NAVAL WAR COLLEGE
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SEA BASED LOGISTICS: FULL SPEED AHEAD

By

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A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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Reduced access to and availability of forward-based military installations can impede the operational commander's reach in projecting combat power and constrain his logistics effort. Emerging concepts have been proposed that mitigate infrastructure reduction without sacrificing support to the fluid nature of logistics. Sea Based Logistics (SBL) is the conceptual centerpiece of how the United States Marine Corps (USMC) envisions logistics support and sustainment for the next century.

This research project enthusiastically advocates SBL. After defining SBL and presenting the thesis, the paper begins with a brief historical perspective of sea basing and SBL. A summation of adopted business practices and developments in modern logistics as they pertain to SBL follows. The importance of sealift and current SBL capabilities provides a point of departure for SBL's future. Emphasis is placed on what present-day naval expeditionary forces can do to further exploit and encapsulate the fusion of SBL. The author's principal focus includes an analysis of what SBL offers the operational commander. The brief scope of this effort leaves opportunities for others to argue the many unresolved and difficult SBL issues.

SBL provides the operational commander the means to further extend his operational reach through the integration of business practices, emerging technologies, and the use of available sealift platforms. With continued refinement and increased sophistication of SBL platforms, naval expeditionary forces will continue to provide the operational commander an added dimension and enhanced force multiplier.

SBL provides the operational commander with the synchronization of the right forces, material, and support, in the right quantity, at the right place and right time.

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Introduction

As a consequence of the direction in the National Security Strategy (NSS) and subsequent National Military Strategy (NMS), operational commanders have the inherent responsibility to be prepared to execute missions of varying scope and complexity. In the initial phases of an operation, the magnitude of effort is often not clearly identified or understood, particularly concerning logistics support. Material and sustainment requirements along with their distribution make planning and execution difficult, and are often overlooked. This reality coupled with an uncertain threat environment further exacerbates this dilemma.

The excuse that the United States (US) military is not ready for those diverse challenges the future will impose is unacceptable amongst military professionals. The US military's downsizing and reduction in forward-based infrastructure is a reality of the post-cold war era. Reduced access to and availability of forward-based military installations can impede the operational commander's reach in projecting combat power and constrain his logistics effort. Emerging concepts have been proposed that mitigate infrastructure reduction without sacrificing support to the fluid nature of logistics.

The United States Marine Corps (USMC) and United States Navy (USN) have jointly proposed new concepts that address future capabilities to enhance naval expeditionary forces well into the 21st century. This joint vision will enable the US military to exert greater influence in the littoral regions and to exploit naval power projection from the sea.[1] Sea Based Logistics (SBL) is the conceptual centerpiece of how the USMC envisions logistics support and sustainment for the next century. A Joint Forces Commander (JFC) or combatant Commander in Chief (CINC) should be

particularly interested in SBL's value and what it potentially offers the operational commander.

Approach and Methodology

This research project enthusiastically advocates SBL. After defining SBL and presenting the thesis, the paper begins with a brief historical perspective of sea basing and SBL. A summation of adopted business practices and developments in modern logistics as they pertain to SBL follows. The importance of sealift and current SBL capabilities provides a point of departure for SBL's future. Emphasis is placed on what present-day naval expeditionary forces can do to further exploit and encapsulate the fusion of SBL. The author's principal focus includes an analysis of SBL's value and what it potentially offers the operational commander. The brief scope of this effort leaves opportunities for others to argue the many unresolved and difficult SBL issues.

What is SBL?

"SBL is the operational and tactical sustainment of forces operating on and from the sea. The concept describes a means for projecting naval power from over the horizon (OTH), and at the time and place of our choosing."[2] SBL's concept incorporates sea-based and distribution platforms that synchronize a commander's operational logistics effort. SBL's tenets and future operational capabilities derive their relevance from emerging operational doctrine.[3] SBL encompasses its naval origin with many enhanced business and logistics processes. Simply stated, SBL is an operational capability designed to support forces.

Thesis

SBL provides the operational commander the means to further extend his operational reach through the integration of business practices, emerging technologies, and the use of available sealift platforms. The reduction in forward-based infrastructure and rising littoral threat provides the impetus for SBL. Forward-deployed naval expeditionary forces already employ some basic tenets of SBL. With the continued refinement and increased sophistication of SBL platforms, naval expeditionary forces will continue to provide the operational commander with an added dimension and enhanced force multiplier.

Historical Perspective: Sea Basing Evolves to SBL

Sea basing is not new to expeditionary forces; it has been used by the US military as an operational initiative and arguably as a necessity in supporting large-scale operations. Operation GALVANIC serves as an example from the Pacific Campaign in World War II. (WW II). The USN integrated several of its surface platforms into mobile, floating logistics and sustainment bases to support the 1943 invasion of the Gilberts in the central Pacific. It was a combination of tenders, repair tugs, fuel barges, barges for general stores, and lighters.[4] "The war in the Pacific could not have been won without mobile logistical support."[5] This use of floating bases was neither established doctrine nor completely *ad hoc*, but supports the SBL conceptual framework. The USN continues sea basing through its Combat Logistics Force, which consists of ships and aircraft that provide logistical support to the US fleet while at sea. The ships comprise the Underway Replenishment Group (URG) that has allowed the USN to a large degree to remain at sea for indefinite periods, a capability no other nation's navy has mastered.

The USMC considered SBL options since the 1960's and has been routinely analyzed throughout this period as a means to sustain forces. SBL was considered for a wide scope of operations that ranged from the nuclear battlefield to the traditional sustained amphibious assault. SBL was also suggested in response to the political considerations in reducing US military presence in foreign nations.[6] The military build-up in the 1980's and innovative thinking of Marine Corps leaders led to the investment in new equipment and deployment modules that resulted in the Maritime Prepositioning Force (MPF). MPF equipment is permanently embarked on large converted commercial vessels that are strategically sea based throughout key regions of the world. MPF provides a rapid response capability for USMC force projection. MPF has repeatedly demonstrated this prudent investment as an afloat force multiplier in Operations DESERT SHIELD and DESERT STORM, as well as many subsequent smaller contingencies, or Operations Other Than War (OOTW). MPF's force projection capability also includes a robust sustainment package of most classes of supply that supports an 18,000-man force for 30 days.[7] From these proven sea-based platforms, the future operational capabilities of SBL emerge for the USMC.

The USMC recognizes the continued demand for MPF capable forces and has published MPF 2010 and Beyond, which also addresses and incorporates the SBL concept.[8] As such, MPF will remain a viable force module for the combatant CINC in the years ahead. This is all the more significant considering the USMC's doctrine of maneuver warfare. The 21st century presents new threats, spearheading the development of Operational Maneuver from the Sea (OMFTS), a power projection concept.[9] OMFTS's intent is to combine the extraordinary mobility offered by sea-based, naval

expeditionary forces with the development of advanced combat systems' technology, to rapidly strike from OTH at an enemy's critical vulnerability without the traditional establishment of a beachhead. [10] SBL is an integral component to OMFTS's success. SBL encompasses what, where, and how future logistics and sustainment will be moved, stored, distributed, and retrograded throughout a theater.

Commercial Business Influence on Military Logistics

No matter how one views logistics and the associated support, it is neither a precise art nor a science. Consumption rates, sustainment factors, and other logistics planning considerations are principally based on historical data, computer modeling, and practical experience. The ability to forecast demand is not refined beyond these approximate benchmarks. As a consequence, the military's logistics and sustainment inventory for a wide range of items has been quite expansive. Although these huge inventories may appear as a by-product of large budgets and procurement bureaucracies, forecasting demand against an uncertain threat has traditionally contributed to stockpiling large footprints of material. As budgets were incrementally reduced with the downsizing, the military exploited successful business practices used throughout commercial industry. Just-in-time inventory procedures replaced the just-in-case stockage criteria.

The transition to outsourcing, electronic commerce, and the use of the global distribution network introduces some basic initiatives that are now common practice. The military has identified and removed many "non-value-added" steps in their logistics processes. Logistics Response Time (LRT), Repair Cycle Time (RCT), and Order Ship Time (OST) have become the metrics the logistician can equate and provide a quantifiable means to the operational commander of his power projection and operational

reach potential. SBL embraces these metrics and business practices, all of which are key components in Focused Logistics, one of the four pillars of Joint Vision 2010.[11] The added reliance on automated systems and adopted business practices exposes new risks. The operational commander needs to consider these risks in his planning, but should not necessarily assess them as critical vulnerabilities. Moreover, the far-reaching benefits outweigh the risks, particularly with SBL.

Modern Logistics and Transportation Systems

Several developments in Modern Logistics and Transportation Systems add to the logical evolution to SBL. They are summarized as follows:

1- Containerization has dramatically reduced the labor-intensive handling of general cargo and provides a means for the ultimate interchange of freight among ships, trucks, and trains.

2- Logistics management has provided innovative conceptual frameworks and operational techniques for managing the flow of goods and information.

3- Intermodal transportation has provided a paradigm for the integration of two or more nodes in "seamless" transportation.

4- The escalating needs of shippers for inventory cost reduction, higher carrier service quality, and real-time information on the status of shipments and equipment have driven the development of information technology and just-in-time systems, spurring an increasingly customer oriented environment.

5- Finally, the initiatives intended to streamline the defense transportation system and constraints on expansion of port and transportation infrastructure have demanded the extraction of maximum productivity from existing assets.[12]

These business factors and the respective industries' commitment to modernization further validate the relevance of SBL. The continued integration of the maritime and transportation industries provides the military logistics infrastructure with a committed partner for enhancing SBL.

Relevance of Sealift in the US Military and the Emergence in the Littorals

In wartime, ships handle over 95% of total US lift requirements.[13] The present readiness and availability of the US merchant fleet is alarming. There is a continued decline in the number of vessels anticipated for use by the US military in case of a mid- to large-scale contingency.[14] The CINC, US Transportation Command and the maritime industry continue to work together to bridge this widening vulnerability in our strategic defense transportation system.

"Many of the threats to US interests will be in and around the littorals, which is characterized by great cities, well-populated coasts, and the intersection of trades routes where land and sea meet."[15] The area around the littorals provides homes to over three-quarters of the world's population, locations for over 80 percent of the world's capital cities, and nearly all the market places for international trade.[16] Accordingly, the USMC is redefining its core competencies that includes combating in the littorals[17]. Naval expeditionary forces will rely on OMFTS's synergy in the littorals where basing rights are not a direct concern for the operational commander, particularly when SBL platforms provide sustainment to his forces. Whether in the littorals or open seas, the operational commander will rely on adequate sealift platforms to fully integrate SBL.

SBL in Today's US Military. The Legacy of Just-in-Case and Prevailing Attitudes

To some extent, naval expeditionary forces conduct SBL with the existing platforms in the URG, the amphibious fleet for the embarked Marine Expeditionary Units (MEU), and with MPF. This is a logical and practical approach to support forward-based forces. Both the USN and USMC recognize the importance of naval logistics platforms. As expressed by many senior Marine Corps leaders, MEU's today are regarded as "America's 911 force" due to their acknowledged rapid response capability. The MEU extends and projects the operational reach for a JFC and a CINC.

The MEU consists of an integrated Marine Air Ground Task Force (MAGTF), all deployed onboard amphibious platforms. The MEU maintains a 15-day sustainment package, a great majority of which is sea based. By virtue of the MEU's sea-based power projection capability, the MEU is able to maximize response time to a number of executable missions, and can incrementally provide sustainment ashore as necessary. In essence, the current MEU conducts SBL operations today. The present MEU Combat Service Support (CSS) capability is not the "model" for SBL in the 21st century, but is a good starting point. In other words, an afloat combat unit with its complement of organic CSS elements does not equate to a SBL capable force envisioned for the 21st century. However, it does relieve the operational commander of the often-immediate logistical constraints of employing forces without the necessary support infrastructure. Based on the success and relevance of the MEUs, SBL must integrate with present and future operational doctrine.

The MEU can take a major step forward to OMFTS's fruition by reducing CSS redundancies and the legacy of just-in-case. The URG must become the principal

sustainment provider to the MEU and the Amphibious Ready Group (ARG). The Navy and Marine Corps supply systems must be integrated to mutually support each other. Consequently, the MEU can dramatically reduce its embarked logistics footprint. A tremendous paradigm must be shattered, as operational units will no longer deploy with such a robust just-in-case inventory. This presents a risk, but is offset by the efficiencies gained in adopted business practices, reliable systems, and developments in the commercial distribution system. Hence, the URG becomes a viable SBL platform to the MEU as a just-in-time sustainment enabler. This transition of the MEU's "heavy" sustainment increases the availability of limited shipboard space for added warfighting or OOTW assets instead of the present 15-day sustainment package. This action alone adds significantly to the commander's operational reach.

The MEU will still embark with some sustainment, but it will be more adaptive and flexible. The MEU commander will dictate CSS capability requirements that equate to executable missions with quantifiable LRTs, vice requirements stated by days of supply. As combat power is debarked and phased ashore, the organic CSS element within the MEU will convert available space on the amphibious ships for logistics operations. Additional modularized support packages will be prepared and staged for anticipated distribution ashore. This movable and modularized CSS configuration will be the nucleus of the MEU's SBL capability. The MEU's CSS element, or the URG, will then utilize the available amphibious and airlift platforms to transit sustainment to the forces ashore. This distribution capability exists today and LRT will be further reduced with the fielding of more advanced delivery platforms. Distribution remains a critical time and space consideration. Synchronization of the URG with the ARG and the MEU

is vital, particularly when the MEU is to execute multiple operations ashore. By virtue of its forward presence, it is essential to validate SBL at the MEU level.

The USMC has invested in a tilt rotor airframe that will operate from OTH and possesses a vertical resupply capability. This aircraft complements SBL. A review of the capabilities within the USN's amphibious fleet and the MSC's inventory suggest there are limited SBL compatible platforms for joint USN/USMC SBL operations.[18] Until more advanced and compatible SBL platforms are designed and built, the potential retrofitting of decommissioned aircraft carriers with a modified well deck could provide an interim SBL platform. In summary, current sealift and airlift platforms combined with improved logistics processes, provide a basic SBL capability for forward deployed naval expeditionary forces.

The Mobile Offshore Base (MOB): a SBL Platform and Force Enabler

Studies have been conducted to develop sea-based platforms for military use with many similar engineering and design characteristics associated with the commercial offshore oil drilling industry. The USN has been considering numerous Mobile Offshore Bases (MOBs) that will support OMFTS. Conceptual models include 1,000 foot long spans that can connect to each other and possess the infrastructure of a floating airport, a port, associated warehousing for supplies, and repair facilities.[19] Other possibilities include smaller size MOBs that can be physically connected, or self-powered units that operate with a stand-alone capability.[20] The size and complexity of the MOB can be tailored from a relatively austere to robust capability. The MOB becomes the conduit to an integrated SBL distribution hub. Although the MOB of 2000 and beyond is far from

final, the MOB is a force enabler to SBL's full integration for the operational commander, beyond a MEU sized operation.

An intermodal set of easily connectable MOBs could potentially be stacked on a large ship and off loaded in-stream, assembled, and in short order, become a floating Sea Port of Debarkation (SPOD) and an Air Port of Debarkation (APOD). Future ships similar to the Lighter Aboard Ship and the Commercial Sea Barge with its submersible elevator offer possible platforms to move the intermodal MOB. The MOB would complement the ARG, existing URG platforms, MPF vessels, and other military and commercial ships. The MOB will be an expeditionary force sustainment capability that can be used for pier side anchorage, offshore loitering, or OTH support. The MOB can be "right-sized" to support an OOTW mission, a littoral operation, or a Major Regional Contingency (MRC). The MOB's flexible configurations and rapid deployment capability are of great utility to the operational commander.

The MOB could be the ideal hub for a joint logistics command, which would give the operational commander a unified logistics effort. The skills of all four military services' logisticians could easily assimilate into these MOB platforms. Additionally, the assets of the US Army's Transportation Group will serve the operational commander with a sea-based distribution capability compatible with Joint Logistics Over the Shore (JLOTS) operations. Most air assets from all services could be accommodated for delivery to and distribution from the large MOB. The USMC as part of Exercise Hunter Warrior experimented with an unmanned boat, which rapidly traverses across the water to a beach with supplies. [21] Additionally, during Sea Dragon, another experimental effort, unmanned guided parafoil air delivery systems with multiple external loads were used to

distribute supplies at different drop points across the battlefield.[22] These types of initiatives coupled with existing transportation and distribution assets within the military services support SBL and OMFTS.

Recognizing the vulnerable nature of large, floating bases, the MOB's design will allow for relatively rapid dispersion by disconnecting portions of its modules. This capability also will allow the operational commander to position multiple mini-MOBs with specific sustainment throughout his interior lines. Like most sea-based platforms today, a naval force could be assigned the responsibility of providing area defense and force protection. A MOB can also be designed with storage tanks for fuel and water that can be ferried ashore in a separate module or complement other JLOTS systems for discharging bulk liquids. Senior level logistics war games should include SBL and the integration of MOBs; current JLOTS throughput capability is limited.[23] As SBL concepts are refined, the combatant CINCs can employ this force enabler in their theater of operations.

Enhanced Distribution with Command & Control (C2) and Total Asset Visibility

SBL demands a Command and Control (C2) system that ensures Total Asset Visibility (TAV). Logisticians must prepare the battlefield from an operational logistics perspective.[24] They must have the tools to best forecast when and where replenishments will occur. This can been done with the employment of Unmanned Aerial Vehicles (UAVs) that can physically capture stockage levels at the forward operating bases (FOB), forward arming and refueling points (FARPS), CSS nodes, and determine throughput at the ashore APODs and SPODs. With this information, CSS LRT decision templates can be distributed that provide timetables and decision points in determining possible

operational considerations for replenishment and sustainment. The UAVs can also conduct reconnaissance of future support bases, road trafficability, and feed real time information necessary in CSS planning. A robust transportation and distribution network will facilitate just-in-time replenishment.

American industry serves as a model for distribution efficiencies. An interoperable and joint tracking system will provide the operational commander and CSS leadership with the necessary real time status of their resupply/sustainment requests. A developed distribution network of ground vehicles, airlift, and sealift will minimize delivery time. Additionally, CSS units ashore will have the visibility of both ashore and afloat stocks, those in transit, and those outside the theater; all of this enhances logistics support. A network centric node of anticipatory logistics systems, tracking devices, TAV, and CSS LRT decision templates will assist the operational commander. With SBL platforms, this technologically advanced logistics C2 capability and enhanced distribution network will extend the commander's operational reach.

Analysis of SBL's Value and What It Potentially Offers the Operational Commander

Regardless of the size or complexity of the operation, the need to establish mature APODs and SPODs is reduced, as well as the personnel to operate these at a capability traditionally done. This is not to suggest manned ports and airfields will not be used or needed. SBL can significantly reduce the reliance on infrastructure investments in airfield or port enhancements, particularly in third world countries or in countries where existing facilities have been destroyed or severely damaged. Often, the operational commander's ability to project combat power rapidly into a theater is constrained by his logistics requirements. On-site SBL platforms that are ready to support forces reduce

some of the strategic lift needed to move personnel and equipment for fully manning SPODs and APODs. Moreover, the operational commander does not have to wait for his logistics infrastructure to be built from "ground zero". The operational commander and his subordinate forces will not be without CSS ashore. Units will still include organic CSS assets in their Time Phased Force Deployment Data (TPFDD) requirements. With an on-site SBL capability, subordinate commanders will principally focus their efforts on prescribed combat loads for their units, freeing their TPFDD's from a large portion of their sustainment requirements.

SBL helps to synchronize common item support (CIS) among the services and adds unity of effort for operational level logistics. The traditional service-level logistics considerations can be jointly addressed without impeding the operational commander. For example, if a commander organizes a joint force, the US Army is usually tasked to provide CIS after C+60 days. As noted from DESERT SHIELD, "Still by C+60, both the USAF and USMC suffered from a lack of Common Item Support normally provided by a theater logistics structure."[25] With SBL platforms, the CIS responsibility may be accelerated, streamlining some of the services' and organic unit's TPFDD requirements.

SBL and its platforms are agile and mobile. Elements of the SBL platforms can be repositioned as necessary, to reduce LRT or transit times. When appropriate, SBL platforms can deploy in mass. For example, the need for large quantities of ammunition which exceed the operational commander's established LRT replenishment rate, can be moored pier side, have its cargo discharged across a beachhead, or loiter on-call. Such positioning minimizes the chance of double handling material.

SBL provides mobile interior lines that are mutually supporting. With a great preponderance of the logistics assets afloat, the operational commander can maximize time and space factors through the careful positioning of his SBL platforms. Anticipated LRT can be calculated based on likely support requirements. A distribution matrix for each class of supply can be established with anticipated LRTs, which provides the commander a tool for planning and if necessary, to influence the interior lines.[26] Shorter lines of communications contribute to the synchronization and sequencing of logistics.[27]

SBL efficiencies permit a reduced logistics "tail" and provide valuable space for a greater depth of combat and OOTW assets. Consequently, SBL enhances naval expeditionary forces and power projection. On average since 1990, the USMC has been tasked every 5 weeks by the National Command Authorities (NCA) to execute to a crisis response or contingency mission.[28] Expeditionary forces provide a forward presence capability and flexible deterrent options (FDO) for the operational commander. As these forces can operate from OTH and be sustained from SBL platforms, the added risks in land basing ground troops and their sustainment is significantly reduced.

SBL platforms can be employed and regularly exercised in peace and war. Just as the URG and MPF assets are continuously employed in peacetime, SBL platforms to include the MOB can and must be exercised. This includes, but is not limited to peak or surge requirements prior to an operation or during the retrograde. Use of SBL platforms reduces the burden on strategic airlift. Additionally, SBL offers an ideal platform for the Reception, Staging, Onward Movement, and Integration (RSO&I) phase of an operation. RSO&I allows for an orderly build-up of combat power and provides the means to rapidly reapportion support based on changing priorities. An operational commander can

immediately establish a single point of contact for his joint logistics effort using SBL platforms.

SBL can be a joint service platform that complements JV 2010 and Focused Logistics.[29] SBL supports many on-going logistics initiatives within the Department of Defense (DOD) to reduce operating costs and increase efficiencies. SBL is a common, joint operable solution that encompasses both equipment and systems amongst the services. SBL addresses the importance of assessing the operational functions.[30] Whether just offshore or OTH, SBL platforms can be task and service organized with the most practical sustainment capability. For example, Operation HUSKY, the Allied invasion of Sicily in WW II was significantly influenced by the perceived need to rapidly secure the APODs and SPODs.[31] This was certainly a critical issue, but demonstrates the value of SBL to ensure the operational commander is not saddled with initially committing combat power for the build-up of sustainment ashore. Moreover, the once operationally significant forward-based infrastructure and need for extended LOCs no longer constrain the commander.

SBL cements the logistician's focus of effort. SBL platforms will always be deployed, can be incrementally echeloned for larger forces, and will reduce the time required in establishing a sustainment throughput capacity in a theater. Therefore, the likelihood of operational pauses and unanticipated culminating points is significantly reduced. Hence, the commander's operational reach is extended. The integration of the SBL platforms and systems makes it an ideal joint enabler, further "hardening" SBL's critical strength and dominant focus.

There Will Always Be Skeptics

History highlights the importance of logistics and present day challenges provide equally compelling relevance. The future nature of threats remains uncertain. Regardless of the intensity level of threats the US military may face, logistics will remain an integral operational function. Logistics is not just a planning consideration; it is executed everyday. Feeding, equipping, and sustaining forces is a critical component to daily operations.

Many may argue that the integration of new technology and commercial business practices into the military's logistics infrastructure is risky and complicated. In addition, if it fails, lives can be lost. That is a valid position! Logistics and sustainment is a 24 hour, 7 day, 52 week a year reality, in peace and war. The risk is not to evaluate new systems and concepts when at relative peace. Unlike weapon systems' improvements, SBL effectiveness can be tested long before the fog and friction of combat. SBL will operate in the same manner under all operating conditions. SBL's proven concept and well-developed systems will do exactly what it is most essential: support the forces.

As with any change, there will be critics and skeptics. This author encourages the SBL criticism and debate; logistics is too important not to get it right. Just as in industry, military logistics must be agile and adaptive in an uncertain, fluid environment to remain viable. SBL must be no different, particularly considering the scope and complexity of military operations.

Conclusion

"Robust global logistics are key to any future American military strategy."[32] SBL will continue to exploit emerging technology and streamlined logistics processes. SBL

offers the operational commander a combination of traditional sealift platforms that can incrementally echelon sustainment. As larger size combat forces deploy into a theater, the MOB, a technologically advanced SBL platform, can be employed. Regardless of the force's composition and mission, SBL platforms will extend the commander's operational reach. The MOB's unique intermodal capability and distribution efficiencies provide the operational commander an enhanced force multiplier. With forward-based naval expeditionary forces that can rapidly and unobtrusively project its SBL presence, the operational commander has an added dimension in projecting combat power. With his forces and integrated SBL platforms, a commander can strike at a place and time of his choosing. The Joint Chiefs of Staff (JCS) need to carefully study SBL's value and what it potentially offers the operational commander. As Focused Logistics and the joint logistics roadmap are further refined, SBL and its platforms warrant serious consideration for inclusion in joint operations.

SBL provides the operational commander with the synchronization of the right forces, material, and support, in the right quantity, at the right place and right time. As future adversaries present asymmetrical threats, a commander has to recognize the risks of land basing forces, their equipment, and infrastructure. SBL reduces such a risk with its global reach and robust capability. SBL supports air, sea, and land forces as a force enabler. SBL complements America's present and future military strategy and operational doctrine. That said, it is full speed ahead for Sea Based Logistics.

Notes

[1] Charles C. Krulak, "Operational Maneuver from the Sea," Marine Corps Concept Paper, 1997, 1

[2] Robert J. Bois, "Making Sea-Based Logistics a Reality: A Proposal for "In-Stride Sustainment," Air Land Sea Application Center The Air Land Sea Bulletin, 1998, 9.

[3] John Rhodes and G. S. Holder, "Seabased Logistics...A 21st Century Warfighting Concept," Marine Corps Combat Development Command and Naval Doctrine Command,1998, 1and 9.
The tenets of SBL are: 1) Primacy of the sea base, 2) Reduced demand for material through advances in technology, 3) In-stride replenishment, 4) Adaptive response & joint operations, and 5) Force closure and reconstitution at sea. SBL's essential future operational capabilities include: 1) Ship to objective logistics, 2) Selective offload of equipment and material, 3) Strategic logistics interface with the commercial, maritime industry, 4) Sea based maintenance, and 5) Joint interoperability. This is provided as information to the reader as the scope of this paper purposely excluded a detailed discussion.

[4] Milan Vego, On Operational Art. (3rd Draft) (Newport: The United States Naval War College, 1998), 227.

[5] Ibid, 227.

[6] Bryon F. Stebbins, "Sea-Based Logistics: Evolution of a Revolution, Supporting the MAGTF in the Twenty-first Century," (Unpublished Research Paper, U.S. Naval War College, Newport, RI:1996), 8. The author provides valuable information on the Mobile Offshore Base studies.

[7] Navy Department, Expeditionary Operations, (Washington: 1998), 78.

[8] Charles C. Krulak, "Maritime Prepositioning Force 2010 and Beyond," The United States Naval War College Joint Military Operations Department, (NWC 2013), 6-7.

[9] Martin R. Steele, "Deep Coalitions and Interagency Task Forces." Naval War College Review, Winter 1999, Vol. LII, No.1, 2.

[10] John D. Gibson, "Sir Julian Corbett on Amphibious Operations." Marine Corps Gazette, March 1998, 71-72.

[11] "Joint Vision 2010." Focused Logistics Homepage. 14 January 1999. <http://198.3.128.48/jv2010/jv2010.htm. This is an excellent site that explains the many on-going business intitiatives within the Department of Defense that support joint logistics.

[12] Jon S.Helmick, "International, Intermodal, Intelligent, Inclusive," Sea Power, May 1998, 31-32. These developments are included in the core curriculum at the US Merchant Marine Academy.

[13] Ibid, 31.

[14] Robert W. Kesteloot, "U.S.- Flag Fleet Faces Major Problems," Sea Power, May 1998, 34.

[15] Ibib, 34.

[16] Krulak, "Operational Maneuver from the Sea," Marine Corps Concept Paper, 1997, 1

[17] Steele, 18.

[18] U.S. Transportation Command, "MSC/Navy Side by Side Comparison," January, 1999. >http://www.msc.navy.mil/Noop/sideby side/sld0001.htm.

[19] Brown & Root, Inc., Logistics Support Systems Division, Mobile Offshore Base (MOB), Washington, D.C. 1991,1-2.

[20] Office of Naval Research, "SOL: Mobile Offshore Bases" (Part 1 of 2), Commerce Business Daily Issue of April 12, 1996 PSA#1572, January 1998. >http://www.ld.com/cbd/archive/1996/o4%28April%29/12-Apr-1996/.

[21] Bridget Morris, "MSC, Marine Corps Prepare for the Next Century," Sealift, October 1998, 8.

[22] Nancy Harrington and Edward Douchette, "Army After Next and Precision Airdrop," Army Logistician, January-February 1999, 47.

[23] "Naval Logistics 2005 Wargame Overview and Executive Summary," (Unpublished Presentation, U.S. Naval War College, Newport, RI: 1996),5.

[24] James A. Brabham, "Operational Logistics: Defining the Art of the Possible," Marine Corps Gazette, April 1994, 27.

[25] US Defense Department, "Conduct of the Persian Gulf War, (Washington: 1992), 35.

[26]Charles B. Salvo, "The DISCOM Role in Synchronizing Support," Army Logistician, January-February 1998, 18. The Army utilizes synchronization matrixes for CSS planning and execution. This concept in my opinion is equally applicable to SBL and my proposed LRT decision templates.

[27] Vego, 281.

[28] William J. Gibbons, "USMC Capabilities Presentation," Department of Joint Military Operations, Naval War College, November 1998, 5.

[29] Peter J. Higgins, "Joint Operations and Logistics Support," Army Logistician, May-June 1998, 19. The author offers a concise summary of JV 2010.

[30] Vego, 223. Operational logistics is an operational function. As such, my personal view encompasses SBL with the same consideration.

[31] Ibid, 256.

[32] Joseph H. Daves, "American Global Logistics and Peace Operations," Essays on Strategy XIII, March 1996, 256.

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