachment can provide logistical support and may be optimized to bound ahead of the ARG in the area of operation (AO) and retain open lines of support. This increases the overall

KC-130J's tasking, but potentially reduces MEU response time while increasing its overall capacity.

The Harvest Hawk fires platform, which is a roll-on roll-off precision weapons system resident in the KC-130J, is a wise addition as well. The long endurance and range of the KC-130J, coupled with a precision fires and over watch capability would extend MEU fires and response capability. The permanent deployment of the KC-130J detachment with its MEU greatly enhances the responsiveness and operational reach of the MEU.⁴⁵ In addition to the bounding KC-130J detachment, a four plane detachment of MV-22's could accompany the KC-130Js as they forward deploy throughout the AO. By removing 4 MV-22s from the LHA/D, that frees up deck space as well and providing the ability to act as a Carrier on Board (COD) delivery surrogate in order to expedite the reception and delivery of high priority parts and personnel. The options for international, aviation parts shipment destinations is now greatly expanded, and no longer tied to the underway replenishment schedule of the ARG. The bounding ACE detachment can provide the MEU Commander with a very robust response and forward leaning capability in the region of operation.

An alternative to forward deploying a four plane MV-22 detachment with the KC-130J's, would be to shift the HML/A detachment of four AH-1W/Z's and three UH-1Y's over to the LPD permanently. The placement of the H-1 detachment on the small deck LPD would free up deck space on the LHA/D as well as permanently place the LPD in a strong position to conduct disaggregated/split ARG operations. Resident in the HML/A detachment is the assault support capability and aerial delivered fires capability, thereby making the split/disaggregated LPD capable of all six functions of Marine Aviation except electronic warfare. The concept has been tested on a trial basis and has proved very promising.⁴⁶

The emergence of the MV-22's unparalleled ability in range reduces the viability of the UH-1Y as a command and control (C&C) platform for long range missions. The UH-1Y is limited by its speed and range, and requires the establishment of Forward Arming and Refuel Points (FARP) or Air Delivered Ground Refueling (ADGR) locations to support its operations. Extending the MEU/ARGs ability to command and control at range requires the creativity to look forward in concept. By fitting the MV-22 and KC-130J with long range, integrated and joint communication capabilities, the MEU commander not only will have the ability to see, but also pass that information to his higher headquarters, real-time, expanding the combatant commander's situational awareness.⁴⁷

In addition to the aviation platform adjustments recommended, the expansion of operations across a distributed footprint cannot be accomplished without the increase in capacity of Marine aviation's expeditionary enablers. An increase in Marine Air Control Group, Marine Aviation Logistics, and Marine Wing Support Squadron detachments are needed to operate more than one single austere site or landing zone. For security against ground attack as well as aerial attack, the Low Altitude Air Defense detachment would also need to be increased in size as well as MAGTF augmentation for additional security⁴⁸ if more than a single austere airfield or landing zone is required.

Conclusion

Expeditionary Force 21 possesses the ideas put forward in *Operational Maneuver From The Sea*, *Ship-to-Objective-Maneuver*, *Seabasing*, and *Disaggregated Amphibious Ready Group/Marine Expeditionary Unit Concept of Employment* and coalesced them into a single coherent and relatable document that institutionalizes the needs and desires of the Marine Corps for the next ten years. EF 21 provides the conceptual foundation needed to garner support and

funding from the Department of the Navy and Congress when procuring equipment needed to make the idea a reality.

The potential A2/AD threat from adversaries causes amphibious ships to operate further from the littoral regions more often now than ever; well over the horizon at 65-100 nautical miles to stay out of the potential engagement envelopes of enemy threats. The current Navy inventory of surface connectors is also insufficient to operate at such distances and leaves the MEU ACE as the single viable source of rapid and responsive maneuver from over the horizon. The current inventory of MV-22 tilt-rotor aircraft and CH-53E helicopters will be heavily relied upon to transport Marines and equipment around and over potential adversaries. The desire to maintain maneuver flexibility and avoid established obstacles and defenses is a key planning factor, but surprise, speed and security are potentially lost when amphibious ships operate within visible range of the shore.

The changing world and the threat of A2/AD will, currently, only be countered by increased reliance upon the Marine Corps' Air Combat Element to provide an asymmetrical advantage. *Expeditionary Force 21* does not change how the Marine Corps fundamentally operate by doctrine, but it holds great potential in the employment of the MEU ACE in assuring access. The coordinated employment of the MV-22 Osprey in concert with the F-35B, KC-130J, CH-53K, H-1 upgrades and the RQ-21, all integrated in a digitally interoperable architecture is a threshold requirement for viability in *Expeditionary Force 21*. The changes impacting the MEU ACE forces change in the organization and force laydown on amphibious ships and overall ACE dispersion that best fits supporting MEU operations. More or less, the future requires ACE composition change in the MEU as the growing need to operate in a disaggregated fashion ultimately wins and achieves mission success.

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