

Operational Maneuver From The Sea: A Logistical Perspective

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OPERATIONAL MANEUVER FROM THE SEA:

A LOGISTICAL PERSPECTIVE

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A LOGISTICAL PERSPECTIVE

During World War II, Marines suffered heavy casualties in seizing and defending sections of coastline as a necessary precursor for subsequent operations ashore. This form of warfare sometimes achieved strategic, and or operational surprise, but at the expense of tactical surprise. Enemy commanders only had to study their coast lines to determine the possible locations for an amphibious invasion, and prepare their defenses, which resulted in costly frontal assaults, Heavy air and naval bombardment were partially successful in destroying coastal defenses, but casualties remained high.

Shortly after the War, the Marine Corps developed tactical doctrine, for use of the helicopter in amphibious warfare to avoid the heavy casualties suffered in frontal assaults. The helicopter's vertical lift capability was used to bypass enemy defenses or land on his vulnerable flanks. Early helicopterborne assault forces were very light due to aircraft range and payload limitations. This required rapid linkup with the larger portion of the force s combat power

and support which had to come across predictable beachheads which still resulted in costly frontal assaults, The

subsequent logistics buildup created vulnerable support areas which had to be defended as well . Casualties remained high.

(1: 2)

Today, the Corp's leaders are facing new challenges to forcible entry across the world's littorals. The toughest likely adversaries are evenly matched or numerically superior. They are typically Soviet trained and equipped, combined armed anti-landing defense forces, under the operational control of a single operational commander, who can employ the full range of state-of-the-art weaponry. Shallow water mines precision guided munitions, and the proliferation of weapons of mass destruction present lethal threats to the amphibious task force (ATF), while the landing force (LF), additionally faces highly mobile mechanized and armored forces using Soviet anti-landing doctrine.

Proceeding on the assumption that our potential adversaries will possess such capabilities, and that their command and control systems are sufficiently competent to put them to use in threatening our vital interests, the Marine Corps has once again attempted to rise to the occasion with a counter to these new threats. In March, 1991 the Commanding General, Marine Corps Combat Development Command signed off on the Over-the-Horizon (OTH) Amphibious Operations

Operational Concept, (1: 1-22) The OTH Concept provides the Marine Corps concept for amphibious operations for the years

2000–2010. Building on current amphibious doctrine, it provides the basis for determining requirements for new or revised amphibious assault doctrine, structure, training, and equipment for the next twenty years.

Cognizant officers from the now disbanded OTH Working Group and the Marine Corps Warfighting Center say that "although the OTH concept has been published, it is far from complete. It is a dynamic document that will change through continued study and application. This is apparent in the Concept's recent name changes from the "OTH Amphibious Operations Operational Concept," to "Maneuver Warfare from the Sea," to the most recent handle, "Operational Maneuver From the Sea." (2:42)

The Marine Corps has officially adopted maneuver warfare as the means of achieving victory on future battlefields.

1: 1) The OTH Concept combines the concept of maneuver warfare with the capabilities provided by modern technology to increase combat power and reduce the frictions previously inherent to amphibious operations. (1: 41) The OTH amphibious operation emphasizes the principles of tactical mobility, operational speed and flexibility. According to the Concept, the OTH amphibious assault is an evolutionary way of executing amphibious operations. More than a traditional amphibious assault originated from greater range, the OTH amphibious operation is a seaward extension of the Marine

Corps warfighting philosophy of maneuver warfare. (1: 1)

There are two primary reasons for conducting OTH amphibious operations. The first is to achieve tactical advantage over the enemy's ground forces through enhanced mobility, operational speed, and operational flexibility; and second, to counter threats to the amphibious task force (ATF) by launching our assaults from further out at sea, beyond the visual and radar horizon, usually in excess of twenty five miles. (1: 1) (2: 41)

The object of OTH is to quickly get highly mobile, combined arms forces over the shore, to merge them into combat formations on the move, and to drive deep into the enemy's rear for ground and air attacks on multiple axes. (2: 42)

The OTH Concept provides for typical MAGTF flexibility in force structure both in scale and force makeup. (3: 9)

	<u>OTH</u>	<u>MEU/</u>	<u>MEB/</u>	<u>MEF</u>
	TROOPS			SHIPS
MEU	1,900			3-5
MED	15,000			20
MEF	50,000			55

For purposes of analysis, the Concept is scenario based on the vertical lift of a regimental landing team, complete

with organic vehicles, and reinforced with an artillery battalion. An over-the-shore surface assault is concurrently executed by second regimental landing team, complete with organic vehicles, and reinforced by Amphibious Assault Vehicle (AAVs), a tank battalion, and an artillery battalion. A Light Armored Infantry (LAI) battalion is included for reconnaissance or guard missions, to be employed with either the vertical or surface assault force, or as an independent assault force. A mobile, sea-based, regimental exploitation force can be held aboard ship until required to influence the action ashore. It can be helo-lifted or hauled over-the-shore by surface means. (1:1-12)

Key to the OTH Concept is the concept of Seabasing. The Air Combat Element (ACE), Combat Service Support Element, (CSSE), along with much of the MAGTF Command Element (CE), are seabased as well, to maintain operational flexibility, and to reduce the footprint ashore. Limiting forces ashore to combat maneuver elements, essential combat support, and combat trains following in trace, allows the combat commander to concentrate on combat operations and Maneuver. He is relieved of the responsibilities for security of a large beach support area (BSA), lines of communication, or Main Supply Routes (MSRs) (1: 17-19)

The implications for the Marine Corps in realizing an OTH amphibious assault capability by the year 2010 are

profound and numerous, many issues of which are beyond the scope of this paper. From a logistics perspective, revised Combat Service Support (CSS) concepts now equipment, and new operating procedures will be required to support the OTH amphibious operations. Sea-based, rather than land-based logistics support, will be significantly more difficult in OTH operations. Added to this challenge are the effects of the current force drawdown, planned retirement of key amphibious shipping, and difficulties in winning the approval for relatively expensive, state-of-the-art equipment required for OTH capability under severe fiscal constraints.

CSS Concepts

The Marine Corps has very little experience in seabasing to draw on primarily at the deployed Marine Amphibious Unit. (MEU) Service Support Group (MSSG) level, and a few operations of limited duration at the Marine Expeditionary Brigade (MEB) Service Support Group (BSSG)/ Force Service Support Group (FSSG) Forward (Fwd) level. The OTH Operations concept calls for seabasing throughout Low Intensity Conflict (LIC) operations; and as long as the tactical situation ashore dictates, in Medium and High Intensity Conflict (MIC/HIC) operations. (1: 18)

The overriding principles of CSS critical to supporting maneuver warfare from a seabase are responsiveness and

flexibility. The CSSE must be involved from the outset in operational planning and become intimately familiar, and follow, the scheme of maneuver. Host nation support cannot be relied on in OTH amphibious operations unless a friendly neighboring country exists. There will be no immediately secure ports or airfields to support logistics operations.

The Ground Combat Element (GCE) must operate in an extremely austere mode to remain rapidly mobile, moving at speeds up to thirty miles per hour over unimproved terrain. This will necessitate small, highly mobile and defensible combat trains, that can move with or very near the maneuver elements. The surface and vertical assault forces are to be "self-contained," logistically, for a specified period of time. This requirement presents the requirement to balance self reliance against mobility. Depending on the maneuver element or unit, self reliance may last no more than a matter of hours. Augmentation of organic support capability in terms of both material and transportation would be necessary for self reliance over any significant period of time. (1: 17)

Supply

Since the OTH Concept limits the vertical assault force to (1) Day of Ammunition (DOA) and (1) Day of Supply (DOS), and the surface assault force to (2) DOA/DOS, supplies; will have to be delivered frequently, when and where they are

needed. The primary means of delivery from the CSSE aboard ship will be helicopter, with surface transportation as a backup during inclement flying conditions, or upon shortage of aircraft due to competing requirements such as tactical movement or medevac. (4: J-B-5)

Seabasing presents perplexing problems in ship off-load and supply support of OTH operations. Ready access and selective off-load of equipment and supplies is a hard requirement when ships are not unloaded and equipment and supplies sorted out and distributed as they are in traditional amphibious operations. Containers are stored in holds under closed hatches in container ships and are stacked six deep on decks. Future designs in amphibious shipping and embarkation techniques must provide for ready access and selective off-load of containers and equipment to support the tactical situation ashore. Sufficient room must be provided on amphibious shipping to access and work containers. An automated capability to locate containers and their immediate contents must be developed to support OTH operations. For supply support to be responsive, a push distribution system would have to be utilized for common item support. While the OTH Concept calls for CSSE anticipation of requirements, only certain classes of supply can be efficiently or effectively pushed forward. Water and subsistence, individual clothing and equipment, bulk fuel,

packaged oils and lubricants, field construction and fortifications materiel, and ammunition, are the only classes of supply which lend themselves to a push concept. Distribution of principle end items, medical and dental items, (with the exception of AMALS/ ADALS) and repair parts, both consumable and repairable, must be distributed on demand due to the number of items involved, sheer bulk, and the fact that equipment failures are random. Pushing these items forward would overburden and slow down the user and lose visibility and accountability for the assets. Assuming the requisite (third echelon) maintenance capability exists at the maneuver element, positioning, as many high usage repairable components as can be carried without slowing down movement, will enhance equipment survivability.

A more responsive and efficient retail supply delivery system than traditional retail delivery to consumer battalions, with battalion delivery to individual companies or maneuver elements, would be desirable in a maneuver warfare environment. Unfortunately, the alternatives have significant drawbacks. Direct consumer delivery to maneuver elements is responsive, but significantly complicates logistics information flow and creates a large number of CSSE detachments ashore. Managed consumer delivery, where landing zone support teams (LZSTs) are tailored to , and accompany each maneuver element, is most responsive, approximates the

current logistics information flow, and provides limited on-site retail supply stock and limited maintenance support. Unfortunately, it results in a significantly larger CSSE footprint than either retail delivery, in terms of mobility and security requirements, would need to be seriously considered before changing from the existing retail delivery system. (5: 2-1 -2-12)

A more user friendly and less operator intense means of identifying supply requirements needs to be developed to replace MIMMS and SASSY in the field. Concurrent with this required capability is a robust, simplified, and mobile data processing capability. The LOG AIS Family of Systems, and a CSS component system of Marine Tactical Command and Control System (MTACCS,) the Marine Integrated Logistics System (MILOGS), coupled with the new Interim Force Automated Services Center (IFASC) converted for shipboard use, might eventually provide this capability. Resupply of the CSSE aboard seabased shipping would be conducted by helicopter or surface means from resupply ships. Establishment of an independent retail supply capability would depend on the size and duration of the operation. Resupply would flow from the

supporting FSSG, in-theater supply sources, or direct from wholesale DOD Item Managers.

Maintenance

To be self-sustaining for any significant period of time, organic maintenance capabilities for most maneuver elements would have to be reinforced. Reinforcement would probably consist of CSSE maintenance contact teams (MCTs) flown or rushed by surface means to the repair site. These teams would have to be capable, but highly mobile. The OTH Concept calls for a "fix-forward" and "fix-strip-forget" maintenance concept. (1: 18) Several changes in the way we normally conduct maintenance in the field would be necessary to accomplish the real meaning of these ready phrases. For maintainability, equipment design would have to include built in test equipment (BITE) to a much greater degree than exists today for rapid fault isolation and diagnosis. Pick and plug repairable components would have to be utilized to a greater degree. A battle damage assessment and repair (BDAR) capability is a must in a fast-moving tactical environment. The BDAR concept involves using expedient measures to return damaged equipment to a combat ready condition. This capability requires training, not only in the field expedients to keep equipment operating, but in systems alteration and bypassing which requires in-depth systems knowledge, BDAR kits to accomplish these techniques need to be developed and exercised in a field exercise environment. (4: II-16 -II-17)

Selective interchange, or cannibalism of parts and components, is called for in the OTH Concept but should be closely monitored for net effect, after considering combat criticality, equipment density, availability of replacements, and supply response time. While fourth echelon (component repair and rebuild) maintenance capability would be seabased with the CSSE, recovery operations during seabasing may not be possible depending on the tactical situation. (1: 18)

Transportation

While current amphibious shipping and ship-to-shore capability will support the OTH Operational concept, the Navy plans to retire all Landing Ship Tanks (LSTs) by the year 2000. Unless a new ship, such as the conceptual combined dry well amphibious assault and combat logistics force ship, the LX is developed, the Marine Corps will lose much of its current ship-to-shore capability with the loss of the LST's side-carried causeway ferries, warping tugs, and landing craft. (6: 10-13) The LX would additionally replace the Amphibious Transport Dock (LPD), Dock Landing Ship (LSD), Amphibious Cargo Ship (LKA) which leaves the question of available lighterage and ship-to-shore capability an unknown, (7:iii-2)

Landing force transportation under the OTH and maneuver warfare concepts relies heavily on medium and heavy vertical

lift capability the extent of which is yet to be realized. Both a Center for Naval Analysis (CNA) aviation requirements study and the DON Lift Study, using a mix of MV-22/ CH-53E, and CH-60/ CH-53E aircraft respectively, concluded that the OTH concept can be supported by medium and heavy air lift given the requisite number of assets. (1: C-1-2)

Utilizing seabasing, the surface OTH surface assault force depends heavily on the Landing Craft Air Cushion (LCAC) for over-the-shore transportation for armor, artillery, equipment, and supplies. While the surface assault force is to move rapidly inland beyond prepared enemy defenses for exploitation purposes, the LCAC can practically move inland only a few hundred meters. Organic transportation will have to take over at this point. Ground transportation will have to be all-terrain, and be reinforced with vehicles such as the Logistics Vehicle System (LVS). In OTH operations, Army MILVANS or containers will have to be lifted ashore by helicopter or LCAC. Currently, gross container weight can significantly exceed helicopter lift capability, which needs to be resolved. Once ashore, either LVSS or 5-Ton trucks with dolly converters and trailers will be required to transport containers.

General Engineering

The lack of mine countermeasures in surface ship-to-

shore movement is a critical deficiency in the OTH Concept. For surface forces to be survivable, a better naval mine clearing capability is essential.

New methods of engineering reconnaissance are required for OTH operations. Areas requiring site-survey and soil samples for load testing prior to constructing vertical take off and landing (VTOL) and short take off and landing (STOL) operating sites with associated fuel and ammunition refueling points (FARPS) may not be secure prior to conducting required engineering reconnaissance tasks. (6: 15)

Alternatives to the LST-fed Amphibious Assault Bulk Fuel System and compatible Amphibious Assault Fuel System (AAFS) in the traditional beach support area (BSA) will have to be developed to support OTH amphibious operations. Air and surface transportable fuel bladders, flex-cells, pods, and rigid, modular containers such as the six-con provide alternatives which will need to be tested in a seabased, maneuver environment to determine the necessary suite of equipment and operating procedures to replace the AABFS and AAFS.

If deliberate engineering is to preclude maneuver elements from being held up due to natural and man-made obstacles, and rapidly construct protective trenches, tank defiles, and hardened defenses, a new generation of earth moving and bridging equipment will have to be developed. With

the exception of the small emplacement excavator (SEE) and the MC-1150 Multi purpose tractor, capable of brush clearing and light dosing, existing bridge equipment, earth movers, graders, scrapers, and excavators all significantly exceed current helicopter lift requirements. Future engineering equipment must be wither air deliverable or possess the ground speed to keep up with maneuver elements. (6: 16,30)

Without improved beach support and assembly areas in OTH operations material handling equipment must be all-terrain. MHE must be light enough to be air deliverable or possess a ground speed capable of keeping up with maneuver elements. Container handler must be capable of lifting and moving not only 20 foot containers, but 35, and 40 foot containers which will be utilized in the near future. (6: 20)

Health Services

In OTH operations, the battalion aid station (BAS) will be more isolated, moving with the maneuver elements. The BAS will have to become more mobile and self sufficient and depend less on medical logistics. It will provide first aid and emergency medical care and initial resuscitative care when the tactical situation allows. If required, amphibious shipping could provide initial resuscitative care. (6: 27)

"Resuscitative, definitive, and convalescent, restorative, and rehabilitative care will be provided from seabased fleet

assets, overseas medical facilities, and hospitals in CONUS, respectively." (6: 27) The increasing threat of nuclear, biological, and chemical weapons, as well as the threat of disease in third world environments, will necessitate greater diagnostic and treatment capabilities by the BAS. The ability to make resuscitative fluids and gasses to include artificial blood are emerging technologies which may be realized by the year 2010. While the helicopter will remain the mainstay in medevac transportation, ground transportation could link up with LCACs to transport casualties to seabased hospital facilities. (6: 29)

Services

Consistent with the OTH Concept's use of maximum seabasing, non combat critical administrative services such as disbursing, exchange services, security support, information systems, legal services, civil affairs support, and graves registration will be provided by the seabased CSSE.

Operational maneuver from the sea, as described in the OTH Amphibious Operations Operational Concept, is a blue sky, visionary approach to the conduct of future amphibious operations. The concept acknowledges the growing threat to our vital interests from emerging regional powers and the increasing military threats that these powers can present to

an invading force through mine warfare, advanced high-tech smart weaponry, weapons of mass destruction, and use of the Soviet mobile defense and anti-landing doctrine. To be successful, future amphibious forces must be capable of remaining poised for action beyond the horizon for the right opportunity to bring conspicuously mobile power projection and strike capability to bear on the enemy forces ashore.

From a logistics perspective, there are currently major doctrinal, equipment, and procedural shortfalls in our capability to support OTH operations. Some of the equipment shortfalls can be met with existing technology and others with emerging technologies that should be available by the year 2010. At the present time, there is no published OTH CSS Concept other than the brief coverage on sustainment in the OTH Operations Operational Concept, however, the Concepts and Plans Section at the Marine Corps Warfighting Center is in the process of drafting one. According to Lieutenant General Cook, when he signed off on the OTH Concept in March 1991, the OTH Concept is consistent with and supports current Service plans and doctrine across the spectrum of conflict. While the concept is visionary, many of the requirements identified to conduct OTH operations would greatly enhance traditional amphibious capabilities, adding a degree of flexibility which has been historically unthinkable. Impossible you say? Yes, for now, but with a lot of forward

thinking, sound planning, and fortuitous funding, someday...

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