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THESIS

IMPROVING THE COMMAND AND CONTROL ORGANIZATION IN EXPEDITIONARY OPERATIONS

by

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March 2003

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**IMPROVING THE COMMAND AND CONTROL ORGANIZATION IN
EXPEDITIONARY OPERATIONS**

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ABSTRACT

The military is developing new doctrine, such as Ship to Objective Maneuver (STOM), to take advantage of emerging technology. The problem is that new command and control organizations are not being developed to execute this new doctrine. The insistence that the tried and true Commander, Amphibious Task Force/Commander, Landing Force (CATF/CLF) organization or similar structure will do the job hinders the full effectiveness of this new doctrine.

STOM removes the need for massive build up ashore in an amphibious operation. Instead, using naval forces as a sea base, the assault force moves sufficient military strength directly to a point at which it can accomplish the mission. This allows the landing force commander to stay on board, thus negating the need for two commanders.

The Expeditionary Battle Staff (EBS) is a possible solution to this problem. A combination of the Amphibious Squadron and Marine Expeditionary Unit staffs, EBS has one commander. Using emerging C2 technology, the commander directs the assault from the sea. EBS is designed to have a commander from either the Navy or Marine Corps, with the staff providing the tactical expertise to support him in his mission.

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TABLE OF CONTENTS

I.	INTRODUCTION.....	1
II.	A BRIEF HISTORY OF AMPHIBIOUS WARFARE C2.....	5
	A. DOCTRINE	5
	B. BRIEF HISTORY	7
	C. THE IRON MOUNTAIN AND ITS RELATIONSHIP TO C2	8
	D. CLF AND CATF	9
III.	DOCTRINE	13
	A. SHIP TO OBJECTIVE MANEUVER.....	13
	B. SEA POWER 21/SEABASING	13
	C. EXPEDITIONARY MANEUVER WARFARE	15
	D. SUMMARY	15
IV.	EXPEDITIONARY BATTLE STAFF.....	17
	A. DESCRIPTION.....	17
	B. ANALYSIS OF THE EBS.....	18
	1. CATF/CLF/Iron Mountain.....	18
	2. CATF/CLF With Respect to STOM and Sea Basing	21
	3. EBS/STOM/Seabasing.....	23
	4. Expeditionary Maneuver Warfare and EBS.....	25
	5. Problems and Disadvantages	26
	C. PROPOSAL FOR IMPLEMENTATION OF EBS INTO JTFEX	28
	1. Exercise Description	28
	2. Evaluation.....	29
VII.	SUMMARY	33
	BIBLIOGRAPHY	35
APPENDIX A	SHIP TO OBJECTIVE MANEUVERING	37
APPENDIX B	SEA POWER 21/SEA BASING	55
APPENDIX C	EXPEDITIONARY MANEUVER WARFARE	71
	INITIAL DISTRIBUTION LIST	85

I. INTRODUCTION

Amphibious warfare, also known as expeditionary warfare, is in its current state because of painstaking research, experimentation, and battlefield trials. Yet, within the past five to ten years, technology has paved the way for a transformation in the manner in which the United States military, the Navy and Marine Corps in particular, conduct Expeditionary Operations. The publishing of the Marine Corps' Ship To Objective Maneuver (STOM) paper is one product of that transformation. Put simply, the paper envisions an amphibious assault from the sea but without the laborious, time intensive buildup of power ashore. In fact, all operations would be supported from the sea by a sea base. This raises all kinds of issues. The issue this paper will address is of the command and control nature. Will the current CATF/CLF command structure support such a change in doctrine, or would it require the creation of a new chain of command? It stands to reason that with changes in doctrine come changes in methods in executing that doctrine. This thesis will study the advantages and plausibility of an integrated Navy-Marine Corps staff providing the command and control needs necessary to accomplish STOM.

The second chapter provides a brief history of amphibious doctrine and C2 with emphasis on its effect upon current military thinking. For more than 60 years the doctrine that the Marine Corps developed for the Pacific Campaign of World War II has been the guiding light for expeditionary operations. The Commander, Amphibious Task Force/Commander, Landing Force (CATF/CLF) concept coupled with the "Iron Mountain" (the buildup of logistics ashore) amphibious doctrine has dominated expeditionary thinking, and for good reason. This marriage of ideas has been researched, experimented on and battle tested since the 1930s. Since it has been so successful and refined over the years, it has been institutionally entrenched in military planning.

The third chapter is a summary of three published works of military doctrine. This chapter will summarize the three doctrines by which the Expeditionary Battle Staff exists. The author assumes the reader is already familiar with the concepts presented here. The summary is presented to ensure the relevant ideas are presented before arguing

the case for a new command and control organization. If the reader is not familiar with these concepts, then the published works themselves are provided in the Appendices.

The fourth chapter introduces the Expeditionary Battle Staff (EBS) and compares it to the CATF/CLF concept with respect to Iron Mountain, Ship to Objective Maneuver (STOM), Sea Basing, and Expeditionary Maneuver Warfare (EMW). The purpose of EBS is not to create another type of staff. An Amphibious Squadron staff has certain duties and billets to see that those duties are performed. The same situation occurs with the command staff of a Marine Expeditionary Unit. The functions are combined into one staff so all of the responsibilities of both staffs are fulfilled. The real change in the way EBS is structured is at the very top. There is one Commander. This allows for a more unified command under a Sea Based STOM scenario. EBS also answers many of the improvements called for in EMW. The chapter closes with a proposal for an experiment: Can EBS work in a JTFEX with a Sea Based-STOM scenario?

Before proceeding though, it is necessary to qualify the EBS. EBS is effective only if the following assumptions are met:

- The Marine Corps' Ship To Objective Maneuvering (STOM) is a proven and practiced doctrine.
- The MV-22 Osprey or some other heavy lift aircraft which supports STOM is operational and in the fleet.
- Sea basing is a proven and practiced doctrine.

Each of the above assumptions is still in the development phase. Each has its own critiques and problems that still need to be worked out. In fact, the Navy/Marine Corps team is working toward perfecting the above for use in the future.

Recently, the Navy has created the Expeditionary Strike Group (ESG). The ESG is similar to an Aircraft Carrier Battle Group (CVBG), but with different capabilities. In addition to the three-ship Amphibious Readiness Group (ARG), the ESG contains an Aegis Cruiser (CG), an Aegis Guided Missile Destroyer (DDG), and a fast attack submarine (SSN). The composition of the additional forces might vary from time to time. These additional vessels bring a strike capability, through the use of Tomahawk Land Attack Missiles, the ARG historically lacked. The EBS could be used as the C2 organization for the ESG as well.

This thesis discusses changing the organization of Command and Control among the Phibron and MEU staffs in light of STOM. The merits and problems of STOM, Sea basing, and the MV-22 will not be debated here. In fact, these assumptions are all dependent upon one another. In addition, the organizational change in C2 proposed in this paper will not work and will not be necessary if these issues are not solved in a successful manner.

With all of the evidence presented, the case for EBS should be compelling. At the very least, it should force the military planners to rethink the idea of placing a 60-year-old command and control doctrine into a brand new concept of operations. Hopefully, it will do much more than that. Hopefully, it will stimulate those that make the important decisions at the top of the Navy/Marine Corps team to take a long hard look at improving command and control in a new century of expeditionary warfare.

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II. A BRIEF HISTORY OF AMPHIBIOUS WARFARE C2

A. DOCTRINE

In order to proceed with the case of a new command and control structure for an Amphibious Readiness Group/Marine Expeditionary Unit (ARG/MEU) staff, it is necessary to review how we arrived here in the first place. The Joint Doctrine for Amphibious Operations states the following:

Amphibious operations have four key characteristics.

Integration between the Navy and landing forces.

The key characteristic of an amphibious operation is close coordination and cooperation between the Amphibious Task Force (ATF), the Landing Force (LF), and other designated forces.

Rapid buildup of combat power from the sea to shore.

The salient requirement of an amphibious assault is the necessity for swift, uninterrupted buildup of sufficient combat power ashore from an initial zero capability to full coordinated striking power as the attack progresses toward amphibious force objectives.

Task-organized forces

These forces are capable of multiple missions across the full range of military operations to enable joint, allied, and coalition operations. Amphibious forces are task-organized based on the mission.

Unity of Effort and Operational Coherence.

The complexity of amphibious operations and the vulnerability of forces engaged in amphibious operations require an exceptional degree of unity of effort and operational coherence.(JP 3-02 xi)

Three of the four characteristics of amphibious operations as stated in the Joint Publication for Amphibious Operations are relevant to this discussion. The third bullet, Task Organized Forces, is not relevant because this paper addresses command and

control issues, not the ability to be task organized. The relevance of the remaining bullets will be clear in time.

Another item in doctrine that needs to be addressed now concerns the phases of an amphibious operation. They are as follows:

PLANNING

The planning phase normally denotes the period extending from the issuance of an order that directs the operation to take place and ends with the embarkation of landing forces. However, planning is continuous throughout the operation. Although planning does not cease with the termination of this phase, it is useful to distinguish between the planning phase and subsequent phases because of the change that may occur in the relationship between amphibious force commanders at the time the planning phase terminates and the operational phase begins.

EMBARKATION

The embarkation phase is the period during which the landing forces, with their equipment and supplies, embark in assigned shipping. The organization for embarkation needs to provide for flexibility to support changes to the original plan. The landing plan and scheme of maneuver ashore are based on conditions and enemy capabilities existing in the operational area before embarkation of the landing force. A change in conditions of friendly or enemy forces during the movement phase may cause changes in either plan with no opportunity for reconfiguration of the landing force. The extent to which changes in the landing plan can be accomplished may depend on the ability to reconfigure embarked forces.

REHEARSAL

The rehearsal phase is the period during which the prospective operation is rehearsed for the purpose of:

- Testing the adequacy of plans, timing of detailed operations, and combat readiness of participating forces
- Ensuring that all echelons are familiar with plans
- Providing an opportunity to reconfigure embarked forces and equipment
- Rehearsal may consist of an actual landing or may be conducted as a command post exercise.

MOVEMENT

The movement phase is the period during which various elements of the amphibious force move from points of embarkation or from a forward-deployed position to the operational area. This move may be via rehearsal, staging, or rendezvous areas. The movement phase is completed when the various elements of the amphibious force arrive at their assigned positions in the operational area.

ACTION

The decisive action phase is the period from the arrival of the amphibious force in the operational area, through the accomplishment of the mission and the termination of the amphibious operation. (JP 3-02 I-7)

B. BRIEF HISTORY

For the past 60 or more years that the Navy-Marine Corps team has been studying, developing and practicing the art of amphibious operations, the concept always revolved around what the second bullet says, a “rapid build up of combat power from the sea to shore.”

Jeter Isely and Philip Crowl in their book *The US Marines and Amphibious War* say this about amphibious warfare.

There is nothing occult about amphibious fighting. Man has conducted landing operations since the beginnings of naval history. The British have always been interested in amphibious strategy, and are continuing to make notable contributions to its study. Over a century ago, moreover, a keen continental student of military history, Antoine Henri Jomini, enumerated the broad precepts on which all of the purely amphibious phases of war have been based. These were to deceive the enemy as to the point of debarkation, to select a beach with hydrographic and terrain conditions favorable to the attacker, to employ naval guns in preparing the way for the troops, to land artillery at the earliest practicable moment, and strenuously to push the invasion by seizing the high ground commanding the landing area, thus securing the beachhead from enemy guns, allowing a quick build up of supplies ashore, and permitting the transfer of the conflict from amphibious to land warfare. (Isely and Crowl 4)

Isely and Crowl also say:

Securing a beachhead at a place where enemy resistance is weak or altogether absent is but the application of common sense to amphibious

strategy. (General Alexander) Vandegrift, in reporting on the Guadalcanal-Tulagi campaign, phrased it neatly: “A comparison of the several landings leads to the inescapable conclusion that landings should not be attempted in the face of organized resistance if, by any combination of march or maneuver, it is possible to land unopposed and undetected at a point within striking distance of the objective. (Isely and Crowl 9)

Who would be conducting these operations?

The Fleet Marine Force, by tradition and through indoctrination a part of the navy, was the logical arm to land in assault. Marines were prepared to push through to a rapid victory thus satisfying another cardinal principle of amphibious warfare – to finish the fighting ashore with the greatest speed possible – and this expedited the unloading of amphibious shipping, permitting it to turn around quickly, leave the danger zone, and reload for the next operation. (Isely and Crowl 11)

This way of thinking is derived from the United States’ campaign in the Central Pacific during World War II. These operations “demanded the employment of strong assault forces to fight their way ashore, and the concepts that were derived from their campaign against the Japanese still dominate US amphibious thinking.”(Evans 10) Recently, the Navy/Marine Corps team has proposed new doctrine to take advantage of emerging and developing technologies. These will be discussed later.

C. THE IRON MOUNTAIN AND ITS RELATIONSHIP TO C2

Amphibious operations are centered on the need to establish a foothold on a beach near an objective, be it tactical or strategic. The purpose of the foothold is to secure an area from which the invading force can be supported by a logistical train involving maritime shipping. This foothold is sometimes affectionately called the Iron Mountain on the Beach. This is the geographic location that is so heavily guarded that the enemy would be hard pressed to retake it. “Local maritime and air superiority are essential for the passage of the force and the landing. They enable the beachhead to be isolated from enemy reinforcement and attack, so that the ships can be unloaded swiftly and in relative safety, and allow the landing force to have continuous naval and air support during the operation.”(Evans 93) For good reason, though, for without this Iron Mountain, the invading force would quickly lose its teeth for want of supplies. Everything the force

needs is brought via ship to this point; supplies like ammunition, water, food, fuel, and mail (always an important staple for a soldier). This Iron Mountain is the lifeblood by which the invading force survives.

Naturally, this area is to be prized by the invaders, but not just for supplies. This is where the Headquarters, or the Command and Control (C2) center, is located. All operations inland are supervised and coordinated from this location. For any military operation, there must be a supported commander or the 'guy in charge'. The current doctrinal title "Commander, Landing Force" (CLF) will be used. One of the main reasons for securing the beachhead is to provide a place ashore for the CLF. When the beachhead is established, "the CLF will transfer his Headquarters...to the beachhead." (Evans 197) The CLF continues to direct operations ashore from this new headquarters. The reason for this is obvious. Given that the C2 systems of the time would not allow the CLF to direct operations ashore while embarked, it only made sense that the commander would be where the action was in order to make timely decisions in conducting the assault. The technology of the day did not allow for any other way.

D. CLF AND CATF

Up until now only the role of the CLF has been discussed. The other component of the chain of command is the Commander, Amphibious Task Force (CATF). This is the officer in charge of the naval assets responsible for delivering the Landing Force. These assets include the ships on which the Landing Force was embarked, ship mounted-guns by which the landing force receives its supporting fires and through which the beach is initially assaulted, mine warfare units, aerial reconnaissance, combat aircraft, and, when they are in the Area of Operations (AOR), the supply ships carrying the needed staples discussed above. Unlike the CLF, the CATF stays on his flagship for the entire operation and even takes his ships elsewhere when the assault is completed, though this is sometime after the initial assault.

Under the old amphibious doctrine, CATF and CLF were co-equal for planning, with equal access to the common superior during this phase, but the CATF assumed overall command at the beginning of the Embarkation phase. By mutual agreement, once sufficient combat power had been built up, the CLF would assume command of the

forces ashore. The CATF retained command of the Navy assets, or more precisely he retained all the assets he previously commanded less those the CLF assumed command of ashore. The CLF did not work for the CATF after command was established ashore.

Under the new Joint Doctrine, the relationship changed. The CATF/CLF, two-commander role is still used, but the concept now follows a supported/supporting commander concept. This can cause even more confusion as both commanders still retain co-equal status during the planning phase. The new doctrine even has the two commanders swapping roles during certain types of amphibious operations (see Section B-1 in Chapter IV). Clearly, there is a need to improve this organization. Anybody who can imagine having two bosses can understand the problems with rank equality in commanders in a military environment. This relationship will be discussed more in Chapter IV.

These two commanders, the CATF and the CLF, along with their staffs, form a team. Together this combined staff goes through the five phases of an amphibious operation mentioned previously.

With all of this work involved in the planning and execution of an amphibious operation, it is essential that,

The commanders must be suited both by temperament and experience to co-operate with each other. They must not only be able to enjoy each other's confidence and to work as a team but each commander should have a broad knowledge of the capabilities and limitations of the other Services. (Evans 97)

Although the overall command lies with the CATF, he is, in some respects, really the first among equals, since the CLF while afloat retains an equal status with the commander of the amphibious task force in whose ships he is embarked with regard to planning the amphibious operations. "In simple terms, the commanders are co-equals responsible for making plans for their own services, although these are coordinated by the CATF and, in the last resort, the buck stops with him!"(Evans 97) This command relationship only emphasized the need for both commanders to have a relationship similar to that described in the above paragraph.

This mission, studying and perfecting amphibious warfare, is one of the top duties of the Navy-Marine Corps team. It is undertaken so that, irrespective of technological changes, the amphibious assault and all its derivatives are always feasible. This is happening to this day. As technology changes, the doctrine must also change to take advantage of new tools and methods made available to us. The next three chapters are dedicated to presenting the new doctrine responsible for this change.

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III. DOCTRINE

This chapter will summarize the three doctrines by which the Expeditionary Battle Staff exists. The author assumes the reader is already familiar with the concepts presented in this chapter. The summary is presented to ensure the relevant ideas are presented before arguing the case for a new command and control organization. If the reader is not familiar with these concepts, then the published works themselves are provided for in the Appendices.

A. SHIP TO OBJECTIVE MANEUVER

The following list contains the relevant issues concerning Ship to Objective Maneuver (STOM) and the Expeditionary Battle Staff. The complete document is provided in Appendix A.

- Landing forces strike directly from the ships to the objective without regard for geography.
- Emerging technologies are altering the nature of expeditionary operations.
- There will always be a requirement for forcible entry from the sea.
- Amphibious forces will remain over the horizon to counter ever increasing coastal and air defense systems.
- Amphibious maneuver replaces the ship-to-shore movement.
- STOM emphasizes sea-based command and control, logistics, and fire support.
- Securing the beach head for C2 and logistics is no longer needed.
- Amphibious operation terminates with mission accomplishment, not transfer of command ashore.

B. SEA POWER 21/SEABASING

This section contains a summary of Sea Power 21, of which sea basing is a part. Sea Power 21 was developed to be a guide to how the Navy will organize and transform for the 21st century. It contains three main concepts. Those concepts are Sea Strike, Sea Shield, and Sea Basing. The articles are contained in Appendix B.

The following are some of the products Sea Strike brings to warfare arena:

- Amplified, effects-based striking power
- Enhanced warfighting contribution of Marines and Special Forces.
- 24/7 offensive operations
- Persistent intelligence, surveillance, and reconnaissance
- Time-sensitive strike
- Electronic warfare / information operations
- Ship-to-objective maneuver (Clark, Oct 02)

The following are some of the products Sea Shield brings to the warfighter and our allies.

- Projected defense for joint forces and allies ashore
- Sustained access for maritime trade, coalition building, and military operations
- Enhanced international stability, security, and engagement
- Sea / littoral superiority
- Force entry enabling

Sea Basing, the third leg of this triad and the focus of this section, is actually a core competency. At least, it needs to be if this paper will be useful in promoting a new C2 organization. Sea basing provides the Joint Force Commander with an autonomous sovereign base of operations that functions in international waters free from hindering coalition requirements. To that end, sea basing provides global command and control, and logistical support for military operations ashore. (Clark, Oct 02)

The impact of Sea Basing includes:

- Pre-positioned warfighting capabilities for immediate employment
- Enhanced joint support from a fully netted, dispersed naval force
- Strengthened international coalition building
- Increased joint force security and operational agility
- Minimized operational reliance on shore infrastructure

Sea Basing brings the following capabilities:

- Enhanced afloat positioning of joint assets
- Offensive and defensive power projection
- Command and control
- Integrated joint logistics
- Accelerated deployment and employment timelines (Clark, Oct 02)

To sum up, without Sea Basing, most of what is proposed in this paper could not be accomplished.

C. EXPEDITIONARY MANEUVER WARFARE

The third and final piece of doctrine to be summarized is the Marine Corps “capstone concept” Expeditionary Maneuver Warfare. The document is included in its entirety in Appendix C. For the reader who has a working knowledge of this publication, the following are the relevant concepts to keep in mind as the case for the Expeditionary Battle Staff is made.

- Sea basing allows Marines to commence sustainable operations without buildup of the Iron Mountain ashore.
- Changes in operational concepts may necessitate changes in organization employment and deployment.
- Organizational structure must be mission oriented.
- Maneuver in all dimensions – sea, land, and air.
- C2 will remain at sea.
- Developmental effort required to improve C2
- Integration required of both Navy and Marine Corps operational concepts, systems, and acquisition strategies.

D. SUMMARY

The concepts listed above have a direct bearing on the need for a new command and control organization. For further reading or information, all three documents are included in the appendices of this paper.

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IV. EXPEDITIONARY BATTLE STAFF

A. DESCRIPTION

There is no secret formula for the composition of the Expeditionary Battle Staff (EBS). An Amphibious Squadron staff has certain duties and has billets to see that those duties are performed. The same situation occurs with the command staff of a Marine Expeditionary Unit. These functions are combined into one staff so that all of the responsibilities of both staffs are fulfilled. The real change in the way EBS is structured is at the very top.

The Commander will be either a Flag officer or a General Officer. The Deputy Commander/Chief of Staff will be either a senior Navy or Marine Corps O-6. Both billets will be on an opposite rotation. In other words, if the Navy fills the Commander billet with a Rear Admiral, then the Marine Corps will fill the Deputy Commander/COS billet with a senior Colonel. The same works the other way. If the Marine Corps fills the Commander billet with a Brigadier General, then the Navy will fill the Deputy Commander/COS billet with a senior Captain. When each Commander and Deputy Commander complete their respective tours, then the billets will swap services, and the cycle will repeat. Each service fills every other Commander billet and Deputy Commander Billet. Both billets should be relieved on staggered relief schedule, but no more than six months apart. This provides time for turnover and maintains continuity in the relieving process.

When EBS was first envisioned, it was done so with the assumption that for larger expeditionary operations, there would be aircraft carrier battle group support, commanded by a rear admiral (O-7, 'one star'). Under the current doctrine, the PHIBRON commander is a Navy captain and the MEU commander is a Marine Corps colonel. That means that the supported commander, for whatever phase of the expeditionary operation would be an O-6, and the supporting commander would be someone of *higher* rank. Conventional military thinking requires (with few exceptions) that the supported commander be at least of equal rank to the supporting commanders. This provides the supported commander with some authority to accomplish the mission

without rank impeding the process. EBS solves that problem by making the commanding officer's rank that of a flag or general officer with all the authority intrinsic in the rank to lead such a mission.

The fact that there is one commander provides a Unity of Command even more focused than CATF/CLF could ever provide. This concept will be explored in the following discussion.

B. ANALYSIS OF THE EBS

This section will look at the advantages of the EBS with respect to the emerging doctrines of Ship to Objective Maneuver, Sea Basing, and Expeditionary Maneuver Warfare. But first, it is necessary to review where the Navy and Marine Corps have been to understand why change is necessary.

1. CATF/CLF/Iron Mountain

CATF/CLF is accepted doctrine. It might be too obvious to say, but that is why CATF/CLF has lasted so long. Granted, that statement is a little oversimplified, but this current doctrinal concept is the only one that fits into the military's 60-plus year old model of amphibious warfare. The current joint publication on amphibious warfare uses it profusely. It starts like this:

An amphibious force is defined as an amphibious task force (**ATF**) and a landing force (**LF**) together with other forces that are trained, organized, and equipped for amphibious operations.”(JP 3-02 ix) (Emphasis added.)

Now a commander is needed for each force, a Commander, Amphibious Task Force and a Commander, Landing Force. The publication says further:

The terms “commander, amphibious task force” (CATF) and “commander, landing force” (CLF) have been used doctrinally in the past to signify the commanders assigned to spearhead amphibious operations. This doctrine disassociates (from previous doctrine) any historical implications of the terms “CATF” and “CLF” from command relations. The terms “CATF” and “CLF” do not connote titles or command relationships.” (JP 3-02 ix)

While this doctrine ceases using CATF and CLF as titles, it is apparent that the concept in the doctrine is still well entrenched. The purpose of this new doctrine is to fit

the CATF/CLF concept into the Joint Doctrine, a direction where the military will continue to move in the future.

The Joint Forces Commander is empowered to choose the best command relationship to accomplish the mission.

The command relationships established among the CATF, CLF, and other designated commanders of the amphibious force is an important decision. The type of relationship chosen by the common superior commander, or establishing authority, for the amphibious force should be based on mission, nature and duration of the operation, force capabilities, C2 capabilities, battlespace assigned, and recommendations from subordinate commanders.” (JP 3-02 II-3)

Here is an example concerning authority of the CATF/CLF in the planning phase.

In a support relationship, the CATF and CLF and other commanders designated in the order initiating planning for the amphibious operation are **coequal**.” (JP 3-02 II-6) (Emphasis added)

What about during the operation? Who is in command? Someone has to be ultimately accountable. The pub reads further:

If not specified in the order initiating the amphibious operation, the **CATF and CLF will determine** who has primary responsibility for the essential tasks during the mission analysis in the planning process.” (JP 3-02 II-6) (Emphasis added)

There is even a figure in the pub detailing who has command, or more officially who is the supported commander, depending on mission requirements. For instance, if the mission is assault, then the CATF will begin the mission as the supported commander and then when the CLF transfers command ashore he will become the supported commander. If the mission is a raid with a coastal threat then the supported commander will be the CATF, followed by the CLF, and then back to the CATF. If the mission is an inland raid with no coastal threat, then the CLF is the supported commander. If it is a demonstration, then the CATF is the supported commander. A withdrawal mission is an assault mission in reverse, so the supported commander is the CLF, followed by the CATF. For humanitarian assistance, either commander can be chosen. (JP3-02 II-7)

What is the point of all this? Two points. First, the CATF/CLF doctrine remains a core function of the command and control in current expeditionary operations. The second point is a little more difficult to explain. In an expeditionary operation, there are two schools of expertise. One set of experts is the Navy. These are the men and women who operate the ships carrying the Marines to the target. The other set was just mentioned, the Marines. The Marine Corps is expert on transferring from ship to shore in a combat situation. As an aside, combat is defined here as any situation where there might be hostile individuals or groups of individuals who object, violently or otherwise, to the presence of foreign troops (read Marines) on their soil. Combat does not have to be in wartime.

Back to the second point. Neither expert is an authority in the other's field. Therefore, both must work together to accomplish an expeditionary mission, because such a mission involves land, sea and the connecting area in between, the beach. It follows that for both phases of the expeditionary mission, that of operations at sea and operations on land, there would be a supported commander. The fact that each are coequal during the planning phases, and absent direction from higher authority, the CATF and CLF decide themselves who has command for what areas of the operation boggles the mind. There is supposed to be ONE commander. There is but ONE person in whom accountability and responsibility lies. All through military history there is one general or one admiral who gets the credit or the disgrace for the outcome of a campaign.

Expeditionary warfare, however, is a little different; at least as it has been for the past 60 years. In the case of the CATF/CLF concept, it is a perfect marriage when dealing with an expeditionary mission. This seemingly illogical command and control system of a "shared" authority works for this application. With the current doctrine and technology, expeditionary forces need to establish a beachhead, the Iron Mountain, upon which the logistics center and command center can resupply and provide direction, respectively, in order to accomplish the mission.

Does the Navy and Marine Corps need an alternative to the CATF/CLF concept with respect to the current doctrine? Absolutely not! Any alternative could not hope to compete with a tried and true concept with more than 60 years of research,

experimentation and operational experience to support it. Even if such an alternative were better, CATF/CLF is too institutionalized to be replaced with a superior method.

2. CATF/CLF With Respect to STOM and Sea Basing

What if the Iron Mountain is done away with? What if all expeditionary operations were based on the ships? What if technology, equipment and doctrine had matured and evolved to a point where the mission would be executed on land and resupply would come from the sea? Then would CATF/CLF still be applicable?

This dilemma could be debated utilizing the same criteria used by the CATF/CLF argument in conjunction with the direction in which the Navy and Marine Corps are headed in the future. The action by which the CLF transfers his command to shore after the beachhead has been established immediately raises at least two questions.

The first question is why, under STOM, is there a beachhead in the first place?

Ship-to-Objective Maneuver calls for rapid projection of combined arms teams ashore, but emphasizes *sea-based* command and control, **logistics**, and fire support. (STOM II-14) (Bold type added)

The most important reason to have a beachhead is for logistical support and resupply. The second most important reason to have a beachhead is for command and control; to establish an HQ on the ground, closer to the engagement. STOM's focus is to move away from that method and apply "the principles and tactics of maneuver warfare to the littoral battlespace. (STOM II-10)

The Marine Corps even comes out and gives its opinion about the future of beachhead establishment.

True ship-to-objective maneuver is not aimed at seizing a beach, but at thrusting combat units ashore in their fighting formations, to a decisive place, and in sufficient strength to ensure mission accomplishment. (STOM II-7)

The next question is why under STOM is the CLF going ashore? Again the Marine Corps says the following:

Ship-to-Objective Maneuver calls for rapid projection of combined arms teams ashore, but emphasizes *sea-based* **command and control**, logistics, and fire support. (STOM II-14) (Bold type added)

Because one of the goals of STOM is to have sea-based C2, there is no reason for the supported commander to go ashore. Then how will the commander be able to conduct the operation? This is accomplished by a combination of his direction and the initiative of his subordinate commanders. How will this be possible? How will the subordinate commanders on the ground be able to safely conduct operations to achieve an objective?

Command and control provides the mechanism by which a commander recognizes what needs to be done and communicates those actions required to ensure mission accomplishment. Maneuver warfare emphasizes decentralized execution with subordinate commanders exercising the maximum possible latitude in performing assigned missions. Command and control systems must provide landing force commanders at all echelons a common operational picture and the connectivity to monitor execution and to influence events when necessary. (STOM II-21)

There are two issues to note. The first is the emphasis on decentralized execution. The second issue is that the tactical commanders need not only a common operational picture, but also the means to act on the information they are receiving. In the current doctrine the C2 system allowing that does not exist. The tactical commanders do have some autonomy, but they have to rely on a combination of what they see in their limited battle space and what the CLF at HQ (on the beachhead) can tell them over a radio. Clearly, the C2 systems the Navy and Marine Corps require for STOM negate the need for the CLF to go ashore.

Now that the CLF can stay on board, there exist two commanders in one battlespace. The point could be argued that, with the CLF remaining on board, he becomes the supported commander for the entire operation. STOM even says so in the following:

Placing responsibility on the landing force commander for controlling movement from the ship to the objective is a significant departure from current doctrine. The organization and coordination agencies of the naval

force must adapt to fully exploit the advantages offered by new technology. (STOM II-23)

In other words, put the ships under the direct command of the CLF. At least, that is one interpretation of that quote. The same logic that supports putting the CLF in command of naval assets also supports putting the CATF in charge of ground forces. More on this later.

It is clear that at first glance, and even digging beneath the surface a little, the current command and control doctrine does need to be reassessed in light of the emerging concepts of Sea Basing and Ship To Objective Maneuver. What is essentially happening is the following. The Navy and Marine Corps have published visions of new doctrine such as, Sea Power 21, Ship to Objective Maneuver, Operational Maneuver From the Sea, and Expeditionary Maneuver Warfare. We also have a command and control doctrine (CATF/CLF) that has existed for over 60 years. The new doctrine is a radical change from that which the military has currently. (The writer includes the entire military here because concepts such as Sea Basing could change the way all branches of the military do things in the future.) Yet, the existing CATF/CLF model is expected to take this new doctrine into the 21st century. Of course, each document calls for improvements in Command and Control, but in one of the last paragraphs of Ship to Objective Maneuver, it mentions the same old Landing Force Commander. Maybe it's time to reexamine the command concept as well.

3. EBS/STOM/Sea Basing

The Expeditionary Battle Staff streamlines the command and control processes called for in Ship to Objective Maneuver and provided for in Sea Basing. In fact, STOM anticipates C2 systems that allow for one commander.

Ship-to objective maneuver takes advantage of emerging mobility and **command and control systems** to maneuver landing forces in their tactical array from the moment they depart the ships, replacing the ponderous ship-to-shore *movement* of current amphibious warfare with true amphibious *maneuver*. (STOM II-6)

Emerging technologies represented by the Advanced Amphibious Assault Vehicle (AAAV), MV-22 aircraft, global positioning system (GPS), and **developing command and control systems** will radically alter the nature of amphibious operations.(STOM II-4)

Successful implementation of the *Ship-to-Objective Maneuver* concept will require improvements in mobility, **command and control**, intelligence, fires, sea-based logistics, organization, doctrine, training, and education.(STOM II-20)

While this change complicates pre-H-Hour unit actions and coordination, these challenges can be overcome through exploitation of increased maneuver space, **improved command and control**, and precision location and navigation systems.(STOM II-17)

The **command and control system** will provide the commander with the ability to see and influence the battlefield, while giving subordinate maneuver commanders the freedom to exploit fleeting opportunities. (STOM II-14)

Possible interpretation of some of the above quotes can define ‘system(s)’ to be technological. Some are in fact technological. However, a command and control system can also be a process, a procedure, or an organization such as CATF/CLF or, in this case, EBS.

Now, take all of the above quotes about command and control and put them in the perspective of the following quotes:

Ship-to-Objective Maneuver calls for rapid projection of combined arms teams ashore, but emphasizes **sea-based** command and control, logistics, and fire support.(STOM II-14) (Emphasis added)

The amphibious operation does not terminate with the transfer of command ashore, but rather with the accomplishment of the mission.(STOM II-15)

The point is that the supported commander will be, and stay, **at sea**.

The next idea has already been touched on, but needs to be reemphasized. It has been said previously that STOM, by definition, negates the need for a beachhead. This concept reinforces the fact that a commander does not need to go ashore. The nature of

EBS assumes that all staff functions can be handled while embarked. There is no provision for going ashore for an extended period of time. This could be considered a weakness in the structure and will have to be examined for a solution.

Because operations will be conducted from the sea, and the sea will be used as a maneuver space, the supported commander will have to be at sea. This idea has been established. The question remains: Why have two commanders? CATF/CLF is redundant where STOM is concerned. With the EBS there is only one commander. This emphasizes the concept of Unity of Command. Unity of Command is a well-accepted principal of war, and is especially important in an expeditionary/amphibious operation. It is challenging, but not impossible under CATF/CLF. With EBS, again, there is one commander, unifying both Naval and Marine Corps forces under a flag or general officer.

4. Expeditionary Maneuver Warfare and EBS

This paper has looked briefly at whether or not EBS is suitable for Ship to Objective Maneuvering and Sea Basing. The third and final doctrinal example will be the Marine Corps' Expeditionary Maneuver Warfare.

STOM changes the way of executing amphibious warfare by getting rid of the ship to shore movement and replacing it with amphibious maneuver. (STOM II-6) The basis for Maneuver Warfare comes from the Marine Corps' paper "Expeditionary Maneuver Warfare" written by none other than the former Commandant of the Marine Corps himself, General Jones. In this paper, the general points to sea basing as an integral part of this new doctrine, and like STOM, he points out the need for C2 to remain at sea.

C2, combat support, and combat service support capabilities will remain at sea to the maximum extent possible and be focused upon supporting expeditionary air and land operations ashore. (EMW 6-7)

In what possibly refers to STOM, EMW says the following:

In partnership with the Navy, Marine forces will use the capabilities of bases and stations and selected naval platforms as "launch pads" to flow into theater. (EMW 7)

This is simply more evidence that new doctrine is emerging to handle the changing global environment of our world. With new doctrine comes the need for a new way of implementation. EMW appreciates that need.

Realizing EMW's full potential will require a developmental effort focused on improving C2.... Achieving these improvements will require integration of both Navy and Marine Corps operational concepts, systems, and acquisition strategies.

Changes in operational and functional concepts may necessitate changes in the integrating concepts of **organization**, deployment, and employment. (EMW 10) (Emphasis added)

As previously shown, EBS is, in fact, an integration of Navy and Marine Corps C2 structures, and it is most certainly a revolutionary change in a fundamental concept.

EMW also states the need for “seamless C2 capabilities throughout the battlespace.” (EMW 12) The paper is primarily referring to the technological improvements that can provide such capabilities, but the requirement can be applied to the chain of command as well. With EBS, one commander provides direction throughout the mission, from start to finish. There is no transfer of command from a Sea commander to a Land commander. That idea removes a ‘seam’ from the battlespace. Granted, that’s quite a stretch of interpretation. However, with one chain of command for an entire operation, no turnover issues are present. Most of the operations envisioned by STOM are fast paced with no room or time to stop and take a break. What would happen if during the course of events a turnover were to occur, even if it’s at an appropriate time? The fast pace of operations would quickly leave the new commander out of the loop requiring him to waste precious time playing “catch-up”. With EBS, no such dangerous time wasting is required.

5. Problems and Disadvantages

It is not possible to successfully debate an issue without looking, at least briefly, at its problems. One such problem includes the command and control issues should operations ashore require additional time. “Additional time” meaning that troops stay ashore longer than the ships can stay at sea or off the coast of the objective. Such a scenario could require that the invading force maintain a presence indefinitely. How

would the EBS adapt to such a requirement? Granted there are so many variables to factor in, it would depend on the specific situation. But the question remains, what if?

This next problem is the antithesis of the reason why CATF/CLF works so well in the current doctrine. CATF/CLF has been researched, experimented on and battle tested. With the exception of a little research on the concept by this author, EBS has none of these. In fact, currently it is little more than an intellectual exercise that is functioning as a thesis. In defense of EBS, amphibious warfare was considered close to impossible until the Marine Corps started looking at it in the 1930s. Not until measures were taken to eventually perfect the art was it accepted as a truly effective way to wage war. If EBS, or a variant thereof, is to become the new command and control concept of the 21st century, then it will have growing pains as well. It needs to be researched further. If research finds EBS to be viable, then experiments need to be conducted. If those are successful and promising, then implementation in the field is the next logical step. If it doesn't work, fine. Something else will take its place. If it does work, though, then the Navy/Marine Corps team will have stumbled on part of the glue that holds the doctrine of the next 60 or so years together.

Before EBS can work, the Navy and Marine Corps must remove at least three obstacles in their path. A couple of these have been inferred indirectly from the previous discussion. They are as follows:

- Ship To Objective Maneuvering (STOM) must be a proved and practiced doctrine.
- The MV-22 Osprey or some other heavy lift aircraft which supports STOM is operational and in the fleet.
- Sea Basing must be a proved and practiced doctrine.

Each one of these assumptions is still in the development phase. Each also has its own critiques and problems that still need to be worked out. In fact, the Navy/Marine Corps team is working toward perfecting the above for use in the future. EBS could never hope to compete with CATF/CLF in the current doctrinal environment. Therefore, until these issues are solved, EBS will not be necessary.

C. PROPOSAL FOR IMPLEMENTATION OF EBS INTO JTFEX

The previous section mentioned experimentation. There are many ways to experiment to determine whether or not EBS is the appropriate command and control system for emerging doctrines. One such method involves inclusion of the staff into a Joint Task Force Exercise (JTFEX) prior to an Amphibious Readiness Group's deployment. Other methods include a Fleet Battle Experiment or an exercise especially designed to test this concept. Before doing so, however, the assumptions mentioned in the previous section must be reviewed.

- The Marine Corps' Ship To Objective Maneuvering (STOM) must be a proved and practiced doctrine.
- The MV-22 Osprey or some other heavy lift aircraft which supports STOM is operational and in the fleet.
- Seabasing must be a proved and practiced doctrine.

As stated previously, these issues need to be solved before any implementation can proceed.

1. Exercise Description

The exercise scenario would be constructed in accordance with that which is envisioned by the Marine Corps' *Ship to Objective Maneuver* and the Navy's *Sea Power 21*. A Commander and Deputy Commander would be chosen to command the blue forces (the good guys). The Commander's staff would be a combination of both the Phibron and the MEU staffs, as described earlier in this chapter.

Since the scenario would include red force opposition between the blue force and its objective, the Commander would be supported by a carrier battle group. The battle group will provide services such as close air support, fires, logistics, mine warfare assets, etc. This emphasizes the need for the supported commander to be of at least equal rank to his supporting commanders.

The EBS should be assembled at least six months prior to exercise commencement. This is to ensure that the new staff has time to develop and work together as a team.

2. Evaluation

Both the EBS and the personnel in charge of the exercise would evaluate the performance of the integrated staff. The evaluation will attempt to answer the following questions with respect to both the exercise and the preparation time preceding it.

- Does the Expeditionary Battle Staff provide an improved command and control environment over CATF/CLF with respect to STOM, Sea Basing, and EMW?

This is the very crux of the issue. The answer will determine the future of EBS. How does one measure improvement? It is difficult without conducting another exercise simultaneously and comparing the two organizations. One measure of effectiveness might be the time required for mission accomplishment. The faster the time might imply that decisions were made in a more expedient manner because of EBS. Another MOE might be how much time is saved by not communicating with a command post ashore, but by simply walking up to the commander on board for direction. Lastly, how did the planning process proceed with only one commander to answer to?

- Where is the location of the office space for the EBS while ashore?

This may seem trivial at first glance, but if subordinates cannot communicate with the command staff in a timely manner, communication breaks down and the commander loses touch with those under his command. The problem is a little more extreme for the Atlantic Fleet because there are several hundred miles between the ARGs and the MEUs. For the Pacific Fleet, the separation is less than 60 miles. Would there be detachments at each location with the main office at the discretion of the CO? Or would there be an office somewhere in the middle?

- What is the best relief cycle for the Commander and Deputy?

This question really can't be solved in an exercise. It would take a few years to experiment on a rotation. However it turns out, one thing is clear. If the staff is commanded by officer of one particular service for too long, that staff takes on the likeness of that service. This can be dangerous as both services each bring expertise to the table. The best relief cycle is one that ensures the staff continues to operate in an effective hybrid of Navy and Marine Corps C2.

- Are number and type of billets sufficient to accomplish the mission?

The irony here is that there are never enough bodies! However, this is a real issue. One MOE might be that for all of the tasks required by the staff, there existed the organic expertise and man power to

accomplish them. Currently staffs do augment by taking personnel from the ships in the Phibron. That might be an acceptable way of doing things in the future as well.

- Should there be any billet modifications?

This is a follow on to the previous question. Are there billets the staff doesn't need? Conversely, are there tasks that the staff is totally incapable of performing because it lacks the subject matter experts? Or are there redundant billets that could save manpower? Experience will determine the need.

- Does EBS support STOM?

This refers to many of the above quotes calling for an improvement of C2 in STOM and EMW. Is EBS the improvement that STOM intended? One MOE would be to determine how well the flow of information moves up and down the chain of command.

- Does this solve the supported/supporting commander issue?

This refers to the supporting commander being of a higher rank to the supported commander. Does the EBS commander's elevation in rank give him more pull in accomplishing the mission? The point could be argued rather successfully that this would be the case.

- How does EBS support putting the force ashore for an extended period?

This is a sticky point in the sense that the probable answer would be in the negative. It also begs the question, if EBS is for a STOM operation, and STOM does not support putting a force ashore on a semi-permanent basis, then would EBS apply? If STOM was designed for a relatively short in-and-out operation then the answer is no. If the mission requires troops be put ashore for an extended time period, and the sea basing infrastructure exists to support it, then a CLF would probably be better suited for this type of command.

- Is the EBS scaleable? Can EBS work with a MEB or a MEF?

The answer to this question could probably be found with a little critical thinking. First of all, if the CNO and the Commandant dictate EBS to, in fact, be scaleable then yes. It would happen. That being said, would it work without such a decree? If EBS was designed for STOM, and STOM was envisioned to employ a MEU-sized force to accomplish an objective, then, no, EBS is not scaleable. If STOM wasn't designed to work with a brigade-sized force or larger, then EBS doesn't apply.

- How well does EBS work in a Joint environment?

The number one MOE in this case is can the ARG/MEU accomplish the mission that the Joint Force Commander (JFC) assigns it? How well does the information flow up and down the chain of command? Does the EBS operate with Joint doctrine or

Navy/Marine Corps doctrine, or a combination of both? And is it effective.

- What doctrine shall EBS use?

For the purposes of this question, doctrine is defined as the procedures by which the Navy and Marine Corps operate. Various examples present themselves: Logistics, tactical air control, communications and tactical nets, force protection, and the list goes on and on. Both services do the same task differently. So before ever reaching an exercise such as a JTFEX, each of these procedures should be reviewed. Then the decision needs to be made, through Command Post Exercises, simulations, drills, etc., which procedure will be followed for each individual task. This is part of the six-month familiarization period for the new staff.

It's possible that not all of these questions can be answered right away, and there are many more not mentioned above. That is the purpose of experimentation. With enough information, an educated assessment of the EBS concept can be made. Hopefully, improvements, either directly or indirectly, will be made in the way the military conducts business in the future because of this concept.

It is possible that JTFEX would not be an appropriate time to evaluate a new command and control organization. In case of failure, what happens during the deployment? A possible solution would be to make the entire deployment an experiment, with the JTFEX as a starting off point in the evaluation.

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V. SUMMARY

This paper has described both a command and control organization known as CATF/CLF and a doctrine in which CATF/CLF is employed. In fact, CATF/CLF works rather well with the Iron Mountain logistical build up ashore. However, as this paper has shown, the military has expressed its desire to depart from such traditional doctrine in favor of a sea-based logistical supply center where the sea is treated as a maneuver space, referring, of course to *Ship to Objective Maneuver*. This sea base also houses the command and control center of the operation, negating the need for a commander ashore. If there is no need for a land-based commander, why is the CATF/CLF still used? Logically, there would only be a need for a CATF *or* a CLF.

The Expeditionary Battle Staff reorganizes both chains of command to form one staff with one commander. On page 25 of this paper STOM mentions giving that command to the landing force commander. The paper encourages giving command of sea assets to an individual who has no experience of operating such forces. If the Marine Corps does not consider this to be a problem, then logically, the reverse could also be true: an Admiral could command ground forces. This is one of the key elements that make EBS work. The commander could be from either service. Yet, a commander is only as good as his staff. If a general has staff members who possess naval experience, then commanding naval assets seems reasonable. Likewise, it is also reasonable if an admiral has staff members who are Marines and understand Marine Corps tactics.

Does this mean EBS is the best command and control system for this new doctrine? The author does not make that assertion. Only with experiments like the JTFEX mentioned in Chapter 5, a Fleet Battle Experiment, or some other experiment will the true potential of EBS be discovered.

This is what the author asserts: Technology, equipment and doctrine are evolving, yet the command and control organization is not. There is an old proverb about putting new wine in old wineskins. The same applies in this case. One cannot develop a new doctrine without providing a suitable command and control organization to administer it. Yet, that is what is happening. Actually, it seems like the CATF/CLF

organization is being modified to fit the new doctrine when a whole new organization is needed instead. At the very least, it is the author's intent to encourage the ladies and gentlemen making the hard decisions at the top to undertake a review of current command and control organizations. This review would determine that new organizations are needed to meet the demands of emerging new doctrines and technologies.

The Expeditionary Strike Group was mentioned in Chapter I. EBS could easily be used as a C2 organization to command an ESG. A few billets would need to be added to the staff to handle the strike capability, and the additional vessels' operations. But the value of an ESG is far greater than not having one. If STOM is to succeed, it will need strike assets, ships capable of supporting fires to a range many miles inland, and close air support. As of right now, with current ship's gunnery technology, the ESG still lacks the capability to give supporting fires from the sea as envisioned in STOM. This is also true in the area of Close Air Support (CAS). While the MEU has aircraft for that purpose, true CAS will not be achieved without support from a CVBG. Technology will mature in the near future to solve the supporting fires issue as well. What's the point of this? The perfect command and control organization for an ESG would be the EBS. In fact, Carrier Group One has already researched the subject and has developed a command staff similar in concept to the EBS. If expeditionary operations is the direction in which the Navy and Marine Corps will go in the future, than ESGs will be here to stay. And they would benefit by a command staff similar to EBS.

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APPENDIX A SHIP TO OBJECTIVE MANEUVERING

This appendix contains verbatim the Marine Corps' paper "Ship to Objective Maneuver." This paper states that certain capabilities need to be improved, among them, command and control. The new operational concept contained in this paper provides part of the basis for the Expeditionary Battle Staff, this thesis' attempt to improve command and control in an ARG. Thus, the reason for its inclusion is to provide the reader with a context to better understand the application for EBS.

A. INTRODUCTION

1. Purpose

The armed forces of the United States require a force projection capability that will secure early and decisive advantages over their enemies. Forcible entry capabilities are a key element of joint doctrine for force projection. Applying the approach to naval warfare outlined in the Department of the Navy White Papers . . . *From the Sea* and *Forward* . . . *From the Sea*, U.S. Naval Forces use command of the seas to gain access and freedom of action in the world's littorals. Taking the operational maneuver space offered by the sea, U.S. forces turn the sea and littorals into vulnerable flanks for potential enemies, assailable at the time and place of the naval commander's choosing. The Marine Corps operational concept for maritime power projection, *Operational Maneuver from the Sea*, establishes clear goals for accomplishment of the objectives of the White Papers. These goals are the foundation for the development of implementing concepts and capabilities. This paper presents one of the key implementing concepts, *Ship-to-Objective Maneuver*, and initiates the Combat Development Process to provide the tools with which the concept will be realized.

2. Background

Marines operate from the assault ships of the U.S. Navy amphibious forces to perform forcible entry missions. Such ships provide the combat systems which facilitate amphibious operations. These combat systems include efficient operating platforms for launch, recovery, and maintenance of landing craft and aircraft; command, control, communications, and intelligence systems; logistical support; unit and staff

accommodations; damage control; and offensive and defensive weapons suites. The ships of the Amphibious Task Force (ATF) can transport, project ashore, support, recover, and redeploy Marine Air-Ground Task Forces (MAGTFs). The critical forward presence role of Navy and Marine forces is most effective when MAGTFs are deployed on board amphibious ships supported by other Navy combatant forces. Such offshore concentrations of force are independent of requirements for bases, ports, airfields, or overflight. They provide the United States with a credible deterrent and immediately available combat power should deterrence fail.

Operational Maneuver from the Sea describes rapid maneuver by landing forces from their ships directly to objectives ashore, uninterrupted by topography or hydrography. Naval forces must dispense with previous amphibious methods in which operational phases, pauses, and reorganizations imposed delays and inefficiencies upon the momentum of the operation.

Technologies available during the early stages of modern amphibious warfare development -- particularly in the areas of mobility, navigation, and command and control -- dictated that the Navy provide both the means of landing force movement and its control. The result was frequently a slow buildup ashore as slow-speed water craft executed an intricate ship-to-shore shuttle from ships operating close to the beach. The landing force was required to secure a lodgment until combat power could be built up sufficiently to allow maneuver to the actual objective. Practical considerations in establishing such a beachhead reduced the littoral area vulnerable to attack.

Emerging technologies represented by the Advanced Amphibious Assault Vehicle (AAAV), MV-22 aircraft, global positioning system (GPS), and developing command and control systems will radically alter the nature of amphibious operations. Landing force units will possess their own mobility systems -- and have the ability to independently navigate across the ocean surface to penetrate the enemy's shoreline at points of their choosing. Freed from the constraints of securing a large beachhead, the commander will be able to focus on the enemy and begin the landing force's maneuver from over the horizon. These new capabilities will enable tactical commanders to make decisions as the situation develops to exploit enemy weaknesses and maintain the

momentum of the attack from the ship to the objective. This combination of maneuver warfare philosophy and emerging technologies will provide the naval force with enhanced combat effectiveness. This paper, *Ship-to-Objective Maneuver*, describes this new tactical concept for conducting amphibious forcible entry.

3. The Battlefield

The requirement for forcible entry from the sea is enduring. Such operations will be accomplished by converting littorals into the enemy's vulnerable flank, obtaining leverage against his operational center of gravity. Regardless of the presence of adjacent land bases, amphibious forces provide the joint force commander a credible and sustainable forcible entry capability.

Hostile combined arms forces supported by integrated air and coastal defense systems remain the greatest threat to landing forces. From mobile or fixed positions, defending forces may attempt to deny landing sites or counter friendly maneuvers ashore. Landing forces may face any combination of obstacles, mines, artillery, missiles, aircraft, submarines, small boats, air defense artillery, and mobile reaction forces. The enemy may attempt to defeat or disrupt the amphibious force by contesting control of the air, surface, or subsurface battlespace. He may attack the naval force at sea, attempt to repel the landing force during the assault phase, counterattack on land to eject the landing force, or any combination of the above. He will employ an array of decoys, deceptive devices and electronic countermeasures to thwart efforts to identify and target his defenses.

The amphibious force and other elements of the naval force will offset these challenges by remaining over the horizon, using the expanded battlespace the sea offers to impede enemy targeting and provide more reaction time to defeat counterstrikes. From this tactically advantageous position, the landing force will be able to maneuver across an unmarked and inherently volatile surface to attack its landward objectives.

B. CONCEPT

1. General

Operational Maneuver from the Sea (OMFTS) requires new tactical concepts for amphibious operations. Although the focus is on operational objectives ashore, the sea becomes essential maneuver space for the landing force. Successful execution of operational maneuver from the sea demands that the landing force maintain the momentum gained by maneuver at sea – through ship-to-objective maneuver. The landing force generates overwhelming tempo and overmatches enemy weaknesses with its power and rapidity of execution. Tactical flexibility, combined with reliable intelligence, will allow it to bypass, render irrelevant, or unhinge and collapse the enemy's defensive measures.

Ship-to-Objective Maneuver (STOM) employs the concepts of maneuver warfare to project a combined arms force by air and surface means against inland objectives. STOM takes advantage of emerging mobility and command and control systems to maneuver landing forces in their tactical array from the moment they depart the ships, replacing the ponderous ship-to-shore *movement* of current amphibious warfare with true amphibious *maneuver*. Historically, reliance on Navy command and control during ship-to-shore movement and the requirement to establish a lodgment ashore worked counter to the principles of maneuver warfare. By executing STOM, landing forces will exploit advanced technologies, which will permit combined arms, maneuver from over-the-horizon attack positions through and across the water, air, and land of the littoral battlespace directly to inland objectives.

True STOM is not aimed at seizing a beach, but at thrusting combat units ashore in their fighting formations, to a decisive place, and in sufficient strength to ensure mission accomplishment. Landing forces will engage enemy units only as necessary to achieve the freedom of action to accomplish operational objectives.

STOM provides the opportunity to achieve tactical as well as operational surprise, something seldom possible in past amphibious operations. Operations will begin from over the horizon and project power deeper inland than in the past, progressing with speed and flexibility of maneuver that will deny the enemy warning and reaction time. *By*

requiring the enemy to defend a vast area against our seaborne mobility and deep power projection, naval forces will render most of his force irrelevant. If the enemy chooses to withhold a strong mobile reserve, he will be attacked with long-range fires. His thinly spread defenses will allow friendly forces greater freedom of maneuver at sea and ashore. Preassault operations will confuse and deceive the enemy, locate and attack his forces, and further limit his ability to react. Naval forces will take advantage of the night and adverse weather conditions, as well as the ability to control the electromagnetic spectrum. These capabilities will enable exploitation of known enemy vulnerabilities, create opportunities, achieve tactical surprise, and result in mission accomplishment.

2. Principles

The key element of OMFTS adapts combined arms penetration and exploitation operations to the environment described in *Operational Maneuver from the Sea*. The result is littoral power projection that exploits significant improvements in tactical mobility to achieve enhanced combat power, and provides theater and joint force commanders a greater range of war fighting options. Ship-to-objective maneuver:

- **Focuses on the operational objective** and provides increased flexibility for landing force commanders to strike enemy critical vulnerabilities. No longer tied to phased operations and the cumbersome development of suitable beachheads, the landing force will concentrate on rendering the enemy ineffective.

- **Treats the sea as maneuver space.** For the force that controls it, the sea is both a protective barrier and highway of unparalleled mobility. Turning the enemy's vulnerable flank, or exploiting gaps in his positions, the landing force thrusts combat units by air and surface deeply into his defensive array. Such maneuvers unhinge the enemy position, making his dispositions increasingly vulnerable and, finally, untenable.

- **Emphasizes intelligence, deception, and flexibility** to drive planning, option selection, and maneuver execution. Naval forces exploit preassault operations to deceive the enemy, determine his dispositions, attack his critical vulnerabilities, and initiate action to gain tactical advantage. They execute these operations *specifically to find or create exploitable gaps*. The common tactical picture provided to all commanders by

advanced command and control systems, combined with the inherent flexibility of STOM, will allow the landing force to exploit such gaps.

- **Applies strength against weakness** and projects combat power through gaps *located or created* in the adversary's defenses. These gaps are not necessarily geographical; they may be exploitable weaknesses, such as limited night fighting capability, poor command and control, lack of endurance or low morale. While the landing force will attempt to bypass the enemy's defensive strength, it may be necessary to neutralize or destroy critical positions in the defensive array, including coastal strong points, in order to cause a rapid disintegration of the enemy force.

- **Creates overwhelming tempo and momentum.** Air and surface units maneuver from ships to inland positions faster than the enemy can effectively react. The landing force maintains the initiative and operates at a pace that allows it to dictate the terms of engagement. Operational surprise, through a combination of secrecy, deception, ambiguity, electronic warfare, lethal attack, and tactical successes, delays enemy recognition and disrupts his response. Complementary actions that fix, confuse, or neutralize the enemy support the rapid and uninterrupted thrust of combat power to decisive points ashore. The enemy will continually face dilemmas and a tempo of operations that denies him control of the battle and keeps him off-balance and reactive.

- **Integrates all elements in accomplishing the mission.** Whether operating in a joint or combined environment, the naval forces will employ all available assets in support of STOM in order to maximize the effectiveness of the landing force.

C. OPERATIONS

1. Overview

Ship-to-Objective Maneuver applies the principles and tactics of maneuver warfare to the littoral battlespace. Specifically, it will allow for conducting combined arms penetration and exploitation operations from over the horizon directly to objectives ashore without stopping to seize, defend, and build up beachheads or landing zones. Landing forces will conduct ship-to-objective maneuver by executing plans which are detailed, but flexible. A focus on the overall objective will drive planning and the scheme of maneuver ashore, allowing commanders to base decisions (such as the time

and place of landing) on enemy gaps, movement of enemy reserves, or other events. Surface and vertical maneuver elements will be employed to accomplish the mission, producing a cumulative effect greater than the sum of the parts. Application of maneuver warfare principles in the execution of ship-to-objective maneuver will require a number of changes to current doctrine, to include:

(1) Landing force maneuver will begin upon crossing the line of departure (LOD). The assembly areas will be the ships themselves, and attack positions will be well offshore.

(2) Assault elements will depart their ships knowing the plan in effect and will proceed from at-sea attack positions to the LOD.

(3) Movement *parallel* to the shore may occur at any point between leaving the ships and crossing the high-water mark. The shift from amphibious task force control to landing force control will occur at or before the LOD.

(4) At any point after reaching the attack position, tactical commanders on the scene may choose to vary their attack formations and axes and give other tactical directions based upon the changing situation and commander's intent.

(5) Tactical commanders plan landing force maneuver options so that they can exploit up-to-date information and cross the beach at the most advantageous points. They would normally seek gaps in the enemy defenses, but sometimes operational considerations may require a deliberate assault against a defended position.

Four new coordination measures will be needed to control maneuver forces in the expanded battlespace of ship-to-objective maneuver: Littoral Penetration Area (LPA), Littoral Penetration Zone (LPZ), Littoral Penetration Site (LPS), and Littoral Penetration Point (LPP). These are defined as follows:

Littoral Penetration Area - *A geographic area designated for purposes of command and control through which naval forces conduct littoral penetration operations. This area must be of sufficient size to permit the unrestricted conduct of sea, air, and land operations. Normally one LPA will be associated with each possible objective area.*

Littoral Penetration Zone - LPAs can be subdivided into smaller geographical zones to enhance command and control or to facilitate coordination of maneuver and fires. Each LPZ can contain several alternative axes for use by vertical or surface assault forces.

Littoral Penetration Site - A continuous segment of coastline within an LPZ through which landing forces cross by surface or vertical means.

Littoral Penetration Point - A point in an LPS where the actual transition from waterborne to land borne movement occurs (“feet wet” to “feet dry” for flying elements). Capitalizing on the precision location and navigation capabilities of the landing force, an LPP need only be large enough to support the passage of a single craft, but it may be used by a maneuver element or series of maneuver elements passing in column.

When the terrain provides adequate space, the maneuver element may cross the LPP in its tactical formation. As maneuver elements touch down on the shore, the transition from maneuver on the sea to land maneuver must be seamless, allowing the force to maintain momentum and tempo so as to conduct deep penetrations and reach inland objectives quickly. The landing force will attack enemy critical vulnerabilities, creating and exploiting new opportunities until achieving a decisive advantage. Vertical and surface maneuver forces bring complementary capabilities to the battle, permitting operations to continue unabated until the forces achieve their objectives. Vertical assault forces may attack key positions within the enemy defenses and continue to maneuver on the ground or repeat their vertical assaults on subsequent objectives. Surface assault units accomplish assigned missions and keep pressure on the enemy, either linking up or maneuvering in tandem with the vertical assault units.

The command and control system will provide the commander with the ability to see and influence the battlefield, while giving subordinate maneuver commanders the freedom to exploit fleeting opportunities. Plans will be based on accurate intelligence, but an understanding of the commander’s intent will permit maneuver unit commanders to adapt their actions to the changing situation.

Ship-to-Objective Maneuver calls for rapid projection of combined arms teams ashore, but emphasizes *sea-based* command and control, logistics, and fire support. Improved information connectivity allows the landing force command element to remain at sea, capable of effective command, but better protected from enemy attack. When afloat, the headquarters retains direct influence upon naval support operations, but does not drain scarce landing force combat and logistic resources. The seabasing concept calls for ships of the amphibious task force to serve as floating combat service support platforms to resupply the combat units rapidly and directly, fully exploiting the lift and mobility offered by landing craft, air cushion (LCAC) and vertical take-off and landing (VTOL) aircraft. By seabasing most supporting fires, landing force vulnerability and footprint ashore are significantly reduced, greatly improving freedom of maneuver and enabling the naval force to project ashore combat formations which are leaner, lighter, and more effective.

In Ship-to-Objective Maneuver, the distinction between advance force operations and the assault fades. Historically, amphibious operations have relied on successful preassault operations. A dedicated advance force which preceded the main body of the amphibious task force conducted deception operations, mine clearing, fire support, and obstacle reduction in the objective area. While such tasks remain critical to the success of ship-to-objective maneuver, it may no longer be desirable to establish a separate advance force to perform them. Reconciling the contradictory requirements of preassault operations and surprise requires a change in our concept of advance force operations. The benefits of surprise are so important that, with the exception of deception, those functions which cannot be executed by clandestine means must be performed “in-stride” by assault units. Thus, future operations will emphasize clandestine efforts to determine enemy strengths and weaknesses by locating and identifying mines, obstacles, fire support units, critical command and control nodes, and force dispositions. Breaching, preparatory fires, and obstacle clearing -- traditionally preassault tasks -- will become an integral part of the assault phase.

As the phasing of the assault changes, so does the organization of the landing force. The separation of the landing force into the five traditional movement categories of scheduled waves, on-call waves, prepositioned emergency supplies, remaining landing

force supplies, and nonscheduled units disappears in ship-to-objective maneuver. By task organizing landing units into combined arms teams, the requirements for specialized units in on-call waves are reduced.

The amphibious operation does not terminate with the transfer of command ashore, but rather with the accomplishment of the mission. The MAGTF may then either transition to subsequent operations ashore, or reembark on board the ships of the amphibious task force to prepare for further force projection operations. A general unloading of the landing force will not take place.

a. Surface Maneuver Force

The surface assault force consists of self-contained combined arms teams. After leaving the ship, these teams maneuver in AAVs and LCACs over the sea under the direction of their tactical commanders, much as land forces maneuver across a desert. The rapid movement of this force inland to their objectives reduces landing force vulnerability to enemy beach defenses and creates a tempo of operations that will outpace the enemy's ability to react. The combined arms teams include supply and maintenance capabilities that will be replenished and augmented as required from the seabase.

The flexibility offered by the combination of AAVs and LCACs will provide multiple penetration options for each maneuver element. Overwhelming combat power will be concentrated from several directions using organic firepower of maneuver units and sea-based fires. Highspeed amphibious mobility will enable friendly forces to reinforce success quickly by redirecting their efforts toward gaps found or created in enemy defenses. Given the range and speed of the AAV and LCAC, these forces might penetrate the enemy's coast outside the area they intend to control, and then attack back into the vital area. Subsequent surface elements may not penetrate at the same points as initial elements. As defenses are turned and impediments destroyed, subsequent elements will be able to penetrate at the points most advantageous to their mission, rather than simply follow in trace.

b. Vertical Maneuver Force

A deep vertical envelopment presents the enemy with a dilemma. If he reacts to the vertical assault force, he risks increasing his vulnerability to other vertical

assaults, to the maneuver of the surface assault force, and to supporting fires. If he ignores the vertical assault force, it can cause significant damage and seize objectives facilitating the surface assault, creating other opportunities for exploitation. The MV-22 and CH-53E offer mobility which enables the vertical assault force to attack from over the horizon and strike rapidly at deep objectives, reembark, and strike other objectives before the enemy can react.

As with the surface elements, vertical assault units will operate on multiple axes and not be restricted to the same Littoral Penetration Points previously used. Furthermore, the endurance and speed of the MV-22 permit multiple lifts and extractions of the same unit, providing a flexibility of maneuver seldom before achieved in vertical assault operations. The ability to insert deep and then conduct bounding maneuver will allow the vertical assault force to maintain a rapid tempo, exploiting freedom of maneuver, destroying the enemy's forces through supporting fires, without allowing the vertical assault force to become decisively engaged.

2. Planning

While detailed tactics, techniques, and procedures will evolve, ship-to objective maneuver planning will follow the basic doctrinal principles established in Joint Publication 3-02, *Joint Doctrine for Amphibious Operations*. Forces will focus planning on mission objectives and the scheme of maneuver ashore, culminating in a landing plan. The major differences between traditional and future amphibious power projection planning are the elimination of the requirement for a force beachhead and the need to plan for several schemes of maneuver, all of which must be supported by a single embarkation plan. Future landing forces will attack through littoral penetration points that best support accomplishment of the operational mission. The best option might not be the shortest route, but the one that best takes advantage of gaps in the enemy defenses. Some situations will require creating a gap by destroying enemy forces.

Several factors will influence planning for ship-to-objective maneuver. First and foremost is the objective. *Operational Maneuver from the Sea* envisions the accomplishment of a significant operational or strategic objective. It is not an assault to seize a beachhead. All decisions will be based upon this overall objective, from landing

force missions to the degree of risk acceptable to the force as a whole. The practical implications for the landing force include assembly areas and attack positions that remain miles offshore. While this change complicates pre-H-Hour unit actions and coordination, these challenges can be overcome through exploitation of increased maneuver space, improved command and control, and precision location and navigation systems. Launching the attack from over the horizon will enhance security while expanding the potential for surprise.

The second major factor involves the execution and timing of preassault tasks, such as minefield and obstacle breaching. If such obstacles cannot be avoided, surface assault forces must time their landing to coincide with the successful completion of breaching operations. This requires an in-stride breaching capability.

The third factor which influences planning for ship-to-objective maneuver is task organization and embarkation of the landing force. Since landing forces, especially Marine Expeditionary Units (MEUs), will often deploy prepared and embarked to accomplish a variety of missions, the doctrinal sequence of planning, embarkation, rehearsal, movement, and assault (PERMA) might often become EMPRA, with embarkation and movement occurring prior to the planning, rehearsal, and assault phases of an amphibious operation.

A fourth and closely related factor deals with distances, cycle times, and lift availability for the landing. For the task-organized assault force, launch and coordinated movement from widely dispersed ships will require the use of precision location and navigation systems to achieve appropriate arrival at the LOD. Tactical commanders of landing force units must coordinate movement of combined arms teams embarked in AAVs and LCACs to maintain unit integrity and combat power. Different launch distances, varying craft and vehicle speeds, and the potential requirement to divert critical lift assets to alternate ships as losses occur will complicate coordination.

Ship-to-objective maneuver requires tactical commanders of individual landing units to control their own unit's movement. This must include the authority to divert through alternate Littoral Penetration Sites or Points, as the situation dictates. Those

permissive tactical control measures used in ground operations will be extended seaward and applied to the amphibious assault.

While less precisely defined than the factors listed above, operations conducted with dispersed forces maneuvering over extended distances will impact planning. Concentrating combat power, providing fire support, sustaining the landing force, and conducting mutually supporting attacks will require extensive planning, training, and shared situational awareness.

3. Execution

Landing force surface maneuver will require careful coordination between elements of combined arms landing teams. These teams, generally embarked in a mix of AAVs and LCACs, will deploy from a number of dispersed amphibious ships. Initially, the amphibious task force commander will vector units to attack positions seaward of their planned Littoral Penetration Sites. As in a combined arms attack ashore, units will use attack positions to complete final preparations by assuming tactical formations, confirming orders, and accomplishing any “last minute” tasks. Attack positions can also serve as decision points for selecting a course of action from multiple options supporting the scheme of maneuver.

Different missions, movement rates, and survivability factors will determine the sequence and timing of each element through the attack positions. After crossing the LOD, landing elements will begin their run at their Littoral Penetration Points and inland objectives. Amphibious task force and landing force commanders will continue to monitor progress, though the landing unit tactical commanders will now have the authority to maneuver as required, depending upon the tactical situation. Attack helicopters may escort the AAV and LCAC-mounted surface force to provide added capability against hostile watercraft during the long transit to the objective. Careful coordination by individual unit commanders will ensure that units cross Littoral Penetration Points with tactical integrity and cohesion intact, ready to prosecute the scheme of maneuver.

Resistance at the beach is always possible. The leading elements of the landing force, mounted in AAVs, will provide supporting arms and direct fire to overcome resistance in the vicinity of the LPP. Leading assault elements will maneuver to clear sufficient space, laterally and in depth, to ensure secure offloading of LCACs, while continuing the rapid inland penetration uninterrupted.

In concert with the surface assault, the vertical assault force will maneuver inland, using evasive routes, feints, and alternate approaches to confuse enemy defenses. Commanders will coordinate vertical assault and surface assault times to achieve maximum enemy disruption. Timing of the landings is designed to maintain tempo and overwhelm local defenses. The number of vehicles or aircraft in each element and the time between elements will depend on the mission, enemy situation, and characteristics of the Littoral Penetration Zone. Each landing team may embark on different ships in order to facilitate near simultaneous launching as cohesive units. While such dispersion is not ideal for administrative purposes during the movement phase of an operation, it will speed the landing of cohesive combat units during the assault phase. With all of its nonamphibious vehicles loaded in LCACs, a tactical commander can maneuver his unit so that it will be able to land as a combat team regardless of the number of ships upon which it was embarked.

4. Key Capabilities

Successful implementation of the *Ship-to-Objective Maneuver* concept will require improvements in mobility, command and control, intelligence, fires, sea-based logistics, organization, doctrine, training, and education. Specific capabilities that we must achieve through the combat development process are outlined below.

a. Mobility

The landing force must maneuver from attack positions well offshore through Littoral Penetration Points and rapidly to inland objectives. This requires surface and vertical assault systems with the speed, range, precision location and navigational capabilities, protection, and firepower to launch from over-the-horizon positions, maneuver toward any Littoral Penetration Point, and crack the environmental and defensive shell of the Littoral Penetration Area while maintaining the momentum of the

attack. The technologies required to provide these capabilities are under development, and the combat systems implementing these technologies are the highest acquisition priority in the Marine Corps. These include the Advanced Amphibious Assault Vehicle (AAAV), a highly capable assault support aircraft (MV-22), and surface craft and aircraft to deliver equipment and supplies throughout the littoral region. A force properly equipped with the AAAV, LCAC, MV-22 and CH-53E, and supported by sufficient numbers of amphibious and support ships, will provide the required operational capabilities in the early 21st Century.

The landing force must also locate, identify, and overcome both natural and manmade impediments to mobility. Mines, obstacles, adverse terrain, and built-up areas can all impede the mobility of the landing force. Just as in land maneuver, the surface assault force must be able to penetrate obstacles between the LOD and final objectives either through preexisting gaps or by breaching. To accomplish these tasks, robust mine reconnaissance and rapid in-stride breaching capabilities are essential.

b. Command and Control

Command and control provides the mechanism by which a commander recognizes what needs to be done and communicates those actions required to ensure mission accomplishment. Maneuver warfare emphasizes decentralized execution with subordinate commanders exercising the maximum possible latitude in performing assigned missions. Command and control systems must provide landing force commanders at all echelons a common operational picture and the connectivity to monitor execution and to influence events when necessary.

c. Intelligence

Satisfaction of intelligence requirements is critical. The most immediate intelligence priority for *Ship-to-Objective Maneuver* is locating and identifying enemy forces and impediments to mobility. The landing force will exploit this intelligence throughout the operation using “reconnaissance pull” tactics to take advantage of gaps while avoiding obstacles and strong points. Commanders at all levels require timely access to all-source intelligence relevant to their immediate needs. They must be able to request and receive specific, real-time, and near- real-time information in a usable format,

whether they are embarked, maneuvering toward objectives, or conducting subsequent operations ashore.

d. Fires

Fire support of ship-to-objective-maneuver must provide immediate and responsive high volume suppression and neutralization fires in support of all landing force elements. Unit commanders at all levels will call for and control the fires of organic and supporting arms. Fire support systems must be capable of providing highly accurate and lethal long-range fires to simultaneously satisfy the needs of both the vertical assault and the surface assault. Furthermore, these fires must be available “around the clock” and in all weather conditions. Fire support agencies must respond to calls for fire with sufficient speed and accuracy to support landing force maneuver.

e. Information Operations

Ship-to-objective maneuver relies on surprise, deception and ambiguity to create exploitable gaps in the enemy’s dispositions and reactions. Friendly forces must not only have the capability to gain knowledge about the enemy, but also the resources to develop and execute convincing deceptions. Having “painted a picture” for the enemy, they must then be able to selectively disrupt and degrade his command and control systems to delay his recognition of the actual situation. The capability to defeat the enemy’s command and control system while protecting its own will give the naval force an important edge.

f. Sea-based Logistics

Sustaining deeply inserted vertical assault forces and rapidly penetrating surface assault forces from a seabase presents a critical challenge. The absence of dumps ashore, limited resupply delivery means, and rapidly maneuvering combat forces combine to make “logistics push” techniques undesirable and infeasible. Maneuver units will operate under a “logistics pull” concept, drawing support from the floating combat service support areas. This will require total asset visibility and selective offload capability within the seabase, and systems for delivering tailored logistic packages directly to the using element.

g. Organization, Doctrine, and Training and Education

The human element is as important to the implementation of *Ship-to-Objective Maneuver* as are materiel improvements. Placing responsibility on the landing force commander for controlling movement from the ship to the objective is a significant departure from current doctrine. The organization and coordination agencies of the naval force must adapt to fully exploit the advantages offered by new technology. Tactical maneuver unit commanders will now direct ship-to-objective maneuver from attack positions located beyond the horizon all the way to objectives located deep inland, coordinating movement with higher and adjacent units, calling for fires, and making rapid decisions to achieve the commander's intent. Preparing future naval leaders to deal with the challenges and opportunities of conducting maneuver warfare in the littoral battlespace will require that:

- Naval service schools impart a common understanding of this emerging doctrine and its underlying philosophy.
- Navy and Marine units develop and refine tactics, techniques, and procedures through unit, staff, and task force exercises.
- Realistic naval power projection simulations stimulate and encourage initiative, imagination, boldness, and rapid decision-making in exercises and in operations.

D. SUMMARY

Ship-to-Objective Maneuver is a tactical concept for the conduct of amphibious operations in support of *Operational Maneuver from the Sea*. It applies maneuver warfare concepts to the littoral battlespace. By doing so, a landing force will be capable of seamless maneuver from over the horizon directly against objectives deep inland. Through application of the tenets contained in this concept paper, the principles of *Operational Maneuver from the Sea* are integrated with those of maneuver warfare, as described in MCDP-1, *Warfighting*.

Ship-to-Objective Maneuver and *Operational Maneuver from the Sea* mark a major evolution in amphibious warfare. These concepts take advantage of innovations in technology to enhance the capability of naval forces to conduct amphibious operations in

the 21st Century. *Ship-to-Objective Maneuver* directly links maneuver at sea to maneuver on land, enabling naval forces to fully apply the principles of maneuver warfare in support of *Operational Maneuver from the Sea*. The improvements in doctrine, organization, training and education, and equipment outlined above will result in unprecedented operational flexibility and a greatly improved capacity to project power ashore. (DON 1997)

APPENDIX B SEA POWER 21/SEA BASING

This appendix explains Sea Basing. It is the second of three appendices to present a doctrinal basis for the Expeditionary Battle Staff. Section A contains portions of an article written by Admiral Vern Clark about Sea Power 21. Section B contains an article on Sea Basing by Admiral Charles Moore. The contents of both sections have been taken verbatim from recent issues of "Proceedings". See the bibliography for a more detailed reference.

A. SEA POWER 21

The 21st century sets the stage for tremendous increases in naval precision, reach, and connectivity, ushering in a new era of joint operational effectiveness. Innovative concepts and technologies will integrate sea, land, air, space, and cyberspace to a greater extent than ever before. In this unified battlespace, the sea will provide a vast maneuver area from which to project direct and decisive power around the globe.

Future naval operations will use revolutionary information superiority and dispersed, networked force capabilities to deliver unprecedented offensive power, defensive assurance, and operational independence to Joint Force Commanders. Our Navy and its partners will dominate the continuum of warfare from the maritime domain—detering forward in peacetime, responding to crises, and fighting and winning wars.

By doing so, we will continue the evolution of U.S. naval power from the blue-water, war-at-sea focus of the "Maritime Strategy" (1986), through the littoral emphasis of ". . . From the Sea" (1992) and "Forward . . . from the Sea" (1994), to a broadened strategy in which naval forces are fully integrated into global joint operations against regional and transnational dangers.

To realize the opportunities and navigate the challenges ahead, we must have a clear vision of how our Navy will organize, integrate, and transform. "Sea Power 21" is that vision. It will align our efforts, accelerate our progress, and realize the potential of our people. "Sea Power 21" will guide our Navy as we defend our nation and defeat our enemies in the uncertain century before us.

The events of 11 September 2001 tragically illustrated that the promise of peace and security in the new century is fraught with profound dangers: nations poised for conflict in key regions, widely dispersed and well-funded terrorist and criminal organizations, and failed states that deliver only despair to their people.

Previous strategies addressed regional challenges. Today, we must think more broadly. Enhancing security in this dynamic environment requires us to expand our strategic focus to include both evolving regional challenges and transnational threats. This combination of traditional and emerging dangers means increased risk to our nation. To counter that risk, our Navy must expand its striking power, achieve information dominance, and develop transformational ways of fulfilling our enduring missions of sea control, power projection, strategic deterrence, strategic sealift, and forward presence.

Three fundamental concepts lie at the heart of the Navy's continued operational effectiveness: Sea Strike, Sea Shield, and Sea Basing. Sea Strike is the ability to project precise and persistent offensive power from the sea; Sea Shield extends defensive assurance throughout the world; and Sea Basing enhances operational independence and support for the joint force. These concepts build upon the solid foundation of the Navy-Marine Corps team, leverage U.S. asymmetric advantages, and strengthen joint combat effectiveness.

We often cite asymmetric challenges when referring to enemy threats, virtually assuming such advantages belong only to our adversaries. "Sea Power 21" is built on a foundation of American asymmetric strengths that are powerful and uniquely ours. Among others, these include the expanding power of computing, systems integration, a thriving industrial base, and the extraordinary capabilities of our people, whose innovative nature and desire to excel give us our greatest competitive advantage.

Sea Strike, Sea Shield, and Sea Basing will be enabled by ForceNet, an overarching effort to integrate warriors, sensors, networks, command and control, platforms, and weapons into a fully netted, combat force. We have been talking about network-centric warfare for a decade, and ForceNet will be the Navy's plan to make it an operational reality. Supported by ForceNet, Sea Strike, Sea Shield, and Sea Basing capabilities will be deployed by way of a Global Concept of Operations that widely

distributes the firepower of the fleet, strengthens deterrence, improves crisis response, and positions us to win decisively in war.

1. Sea Strike

Projecting decisive combat power has been critical to every commander who ever went into battle, and this will remain true in decades ahead. Sea Strike operations are how the 21st-century Navy will exert direct, decisive, and sustained influence in joint campaigns. They will involve the dynamic application of persistent intelligence, surveillance, and reconnaissance; time-sensitive strike; ship-to-objective maneuver; information operations; and covert strike to deliver devastating power and accuracy in future campaigns.

Knowledge dominance provided by persistent intelligence, surveillance, and reconnaissance will be converted into action by a full array of Sea Strike options—next-generation missiles capable of in-flight targeting, aircraft with stand-off precision weapons, extended-range naval gunfire, information operations, stealthy submarines, unmanned combat vehicles, and Marines and SEALs on the ground. Sovereign naval forces will exploit their strategic flexibility, operational independence, and speed of command to conduct sustained operations 24 hours per day, 7 days per week, 365 days per year.

When we cannot achieve operational objectives from over the horizon, our Navy-Marine Corps team moves ashore. Using advanced vertical and horizontal envelopment techniques, fully netted ground forces will maneuver throughout the battlespace, employing speed and precision to generate combat power. Supported by sea bases, we will exploit superior situational awareness and coordinated fires to create shock, confusion, and chaos in enemy ranks. Information superiority and networking will act as force multipliers, allowing agile ground units to produce the warfighting impact traditionally provided by far heavier forces, bringing expeditionary warfare to a new level of lethality and combat effectiveness.

Sea Strike capabilities will provide Joint Force Commanders with a potent mix of weapons, ranging from long-range precision strike, to covert land-attack in anti-access environments, to the swift insertion of ground forces. Information superiority will

empower us to dominate timelines, foreclose adversary options, and deny enemy sanctuary. Sea Strike operations will be fully integrated into joint campaigns, adding the unique independence, responsiveness, and on-scene endurance of naval forces to joint strike efforts. Combined sea-based and land-based striking power will produce devastating effects against enemy strategic, operational, and tactical pressure points—resulting in rapid, decisive operations and the early termination of conflict.

2. Sea Shield

Traditionally, naval defense has protected the unit, the fleet, and the sea lines of communication. Tomorrow's Navy will do much more. Sea Shield takes us beyond unit and task-force defense to provide the nation with sea-based theater and strategic defense.

Sea Shield will protect our national interests with layered global defensive power based on control of the seas, forward presence, and networked intelligence. It will use these strengths to enhance homeland defense, assure access to contested littorals, and project defensive power deep inland. As with Sea Strike, the foundation of these integrated operations will be information superiority, total force networking, and an agile and flexible sea-based force.

Maritime patrol aircraft, ships, submarines, and unmanned vehicles will provide comprehensive situational awareness to cue intercepting units. When sent to investigate a suspicious vessel, boarding parties will use advanced equipment to detect the presence of contraband by visual, chemical, and radiological methods. Forward-deployed naval forces will also protect the homeland by engaging inbound ballistic missiles in the boost or mid-course phase, when they are most vulnerable to interception. In addition, our nuclear-armed Trident ballistic missile submarine force will remain on silent patrol around the world, providing the ultimate measure of strategic deterrence. These highly survivable submarines are uniquely powerful assets for deterring aggressors who would contemplate using weapons of mass destruction.

Achieving battle-space superiority in forward theaters is central to the Sea Shield concept, especially as enemy area-denial efforts become more capable. In times of rising tension, pre-positioned naval units will sustain access for friendly forces and maritime trade by employing evolving expeditionary sensor grids and advanced deployable

systems to locate and track enemy threats. Speed will be an ally as linked sensors, high-speed platforms, and improved kill vehicles consolidate area control, including the location and neutralization of mines via state-of-the-art technology on dedicated mine warfare platforms and battle group combatants. Mission-reconfigurable Littoral Combat Ships, manned and unmanned aviation assets, and submarines with unmanned underwater vehicles will gain and maintain the operational advantage, while sea-based aircraft and missiles deliver air dominance. The result will be combat-ready forces that are prepared to "climb into the ring" to achieve and sustain access before and during crises.

Perhaps the most dramatic advancement promised by Sea Shield will be the ability of naval forces to project defensive power deep overland, assuring friends and allies while protecting joint forces ashore. A next-generation long-range surface-to-air Standard Missile, modernized E-2 Hawkeye radar, and Cooperative Engagement Capability will combine to extend sea-based cruise missile defense far inland. This will reinforce the impact of sea-based ballistic missile defense and greatly expand the coverage of naval area defense. These capabilities represent a broadened mission for our Navy that will lessen the defensive burden on land forces and increase sea-based influence over operations ashore.

The importance of Sea Shield to our nation has never been greater, as the proliferation of advanced weapons and asymmetric attack techniques places an increasing premium on the value of deterrence and battlespace dominance. Sea Shield capabilities, deployed forward, will help dissuade aggressors before the onset of conflict. In addition, Sea Shield will complement Sea Strike efforts by freeing aviation forces previously devoted to force defense, allowing them to concentrate on strike missions and generate far greater offensive firepower from the fleet. In sum, Sea Shield will enhance crisis control, protect allies and joint forces ashore, and set the stage for combat victory—providing a powerful new tool for joint combatant commanders in this dangerous age. (Clark, Oct 02)

B. SEA BASING

1. Operational Independence

Sea Basing is the core of "Sea Power 21." It is about placing at sea—to a greater extent than ever before—capabilities critical to joint and coalition operational success: offensive and defensive firepower, maneuver forces, command and control, and logistics. By doing so, it minimizes the need to build up forces and supplies ashore, reduces their vulnerability, and enhances operational mobility. It leverages advanced sensor and communications systems, precision ordnance, and weapons reach while prepositioning joint capabilities where they are immediately employable and most decisive. It exploits the operational shift in warfare from mass to precision and information, employing the 70% of the earth's surface that is covered with water as a vast maneuver area in support of the joint force.

Sea Basing will be increasingly central to joint military planning because the traditional advantages enjoyed by afloat forces—such as independence, mobility, and security—are becoming ever more important to military affairs, while traditional limitations of sea-based forces—including operational reach and connectivity—have been largely overcome by new technologies and concepts of operations. These advances in sea-based capabilities could not come at a more critical time, as political and military barriers to access ashore are growing worldwide. Because of these changes, the value of Sea Basing in an increasingly interdependent world will continue to rise—providing operational freedom for joint and coalition forces, compressing deployment timelines, strengthening deterrence, and projecting dominant and decisive combat power from the sea.

In a world of hidden and fleeting enemies, Sea Basing provides the joint force commander with dispersed, netted, and sovereign platforms that are ready to respond. To accomplish this mission, the sea base is comprised of distributed forces of many types, including carrier strike groups, expeditionary strike groups, combat logistics force ships, maritime prepositioning force platforms, and, in the years ahead, high-speed support vessels. Working together, these forces mass effects rather than platforms, increasing sensor coverage and force protection while focusing offensive and defensive firepower

throughout the battlespace. This increase in operational effectiveness is possible because naval capabilities are evolving in important ways.

2. Precise and Persistent Firepower

Sea Basing is the foundation for Sea Strike and Sea Shield, complementary capabilities that strengthen deterrence and warfighting. Sea-based offensive and defensive power assures friends and allies, enhances coalition building, and guards against international coercion; missions that will grow in importance as advanced warfighting technologies proliferate.

Sea-based forces are projecting power over longer distances and with far greater precision than in the past. For example, the F/A-18 C/D, the current workhorse of the fleet, has an unrefueled operational mission radius of approximately 500 miles. The F/A-18 E/F Super Hornet, which already has flown combat missions in the war on terrorism, extends that range to more than 650 miles. The Joint Strike Fighter, which will enter the fleet in the next decade, will have a combat radius of 800 miles. The MV-22 tilt-rotor aircraft will have five times the range of current helicopters and the Advanced Gun System will support maneuver forces by extending precision gunfire from 10 miles to 100 miles, vastly increasing the target set vulnerable to sea-based gunfire. At the same time, the Advanced Assault Amphibious Vehicle will provide the Marine Corps much needed over the horizon mobility and remarkably improved firepower.

Increased range is augmented with increased precision. Over the past ten years, precision weapons with extended standoff capability have advanced from a niche capability to an operational requirement. During Operation Desert Storm in 1991, precision weapons represented only 10% of munitions expended. In 2001, during the initial phases of Operation Enduring Freedom in Afghanistan, precision weapons accounted for more than 90% of weapons employed. This ability to effectively target and engage with pinpoint accuracy gives our forces the scaleable combat power necessary to dominate today's military environment. In addition, efficiencies inherent in precision strike radiate from the battlefield to the factory, requiring fewer weapons to be produced, shipped, stored, and employed. This movement from mass to precision greatly enhances the effectiveness of Sea Basing.

The sliding scale between mass and precision is equally evident in maneuver. In step with the improvements achieved in precision weaponry is a complementary shift toward precision maneuver. Netted intelligence, surveillance, and reconnaissance with increased speed of seaborne and airborne platforms permit the discernment and rapid maneuver against and exploitation of gaps in an adversary's defenses. Precision navigation systems allow forces to move through cleared lanes created in obstacle belts and minefields, eliminating the need to clear entire shorelines. Sea Basing also improves the speed by which maneuver forces operate by retaining command and control, fire support, and logistics functions at sea. Precision maneuver capitalizes on the improved accuracy of fire support systems and munitions to enable a tempo of operations the adversary cannot match.

3. Operational Maneuver at and From the Sea

The essence of Sea Basing is the exploitation of the sea, an obstacle for those who cannot control it, as maneuver space for friendly forces. By controlling the sea, the U.S. Navy creates a sanctuary for joint forces. Using the sea as maneuver space, afloat forces are capable of presenting an adversary with a mobile and multidimensional threat that overextends his capabilities and generates exploitable gaps and vulnerabilities. The inherent operational mobility of the sea base enables naval forces to place enemy forces and critical infrastructure at risk across the length of his coastline. The significantly expanded operational reach enabled by sea-based fires and maneuver capabilities will further increase an adversary's vulnerabilities deep inland. This power projection capability can be exploited for forcible entry, enabling the establishment ashore of follow-on land based joint forces. Subsequently, the maneuver capabilities of the sea base will allow naval forces to operate opportunistically off an adversary's coast, striking from the sea with fire and maneuver as vulnerabilities are discerned or created.

The economy and benefits of sea-based maneuver are best appreciated from the perspective of the enemy, who faced with a combined arms sea-based threat is placed on the horns of a dilemma. He can dissipate his force along the length of his coast or concentrate forces at strategic points; in either case naval and joint forces will maneuver throughout the battle space to defeat local forces in detail while striking critical nodes.

By placing the enemy in a no-win situation, sea-based forces contribute greatly to the joint campaign and fully exploit the advantages of sea control.

4. Global Connectivity

Tremendous advances in afloat connectivity over the past decade have knitted sea-based forces into the larger world around us. Situational awareness is shared real-time across all forces and with theater and national decision-makers. Support data have increased dramatically, providing greater efficiency, higher readiness, and access to expertise and information through reach-back systems. Collaborative planning and training systems, including video teleconferencing from sea, allow forces to arrive on scene with the latest information, ready for immediate employment. This web of connectivity turns individual ships into elements of a dispersed but integrated force—a sea base—from which commanders exercise control in secure and mobile facilities, accelerating the speed and accuracy of assessment, decision, and action at every level of command.

5. Responsive Logistics

Twenty-first century operational logistics increasingly will leverage information to achieve efficiencies and provide support at the time and place of greatest impact. This shift toward anticipatory, responsive logistics—which is just beginning—will make Sea Basing of integrated joint logistics support increasingly possible, minimizing dependence on large and vulnerable bases ashore.

In pursuit of this goal, sea-based logistics are building upon a rich tradition that includes the legendary World War II fleet train of support ships that operated just behind the battle fleets. Today's Military Sealift Command (MSC) has inherited this role. Comprised of 119 fully operational ships—72% of which are deployed at any time—and another 96 surge ships, MSC supports fleet operations with oilers, stores ships, ammunition ships, ocean-going tugs, hospital ships, and other vessels. In addition, MSC has maintained prepositioned support forces in the Mediterranean Sea, Indian Ocean, and Western Pacific since the early 1980s. These assets are truly joint, including 40 ships to supply the Marine Corps, Army, Navy, and Air Force. By keeping these arsenals of U.S. firepower in theater, MSC provides the nation with decreased deployment and

employment timelines, expanded military options, and greater operational responsiveness to the joint force commander.

The Naval Supply Systems Command is another important change agent in enhanced Sea Basing. Its more than 8,000 logistics professionals are striving to achieve one-touch supply on a global scale, providing web-based, single-point-of-entry support to save customer time and increase anticipation of demand. As with the MSC, the Naval Supply Systems Command is expanding its partnership with the other services and the Defense Logistics Agency by leveraging information technologies and expanded communications tools to increase situational awareness and capture joint efficiencies. The result will be improved speed of response and operational agility.

6. The Way Ahead

We are only beginning to exploit the full potential of Sea Basing. In support of joint and coalition operations, maritime forces will provide Sea Strike and Sea Shield capabilities of unprecedented range and accuracy, global connectivity of great capacity and survivability, and streamlined logistics to support joint forces throughout the battle space. Sea-based forces will minimize reliance on ashore infrastructure by challenging all assumptions that result in the shore basing of operational capabilities. The reasoning is direct: less reliance on shore basing equals more operational flexibility. This means taking advantage of every opportunity to place enhanced capabilities at sea and improving the reach, persistence, and sustainability of systems that already are based afloat.

7. Improved Joint Effectiveness

The future is all about jointness, from initial planning through mission completion. Every facet of sea-based operations must focus on the bigger picture. Defensive assurance will be derived from the integration of complementary joint capabilities, and strike options of every type will be planned and executed in a joint context. Afloat operations will be tailored and timed so that their impact folds smoothly into joint strategic, operational, and tactical plans. The fully integrated battle space of the future may witness not only Special Operations Forces operating from the maritime domain, but also Air Force unmanned combat vehicles surging to sea bases rather than

bedding down ashore. Readily available forward-operating bases will be central to joint operations in the 21st century, and, while not invulnerable, there is no forward-staging area more secure and sovereign than a sea base.

Seamless joint communications lie at the heart of effective Sea Basing. As part of that effort, the Navy is lead agent for developing a new deployable joint command-and-control system to provide a rapidly accessible and flexible common planning tool for all services to share. Such communications must leverage fully the capabilities of joint, theater, and national systems, as well as those of allies, coalition partners, and friends. This web of awareness must reach beyond the military, to include other agencies such as the new Department of Homeland Security, the intelligence organizations, and civilian relief and international aid groups. In an era of preemptive defense, we must shape the strategic and operational environment by engaging as early as possible with every available tool.

Sea Basing is also a catalyst for coalition building, because it is politically and logistically easier for nations to contribute to a sea-based effort than to commit land forces. In future operations, international data-sharing networks will make available local knowledge, regional intelligence, and operational specialties needed for effective campaign planning. This demands the development of communications systems that are accessible to other nations, including the portability and safeguards required to optimize coalition operations.

8. Increased Reach and Responsiveness

On-scene presence and operational freedom are vital to deterring and defeating current and future threats, ranging from regional adversaries to transnational terrorists and criminal organizations. The Navy-Marine Corps team will meet this challenge by greater integration with each other and with the larger joint force. Naval forces will provide distributed, netted striking power around the world to swiftly attack wherever threats appear.

New and better systems are key to expanded reach. The new CVN(X) nuclear-powered aircraft carrier will be the first major update of the fleet's most powerful weapon system in a quarter century. It will launch very long-range manned and unmanned strike

craft, be powered by a new propulsion plant that will include greatly expanded electrical-generating capacity, and have a more flexible flight deck, all operated and supported by a much smaller crew. The new multimission DD(X) destroyer reflects this drive toward longer-range weapons, more efficient crewing, and greater emphasis on electric systems, eventually leading to electric propulsion and weapons. The follow-on CG(X) cruisers will project defensive shields over entire regions, placing a new tool of great value into the hands of decision makers. Improved amphibious assault ships such as the LHA(R) and LPD-17 will maneuver forward presence forces to shape events in the early stages of conflict. These new expeditionary warfare platforms will provide a limited but responsive forcible entry capability to enable rapid reinforcement by follow-on sea-based forces.

Increased combat power also will rely on an array of advanced weapons and sensors. Long-dwell unmanned sensors will be projected vast distances on, over, and under the sea, providing the persistent intelligence, surveillance, and reconnaissance critical to 21st century warfighting. Next-generation missiles, aircraft, and unmanned vehicles will provide rich streams of information, to include optical, infrared, audio, seismic, radiological, magnetic, and thermal returns. These sensors will guide very fast, very precise strikes best suited to a rapidly changing battlefield. Information operations will complement strike missions with non-kinetic attack at vital enemy systems. High-speed sealift, tilt-rotor aircraft, and advanced assault amphibious craft will provide more mobility and flexibility in support of power projection forces while also increasing sustained support. In short, sea-based forces will leverage improved intelligence, surveillance, and reconnaissance capabilities, precision fire support, and enhanced mobility to generate combat power on a scale previously provided by far heavier and less agile forces.

New platforms and technologies will be implemented by new concepts of operations. To provide greater striking power and responsiveness, amphibious ready groups are being augmented with dedicated surface combatants and submarines, to produce expeditionary strike groups, thereby distributing the offensive power of the fleet more widely while increasing area control and surveillance capabilities. Expeditionary strike groups will operate independently against transnational threats, and they will

combine with carrier strike groups and maritime prepositioning groups to form expeditionary strike forces when countering major adversaries.

To further develop sea-based reach and responsiveness, joint experimentation will be aggressively pursued. Today, the Navy-Marine Corps team and U.S. Joint Forces Command are working together to incorporate naval efforts into joint exercises whenever possible. Concurrent with that effort, the naval services are working with the Army on high-speed vessels, with the Air Force on unmanned aerial vehicles, and with the Coast Guard on its Deepwater project. The goal is to develop as many common systems as possible, to maximize the utility of joint Sea Basing. In addition, we must define concepts and doctrine that codify how we will work together more effectively in the future as a unified military force.

9. Enhanced On-Scene Endurance

Being there is what sea-based forces are all about, and the naval services are dedicated to finding innovative ways to increase on-scene endurance. Enhanced on-station presence will compress deployment and employment timelines and increase the operational effectiveness of every Sailor and Marine.

Maritime Prepositioned Force-Future (MPF[F]) ships will be central to this effort. These platforms will sustain in-theater logistics, communications, and medical capabilities, providing joint operational and logistical support while remaining on-station for extended periods. MPF(F) ships will enhance the responsiveness of the joint team by the at-sea assembly of a Marine expeditionary brigade that arrives by high-speed airlift or sealift from the United States or advanced bases. They will off-load forces, weapons, and supplies selectively while remaining far over the horizon and reconstitute ground maneuver forces aboard ship after completing assaults deep inland. The impact of these ships will be significant, because prepositioned support will not be limited to unloading supplies in port after troops have moved ashore. They will sustain the force and allow the joint force commander to rapidly reposition and retask for other operational missions. MPF(F) ships will serve a broader operational function than current prepositioned shipping, creating greatly expanded operational flexibility and effectiveness.

In the near future, on-station time will be enhanced by improved vertical delivery capabilities provided by the MH-60S helicopter and MV-22 tilt-rotor aircraft. High-speed sealift will provide far more flexible, efficient, and secure support by way of inter- and intra-theater sustainment and transportation. MSC already is sailing the WestPac Express, a 101-meter vessel that averages 35 knots while transporting nearly 1,000 Marines. This results in more efficient training and lower costs than provided by airlift. Another high-speed vessel, Joint Venture, is being employed on the U.S. East Coast for experimentation with the Army, while a third has been placed on order to work with the Mine Warfare Command in Ingleside, Texas.

The Littoral Combat Ship (LCS) will take the concept of being there to new heights, applying cutting-edge technology and innovative operational concepts to provide increased presence in the littorals. Designed from the keel up to be very fast and mission flexible, it has the potential to remain forward deployed for extended periods, supporting carrier and expeditionary strike groups while sustaining access to vital waters for trade and military operations. In addition, the Navy is conducting experiments with rotational crewing to enhance on-scene endurance, and optimum manning initiatives are being implemented in fleet units to reduce crew size while increasing sustainability.

More advanced technologies lie further ahead. Future sea bases might include highly capable joint command centers, aircraft operating areas, and sea-to-shore craft of unprecedented speed and lift. Future logistical capabilities include enhanced hull-to-hull transfer systems for heavy cargo, revolutionary crane designs, advanced strike-up/strike-down cargo handling equipment, improved fenders employing electromagnetic technologies, and new fuel transfer systems for greater safety and efficiency. Someday, sea bases may even be supplied by ultra-large airships capable of vertically delivering more than 1,000 tons of cargo after transiting from airstrips in the United States or elsewhere around the world.

10. Asymmetric Military Advantage

Enhanced and networked Sea Basing will allow us to do more from the sea than ever before, operating as a fully integrated joint force to deliver major increases in operational effectiveness. By doing so, it will extend to the joint force advantages

historically enjoyed by naval forces, such as freedom of action, immediate employability, increased security, and sustained access. Sea Basing is transformational, but it is not a panacea. It will remain an operational-level capability that relies on the strategic basing support of overseas friends and allies outside the joint operations area.

In the years ahead, afloat command and control will be seamless, global, and secure. Resupply of joint forces from the sea will be safer, faster, and more efficient. Naval firepower will range across the joint battle space, and sea-based maneuver forces will penetrate deep into enemy territory. Prepositioned assets will remain on station for extended periods. Greater integration with joint and coalition forces will result in increased situational awareness, enhanced regional stability, and—should crises occur—an accelerated flow of combat and support forces throughout the theater of operations.

Twenty-first-century Sea Basing will be our nation's asymmetric military advantage, contributing immeasurably to global peace, international stability, and warfighting effectiveness. It is the key to operational independence in the dangerous decades before us. (Moore Jan 2003)

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APPENDIX C EXPEDITIONARY MANEUVER WARFARE

The following is published by the United States Marine Corps and written by former Commandant of the Marine Corps, General J.L. Jones. This publication is included in its entirety and verbatim as the third doctrinal piece to provide a context and a background for the need of a new command and control organization such as the Expeditionary Battle Staff.

EXPEDITIONARY MANEUVER WARFARE

Expeditionary Maneuver Warfare is the Marine Corps' capstone concept for the early 21st century. It is built on our core competencies and prepares the Marine Corps, as a "total force," to meet the challenges and opportunities of a rapidly changing world. Capitalizing on our maneuver warfare philosophy and expeditionary heritage, the concept contains the enduring characteristics and evolving capabilities, upon which the Marine Corps will rely, to promote peace and stability and mitigate or resolve crises as part of a joint force. EMW focuses Marine Corps competencies, evolving capabilities, and innovative concepts to ensure that we provide the joint force commander (JFC) with forces optimized for forward presence, engagement, crisis response, antiterrorism, and warfighting.

The purpose of this document is to articulate to future JFCs and contemporary joint concept developers the Marine Corps' contribution to future joint operations. EMW serves as the basis for influencing the Joint Concept Development and Experimentation Process and the Marine Corps Expeditionary Force Development System. It further refines the broad axis of advance identified in *Marine Corps Strategy 21* for future capability enhancements.

A. JOINT AND MULTI-NATIONAL ENABLING

Marine forces possess the capabilities to provide the means or opportunity to make joint and multinational operations possible. Enabling operations may be as basic as establishing the initial command and control (C2) system that the assembling joint or

multinational force “plugs into,” or as complex as physically seizing forward operating bases for follow-on forces. Other examples of enabling operations include defeating enemy antiaccess capabilities and serving as an operational maneuver element to exploit joint force success or open new fronts. Marine forces are ready to serve as the lead elements of a joint force, act as joint enablers, and/or serve as joint task force (JTF) or functional component commanders (i.e., Joint Force Land Component Commander, Joint Force Air Component Commander, Joint Force Maritime Component Commander).

1. Strategic Agility

Marine forces will rapidly transition from precrisis state to full operational capability in a distant theater. This requires uniformly ready forces, sustainable and easily task-organized for multiple missions or functions. They must be agile, lethal, swift to deploy, and always prepared to move to the scene of an emergency or conflict.

2. Operational Reach

Marine forces will project and sustain relevant and effective power across the depth of the battlespace.

3. Tactical Flexibility

Marine forces will conduct multiple, concurrent, dissimilar missions, rapidly transitioning from one task to the next, providing multidimensional capabilities (air, land, and sea) to the joint team. For example, tactical flexibility allows the same forward-deployed Marine force to evacuate noncombatants from troubled areas, conduct antiterrorism/force protection operations, and seize critical infrastructure to enable follow-on forces.

4. Support and Sustainment

Marine forces will provide focused logistics to enable power projection independent of host nation support against distant objectives across the breadth and depth of a theater of operations.

These capabilities enhance the joint force’s ability to reassure and encourage our friends and allies while we deter, mitigate, or resolve crises through speed, stealth, and precision.

B. STRATEGIC LANDSCAPE

United States' interests will continue to be challenged by an array of national and nonstate actors posing conventional and asymmetrical threats. These threats are made more complex and lethal by the increased availability of militarily-applicable commercial technologies. As the technological gap between the United States and its potential adversaries narrows, our leadership, doctrine, and training will be fundamental to maintaining our continued military advantage. We expect potential adversaries to adapt their tactics, weaponry, and antiaccess strategies to confront us on terms of relative advantage. Specifically, adversaries will seek to engage us where they perceive us to be weak. Aware of our ability to degrade complex systems, the thinking adversary will opt for the use of sophisticated but autonomous weapons. Knowing our thirst for information, they will promote uncertainty, confusion, and chaos. This is the venue where our most persistent and determined adversaries will choose to operate. Our Nation must be prepared to fight—worldwide—against adversaries who will seek to engage us with asymmetric capabilities rooted deep in the human dimension of conflict. The Marine Corps, with our philosophy of maneuver warfare and heritage of expeditionary operations, is ideally suited to succeed in this challenging landscape.

1. Expeditionary Advantage

The Marine Corps' expeditionary advantage is derived from combining our maneuver warfare philosophy; expeditionary culture; and the manner in which we organize, deploy, and employ our forces. EMW capitalizes on this combination, providing the JFC with a total force in readiness that is prepared to operate with other Services and multinational forces in the full range of military operations from peacetime engagement to major theater war.

2. Maneuver Warfare

The Marine Corps approach to warfare, as codified in Marine Corps Doctrinal Publication (MCDP) 1, Warfighting, is the product of years of conceptual development, innovation, and experience. Maneuver warfare, the philosophical basis for EMW, acknowledges the timeless realities of human conflict and does not attempt to redefine war on more humane or less risky terms. The fundamental nature of war—A violent

struggle between hostile, independent, irreconcilable wills characterized by chaos, friction, and uncertainty—will remain unchanged as it transcends advancements in technology. What has changed is the gradual shift in reliance from the quantitative characteristics of warfare—mass and volume—to a realization that qualitative factors (speed, stealth, precision, and sustainability) have become increasingly important facets of modern warfare. Maneuver warfare stresses proactive thought and action, elevating the operational art beyond the crude simplicity of attrition.

It combines high tempo operations with a bias for action to achieve advantage—physical, temporal, or conditional—relative to an adversary. The aim is to shatter an adversary’s cohesion, succeed in other operations by rapid action to mitigate damage, or resolve a crisis on favorable terms. Maneuver warfare encourages decentralized decisionmaking, enabling Marines to exploit the chaotic nature of combat. Decentralizing decisionmaking allows Marines to compress the decision cycle, seize fleeting opportunity, and engage enemy forces from positions of advantage, which empowers us to outthink, outmaneuver, and outfight our adversary.

4. Expeditionary Operations

For Marines, the term expeditionary connotes more than the mere capability to deploy overseas when needed. Expeditionary is our ethos; a pervasive mindset that influences all aspects of organizing, training, and equipping by acknowledging the necessity to adapt to the conditions mandated by the battlespace. Expeditionary operations are typically conducted in austere environments, from sea, land or forward bases. They will likely require Marines and other naval forces to be brought to bear without reliance on host nation or outside support. As a tangible representation of our national interest, forward-deployed and forward-based Marines remain both a key element of America’s expeditionary advantage and are critical to the regional combatant commander’s or commander in chief’s (CINC’s) overall strategy.

The regional CINC will set the broad conditions for shaping the battlespace through engagement, forward presence, and the application of a full range of response options. As a critical component of each regional CINC’s Theater Engagement Plan, forward-deployed Marine air-ground task forces (MAGTFs) and forward-based Marines

execute multinational training exercises, conduct mobile training teams, and participate in military-to-military exchanges. Through these activities, Marines develop invaluable regional expertise, cultural and situational awareness, and an appreciation of the interoperability required for successful joint and multinational operations.

Marine forces, as a part of the regional CINC's engagement strategy, will focus on access operations or other assigned missions as a part of the right mix of joint/multinational forces. These operations may be as basic as establishing the initial C2 system that the assembling joint or multinational force "plugs into" or as complex as physically seizing forward operating bases for follow-on forces. Throughout the conduct of operations, Marines will seek to leverage the unique and complementary capabilities of other Services and agencies in order to provide the JFC with a fully integrated force.

5. Seabasing

Marine forces, as an integral component of a larger naval force, will be prepared to influence events within the world's littorals using the sea as maneuver space and as a secure "base" from which JFCs can project power to impact the early stages of a potential crisis. Seabasing supports versatile and flexible power projection. Seabasing enables forces to move directly from ship to objectives deep inland and represents a significant advance from traditional, phased amphibious operations. Seabased operations maximize naval power projection and enhance the deployment and employment of naval expeditionary forces by JFCs. More than a family of platforms afloat, seabasing will network platforms and promote interoperability among the amphibious task force, carrier battle group, maritime pre-position force, combat logistics force, and emerging high-speed sealift and lighterage technologies. Seabased operations will capitalize on the maneuver space afforded by the sea, rapid force closure through at-sea arrival and assembly, and the protection assured by the U.S. Navy's control of the sea. C2, combat support, and combat service support capabilities will remain at sea to the maximum extent possible and be focused upon supporting expeditionary air and land operations ashore. Forward-deployed naval forces will have access to a responsive worldwide logistic system to sustain expeditionary operations. Seabasing will allow Marine forces to commence sustainable operations, enable the flow of follow-on forces into theater, and expedite the reconstitution and redeployment of Marine forces for follow-on missions.

C. MARINE AIR-GROUND TASK FORCES

Marines typically deploy and employ as scalable, tailorable, combined-arms teams known as MAGTFs. All MAGTFs, regardless of size, share four common organizational elements that vary in size and composition according to the mission: command element (CE), ground combat element (GCE), aviation combat element (ACE), and combat service support element (CSSE). Organic to each MAGTF, regardless of size, are specialized antiterrorism and force protection capabilities that are available to support the JFC. Fully interoperable, each MAGTF will have the ability to serve as a JTF headquarters or as a functional or Service component commander of a JTF.

In partnership with the Navy, Marine forces will use the capabilities of bases and stations and selected naval platforms as “launch pads” to flow into theater. During deployment, Marine forces will conduct collaborative planning and execute en route mission training and virtual rehearsals. They will capitalize on shared situational awareness that is developed in support of the JFC and processed and distributed by the supporting establishment. These enhancements will revolutionize the otherwise time-intensive reception, staging, onward movement, and integration (RSO&I) activities, allowing increased operational tempo and seizing early opportunities as the enabling force for the JFC. Forward-deployed Navy and Marine forces will continue to be the JFC’s optimal enabling force, prepared to open ports and airfields and to establish expeditionary airfields and intermediate staging bases in either benign or hostile environments.

1. Marine Expeditionary Unit (Special Operations Capable)

The Marine Expeditionary Unit (Special Operations Capable) (MEU[SOC]), in close partnership with the Navy, will continue to be the on-scene/on-call enabler for follow-on Marine or joint forces. Operating forward-deployed from the sea, the MEU(SOC) is unconstrained by regional infrastructure requirements or restrictions imposed by other nations. Because of its forward presence, situational awareness, rapid response planning capability, and organic sustainment, the MEU(SOC) will continue to be the JFC’s immediately employable combined-arms force of choice.

The MEU(SOC) initiates humanitarian assistance, provides force protection, conducts noncombatant evacuations, enables JTF C2, and facilitates the introduction of follow-on forces conducting limited forcible entry operations when required. These early actions shape the JFC's battlespace, deter potential aggressors, defuse volatile situations, minimize the damage caused by natural disasters, and alleviate human suffering. Increasing mobility, speed, firepower, and tactical lift will enable this seabased, self-sustained, combined-arms force to conduct expeditionary operations across the depth of the battlespace, in adverse conditions, day or night.

2. Marine Expeditionary Brigade

The Marine Expeditionary Brigade (MEB) is optimally scaled and task-organized to respond to a full range of crises. Strategically deployed via a variety of modes (amphibious shipping and strategic airlift and sealift) and poised for sustainable power projection, the MEB will continue to provide a robust seabased forcible entry capability. It will use organic combined-arms and the complementary capabilities from the other Services—such as netted sensors, seabased fires, and advanced mine countermeasures—to locate, counter, or penetrate vulnerable seams in an adversary's access denial systems. The MEB will then close rapidly on critical objectives via air, land, and sea to achieve decisive results. It can be used to enable the introduction of follow-on forces (joint and multinational) or be employed as an independent operational maneuver element in support of the JFC's campaign plan. The MEB constitutes a multidimensional, seabased or landbased, operational "capability in readiness" that can create its own opportunities or exploit opportunities resulting from the activities of other components of the joint force.

3. Marine Expeditionary Force

As a crisis escalates, smaller MAGTFs and supporting units are deployed until a Marine Expeditionary Force (MEF) is in place to support the CINC. The MEF, largest of the MAGTFs, is capable of concurrent seabased operations and sustained operations ashore, operating either independently or as part of a joint warfighting team. The MEF can be tailored to meet multiple joint requirements with its inherent sustainability.

4. Specialized Marine Corps Organizations and Capabilities

Special purpose MAGTFs are nonstanding organizations temporarily formed to conduct specific missions for which a MEF or other unit is either inappropriate or unavailable. They are organized, trained, and equipped to perform a specific mission such as force protection, humanitarian assistance, disaster relief, peacetime engagement activities, or regionally focused exercises. While the MAGTF construct will remain the primary warfighting organization of the Marine Corps, not all situations will require it to operate as a combined-arms unit. Should the situation warrant, distinct MAGTF elements and capabilities may be employed separately in response to critical JFC requirements.

For example, the 4th MEB (AT) is a unique organization with specialized antiterrorism capabilities. This unit consists of Marines and Sailors specifically trained to respond rapidly—worldwide—to threats or actual attacks by terrorists. The 4th MEB (AT) contains the Marine Corps Security Force Battalion (fleet antiterrorism security teams), the Marine Security Guard Battalion, the Chemical Biological Incident Response Force, and an infantry battalion specially trained in antiterrorism operations.

5. Supporting Establishment

Marine Corps bases and stations provide direct and indirect support to the MAGTF and other forward-deployed forces and are the means by which Marine forces are formed, trained, and maintained. These bases and stations are platforms from which Marines project expeditionary power while supporting the quality of life of Marines and their families.

6. The Way Ahead

Marine Corps Strategy 21 identifies capability enhancements required to continue the evolution of the MAGTF. These capability enhancements include joint/multinational enabling, strategic agility, operational reach, tactical flexibility, and support and sustainment, which create a Marine force that provides the JFC with expanded power in order to assure friends and allies or dissuade, deter, and defeat adversaries. In accordance with our expeditionary culture and warfighting ethos, our doctrine, organization, education, and training must contribute to producing Marines and organizations that thrive in the chaos of conflict by—

- Producing leaders who have the experience to judge what needs to be done; know how to do it; and exhibit traits of trust, nerve, and restraint.
- Developing leaders and staffs who function in an environment of ambiguity and uncertainty and make timely and effective decisions under stress.
- Developing leaders by improving their capacity to recognize patterns, distinguish critical information, and make decisions quickly on an intuitive basis with less than perfect information.
- Enhancing leaders' decisionmaking skills with investments in education, wargaming/combat simulation activities, and battlespace visualization techniques within a joint or multinational framework.

We will see a convergence of transformation and modernization capabilities in our MAGTFs that will revolutionize expeditionary operations when currently planned programs mature. Realizing EMW's full potential will require a developmental effort focused on improving C2, maneuver, intelligence, integrated fires, logistic, force protection, and information operations. Achieving these improvements will require integration of both Navy and Marine Corps operational concepts, systems, and acquisition strategies.

D. ORGANIZATION, DEPLOYMENT, AND EMPLOYMENT

Changes in operational and functional concepts may necessitate changes in the integrating concepts of organization, deployment, and employment. Organizationally, EMW emphasizes the MEB as the preferred mid-intensity MAGTF and the role of the supporting establishment in direct support of forward operations. Organizational structure must be mission oriented to ensure the effective deployment, employment, sustainment, reconstitution, and redeployment of forces. The Marine supporting establishment must be postured to facilitate situational awareness of worldwide operations, leverage information technologies, and exploit modern logistic concepts in order to anticipate and respond to MAGTF requirements.

Marines will deploy using any combination of enhanced amphibious platforms, strategic sealift and airlift, prepositioned assets, and self-deployment options to rapidly project force throughout the world. By virtue of their en route collaborative planning and virtual rehearsal capability, Marine forces will arrive in theater ready for immediate employment. While Marines achieve great operational synergy when employed as fully integrated MAGTFs, the Marine Corps can provide specific forces and capabilities according to the needs of the JFC. Continuing our tradition of innovation, we must strive to enhance our concepts and technologies to organize, deploy, and employ the force.

1. Maneuver

Maneuver in all dimensions—land, air, and, uniquely, operational maneuver from the sea—enables commanders to exploit enemy weakness at the time and place of their choosing through the use of the operational mobility inherent in naval forces. Maneuver seeks to achieve decisive effects during the conduct of a joint campaign. It is the means of concentrating force at critical points to achieve surprise, psychological shock, and momentum, which drives adversaries into untenable situations. Maneuver can deny the enemy the initiative, reducing his choices to either defending the length and depth of the littorals, thereby dislocating his forces to the JTF's advantage or exposing critical vulnerabilities to exploitation. Enemy forces reacting to MAGTF maneuver generate opportunities for the JFC to concentrate the complementary capabilities of other maneuver forces. Maneuver, integrated with fires, will be linked to and influenced by the JFC's battlespace shaping operations and directed toward achieving operational effects. Innovative technologies will provide Marines enhanced mobility to cross greater distances and reduce the limitations imposed by terrain, weather, and access denial systems. The result will be an expanded maneuver space, both seaward and inland.

Enhancements in our maneuver capability will compel adversaries to develop innovative antiaccess strategies and systems. Proactive joint efforts to anticipate and counter current and future antiaccess systems will be critical to ensuring freedom of action.

2. Integrated Fires

Fires involve more than the mere delivery of ordnance on a target. The psychological impact on an adversary of volume and seemingly random fires cannot be underestimated. The human dimension of conflict entails shattering an enemy's cohesion through the introduction of fear and terror. Marines, applying the tenets of maneuver warfare, will continue to exploit integrated fires and maneuver to shatter the cohesion of an adversary.

We will increasingly leverage seabased and aviation-based fires and develop shore-based fire support systems with improved operational and tactical mobility. Streamlining our fire support coordination procedures and enhancements in combat identification techniques will support rapidly maneuvering forces while decreasing the risks of fratricide. Forces afloat and ashore require the ability to immediately distinguish friendly forces from others and to then deliver lethal and nonlethal fires with increased range and improved accuracy to achieve the desired effect. Volume and precision of fires are equally important. The continuous availability of high volume, all-weather fires is essential for suppression, obscuration, area denial, and harassment missions. We will use fires to support maneuver just as we use maneuver to exploit the effects of fires.

3. Intelligence

Intelligence is a command function that optimizes the quality and speed of decisionmaking. EMW requires a thorough blending of the traditional domains of operations and intelligence. Commanders and their staffs must make decisions in an environment of chaos, uncertainty, and complexity, and they must be prepared to act on incomplete information. The goal of intelligence is to enable the commander to discern the enemy's critical vulnerabilities and exploit them.

Intelligence must support decisionmaking by maintaining current situational awareness, monitoring indications and warnings, identifying potential targets, and assessing the adversary's intent and capabilities at all levels of operations. This requires establishing an intelligence baseline that includes order of battle, geographic factors, and cultural information; all contained in universally accessible databases.

Deployed Marine forces will enhance their organic capabilities by accessing and leveraging national, theater, Service, and multinational intelligence through a comprehensive intelligence surveillance and reconnaissance network. The informed judgment of well-trained, educated, and experienced Marine analysts and collectors will remain the most important intelligence asset.

4. Logistics

Marines must access a worldwide infrastructure of distribution systems to support expeditionary operations. The integration of naval expeditionary logistic capabilities with joint information and logistic systems will provide total asset visibility and a common relevant operating picture, effectively linking the operator and logistician across Services and support agencies. Marines must explore ways to reduce the logistic footprint ashore through expeditionary support bases, seabased support, in-stride sustainment, reduction of consumables, improved packaging, better visibility over distribution, and development of alternative ordnance variants that are smaller and lighter, but retain equivalent lethality.

5. Command and Control

EMW promotes decentralized execution providing subordinates latitude to accomplish assigned tasks in accordance with the commander's intent. Organic and supporting C2 systems and processes must be adapted to function in any environment, whether afloat, transitioning ashore, or on the move. C2 must facilitate decentralized decisionmaking and enhanced situational awareness at all echelons. Concurrently, C2 must provide the MAGTF commander the ability to direct joint and multinational task force operations when required.

EMW requires adaptable and intuitive C2 architectures and systems that are fully interoperable with joint and compatible with multinational assets. Expeditionary forces will be able to access, manipulate, and use information in near real time, developing a common tactical and operational understanding of the battlespace. They will have connectivity to theater and national assets and the ability to disseminate information throughout the force. This will support fully integrated collaborative planning efforts during both deployment and employment.

C2 initiatives must address limitations in the capabilities of all amphibious platforms. Key factors include accelerated technological advances and rapid changes in equipment and capabilities. Flexibility, adaptability, and interoperability are paramount in the design and development of systems and platforms. Particular attention must be made to providing commanders with seamless C2 capabilities throughout the battlespace.

6. Force Protection

Force protection are those measures taken to protect a force's fighting potential so that it can be applied at the appropriate time and place. Force protection will rely on the integrated application of a full range of both proactive and reactive capabilities. Multidimensional force protection is achieved through the tailored selection and application of layered active and passive measures within all domains across the range of military operations—or warfighting functions—with an acceptable level of risk.

We will pursue improvements in the families of technologies and doctrine to enhance force protection capabilities. Marine forces will enhance security programs designed to protect servicemembers, civilian employees, family members, facilities, and equipment in all locations and situations. These enhancements will be accomplished through innovative technological and nontechnology-based solutions combined with planned and integrated application of antiterrorism measures, physical security, operations security, personal protection, and incident response.

7. Information Operations

Information operations involve actions taken to affect the adversary's decisionmaking processes and information systems while ensuring the integrity of our own. The integrated components of information operations have always proven applicable across the full range of military operations. Information operations will be used to shape the strategic environment or impart a clearer understanding and perception of a specific mission and its purpose. Information operations will be a force multiplier—reducing the adversary's ability to effectively position and control his forces—and prepare the way for the MAGTF to accomplish future missions. We must leverage information operations and ensure they are synchronized with the JFC's campaign plan to achieve the desired operational effect.

E. SUMMARY

EMW describes the Marine Corps' unique contribution to future joint and multinational operations. As the Nation's only seabased, forward-deployed, air-ground force in readiness, Marines stand ready to support the JFC. Marines, intrinsically linked with naval support, maintain the means to rapidly respond to crises and respond with the appropriate level of force. MAGTFs are the JFC's optimized force that will enable the introduction of follow-on forces and prosecute further operations.

EMW focuses our warfighting concepts toward realizing the *Marine Corps Strategy 21* vision of future Marine forces with enhanced expeditionary power projection capabilities. It links our concepts and vision for integration with emerging joint concepts. EMW will guide the process of change to ensure that Marine forces remain ready, relevant, and fully capable of supporting future joint operations.(DON 2001)

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