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Defense of America's Sealift

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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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The purpose of this paper is to demonstrate that the security of sealift , which deploys and sustains our armed forces, presents a critical vulnerability to our operational logistics.

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The purpose of this paper is to demonstrate that the security of sealift, which deploys and sustains our armed forces, presents a critical vulnerability to our operational logistics.

I. Thesis:

Sealift is vulnerable. One of the challenges facing the Department of Defense (DOD) is the underestimation of specific vulnerabilities to sealift either in port or at sea.

The United States(U.S.)deterrent policy relies on power projection and the ability to get forces to a crisis in a timely manner to achieve the U.S. strategic goals. By causing a delay in the U.S. deployment plan, a belligerent power could steal the initiative and conclude the hostilities before U.S. combat forces could enter the conflict. A lot of emphasis has been placed on relying upon U.S. strategic mobility in the regional Component Commanders (CINC's) areas of responsibility. Mobilization planners assume that sealift will be available without delay to meet the CINC's needs. This paper will demonstrate that the security of our sealift which deploys and sustains our armed forces, presents a critical vulnerability to operational logistics, and will analyze the operational risks created by this vulnerability.

II. Introduction:

Sealift is an essential element in America's "Forward... From the Sea" strategy. As used in this paper sealift includes the Afloat Prepositioning Force (APF) and Strategic Sealift ships. The APF consists of 34 strategically located ships loaded with urgently needed equipment and supplies ready to respond in

times of crisis by linking up prepositioned equipment with personnel deployed to the area of potential conflict.[1]

The APF is divided into three operational elements: The Marine Corp's Maritime Prepositioning Squadrons(MPS), the Army's Prepositioning Afloat Program (APS3) and the Logistic Prepositioning ships (LPS). These ships are fully manned, operational, and ready to get underway in 12 hours notice from their bases in Guam, Spain and Diego Garcia. The APF plays a vital role in the defense of our nation. The successful deployment of U.S. forces depends on the ability to act quickly. Prepositioning of logistical equipment on ships has been key to the rapid response in time of conflict or crisis.

The APF is designed to provide a credible rapid response force in distant contingencies. The concept is built upon the following scenario: The ships are loaded with most of the supplies and equipment necessary to support combat units. Upon direction from a Combatant Commander (CINC) the ships will move to a designated contingency area; troops arrive by strategic airlift and join up with the offloaded equipment and supplies.

Strategic Sealift consists of 103 ships in reduced operating status. The Strategic Sealift is divided into two operational elements: eight Fast Sealift Ships (FSS), and 95 ships of various types in the Ready Reserve Fleet (RRF). The FSS and RRF are kept in reduced operating status with a skeleton crew and ready for activation in periods ranging from four to thirty days. These ships include 8 FSS, 31 Roll-On/Roll-Off

(RO/RO), 10 tankers,7 barges carriers, 10 crane ships and 29 break bulk freighters.[2] Most of these ships are located in loading ports in the U.S.

The deployment of both the APF and Strategic Sealift assumes that adequate security exists during transit and at the port of offload.

Lessons learned in Operations Desert Shield, Desert Storm and other operations have proven that sealift is a vital aspect of our national defense.

One of the challenges facing the Department of Defense (DOD) is the underestimation of specific vulnerabilities to the sealift either in port or at sea. Our overall strategic success depends upon a clear understanding and appreciation of our present vulnerabilities.

The changing world order has increased the proliferation of weapons and the ease with which they are obtained. The sealift ships are vulnerable to mines, acts of terrorism and piracy.

Given the vulnerability of sealift, the real issue is to determine whether they are unnecessarily susceptible to extended disruption by sabotage or terrorist action. This can be answered by determining the following:

(1) Does system recovery planning and redundancy exist in the CINC's plans in the event of a successful attack.

(2) Have these have been afforded the appropriate attention.

(3) Do security measures exist that will protect the APF in case of attack.

This paper will demonstrate the general vulnerabilities to the sealift fleet, potential threats, existing security and countermeasures, consequences of disruption, recommendations and conclusions.

III. **Threats.**

Sealift ships have virtually no self-protection capability, particularly against air, surface, subsurface threats, mines, and acts of terrorism or piracy. This vulnerability is of little consequence in peacetime or during transit through low threat areas. However, during a crisis or conflict, an unprotected ship is faced with the extreme risk of loss of ship, cargo and personnel while operating in any area where a credible military threat exists. Therefore, means for defense need to be identified, either by military forces or vessel self-defense assets, to minimize the vulnerability during transit in a threat environment.[3]

With the overabundance of terrorist and radical groups in the world today, security is a matter of prime importance to mobilization of sealift. In many respects, terrorism and piracy have become the new warfare in the 21st century. "Terrorism will become an increasing problem in the future. Low order violence is a very present danger in the world today, and that danger will grow." [4] A State Department manual on terrorism observes

that: " U.S. personnel and facilities abroad continue to be particularly attractive targets for international terrorists, particularly those self-styled revolutionaries who tend to view this country as the premier symbol of the status quo." [5]

Terrorism is not the only security threat. It is conceivable that sealift ships could be attacked by hostile forces enroute from their bases to offload sites. In addition, though offload is supposed to occur in a benign environment, the possibility always exists that the environment could become hostile prior to the completion of the offload. Sealift ships filled with combat gear are tempting targets to an adversary armed with shoulder fired missiles. The threat will worsen when potential enemies obtain weapons that are more advanced.

Piracy is another threat to the sealift ships. Piracy is an ancient calling associated with the age of sail, but piracy has never disappeared and continues to pose a serious risk to ships in many parts of the world. Piracy is defined by the United Nations as crime on the high seas outside the jurisdiction of any state. The term maritime "incidents" is used to describe criminal attacks within the territorial waters of various countries. From the threat assessment perspective, the distinction, which is a legal one and relates to jurisdiction is irrelevant.[6] For the purpose of this paper, all criminal attacks on ships, whether in international or territorial waters, are described as piracy.

IV. **Vulnerabilities.**

The sealift ships are vulnerable if any of the threats identified above can successfully attack and damage them. No measure exists that can determine every vulnerability. The Military Sealift Command (MSC), the Army and Marines conduct vulnerability assessments to determine the relative vulnerability of the ships. Factors which determine vulnerability include: geographical location, accessibility to the ships, amount of damage required to disable the ship, resources required to destroy or damage the vessel, and the adequacy of security forces and physical security measures. Another vulnerability is port specific; if the port is attacked and disabled, it would degrade the ability to conduct deployment operations. This can also include maritime chokepoints that if attacked or blocked will restrict or impede the channel passage and sailing of the ships.

A common vulnerability to the ships and ports is the mine threat. The sealift ships and units assigned to them do not posses mine clearing capabilities, and rely on U.S. Navy assets to locate and clear mines. An adversary could either claim that mines exist or actually deliver mines; the result would be a delay in ship traffic affecting the operational factor of time, in METT-T (Mission, Enemy, Troops, Terrain and Time). A delay in time will affect the linkage of equipment, supplies and forces at the assigned theater of operations. An act of sabotage or terrorism can also delay the deployment.

Terrorist acts are a potential threat that cannot be dismissed lightly. Maritime tactics and targets require a higher level of training, operational skills, and sophisticated equipment, and can go wrong in more ways than would result from a typical land-based terrorist act.

Despite the many problems and difficulties associated with maritime terrorism, some maritime targets, i.e. the sealift ships, continue to attract the attention of terrorist groups due to poor security on ships coupled with an increased level of training and confidence of terrorists. Furthermore, terrorists will continue to receive logistical support of various kinds from sponsors with seaborne capabilities. A land-based terrorist attack on ships is another vulnerability. Ships are especially vulnerable to land based attack in near coastal areas, when transiting chokepoints such as narrow straits, canals, harbor entrances and of course, while docked in harbor. Moreover, such attacks do not necessarily require any special maritime capabilities and it may be easier for perpetrators to escape detection. The sealift ships present an exposed target whose attack would serve to enhance the aims of many terrorist organization.

Piracy and terrorism both involve criminal acts but they differ in that the motivation for piracy is purely financial rather than political. Sealift ships have a crew of 19 to 24, and carry very few weapons. Slow-moving sealift ships are vulnerable to being boarded by heavily armed pirates in small

fast boats at night in high risk areas such as the Strait of Malacca and the South China Sea. The Strait is particularly vulnerable because it narrows to a little more than a mile wide just off Singapore, forcing ships to slow down and navigate with special care. [7]

V. Impact of Operational Logistics - History.

The Commander of the U.S. Navy's Seventh Fleet put the Desert Shield sealift into motion when he ordered the MPS to get underway.[8] This was the first ever wartime test of the MPS. After their initial prepositioning voyages seven of the thirteen MPS ships were turned over to USTRANSCOM as common-user transport ships. MPS ships served as floating ammunition and fuel platforms and in other sea based logistics roles. The MPS sealift contribution to Desert Shield/Desert Storm was considerable. On their first Desert Shield voyages, serving in their prepositioning role, the MPS ships delivered 281,305 tons of unit cargo to the Area of Responsibility (AOR). The MPS carried 19 percent of Desert Shield/ Desert Storm unit cargo.[9]

An example of the impact on METT-T if the military cargo does not arrive occurred when the FSS ship USNS Antares failed to deliver its cargo. The Antares was carrying cargo for the 24th Infantry Division. The boiler failed and caused the ship to go dead in the water. This breakdown caused a ten day delay in the delivery of critical cargo. This had a significant impact on the operational maneuvers of the 24th ID.[10]

Operations Desert Shield and Storm were the most intensive military sealift effort since World War II. More than 500,000 personnel and almost ten million tons of material were transported to Southwest Asia in a seven month period, with minimum disruption to sealift in any CONUS port.[11] The luxury of time to build up was a critical factor to the successful outcome of the campaign. It would be a strategic error to assume that amount of time will be available in future conflicts and that our sealift ships and ports will continue to operate free from hostile interruptions.

Another historical example of the impact on METT-T when the military cargo on a sealift ship did not arrive occurred during the war in the Falkland Islands. The container ship Atlantic Conveyor was loaded to the gunwales with stores of ammunition including six hundred cluster bombs for the Harriers and all the equipment needed to construct an airstrip for the Harriers at the beach-head area in Carlos Water.[12] It also carried 14 helicopters for the Royal Marines. The ship was sunk by an Argentine Exocet missile. The sinking of the ship had a significant impact on the Royal Marines mission. The land forces had to walk across East Falkland and the proposed landing strip plans had to be deleted. "The worst casualty of the Atlantic Conveyor disaster was strategic flexibility."[13] It is mobility that provides flexibility on the battle field and the loss of the helicopters was irreplaceable. The impact on operational

logistics to the CINC's plans when the cargo in sealift ships does not arrive can be seen in these two historical incidents.

VI. Protection of Ships.

The traditional, and still very effective, means of directly protecting shipping in transit is through escort by naval combatants. [14] Naval protection is the employment of naval forces to prevent hostile actions against ships. These activities can be defensive in nature, or may involve the hunting and neutralization of hostile units or weapons. Protection can also be defined in terms of the locational relationship to ships being protected. Naval forces can be centered on protecting specific vessels as they transit through high risk areas. Alternatively, protection efforts can be focused on creating safe areas for the passage of shipping in areas where threats have been identified. When there is a severe risk to maritime trade, convoying is a time-tested method for reducing the threat. If ships are gathered into convoys, the area and time over which sea control must be exercised for their protection is reduced to a minimum, therefore positively affecting the factors of space and time. The strategic or operational decision to convoy requires a careful weighing of the balance of advantage and the opportunities for drawing the enemy into decisive action.

If there are regional tensions where the threat of piracy or attack by terrorist maritime forces exists, the presence of distant and close escort in the theater may deter attacks.

Naval forces can provide surveillance against threats if positioned in the vicinity (distant escort), or in direct proximity to the selected ships (close escort). While conducting both close and distant escort, naval forces offer a measure of defense that deters attacks by their presence. However, naval officers don't believe strongly in convoy missions.

If the Navy is not available to defend the sealift ships, a self defense capability should be considered. One alternative to consider is the use of containerized naval weapon systems in the sealift fleet. These systems provide a comprehensive defense for a convoy or individual ship. Low cost effective augmentation of naval firepower is possible using the concept of proven weapon systems in container units. For applications where rapid deployment is essential, containerization allows quick installation of any system and a rapid role change for the ship from an unarmed vessel to armed vessel capable of self defense.[15] This will allow the flexibility to the CINC's to decide where they concentrate their naval assets. The flexibility to adapt in a very short time changes the nature of the threat, and augments existing forces.

VII. Recommendations.

Currently, ship security is the responsibility of the ship's master. COMSCINST 5510.11 prescribes that, "The Master has the overall responsibility to ensure that his vessel is able

to successfully protect itself from attacks by pirates, saboteurs, terrorists and hostile mobs."[16] Measures taken to implement this requirement include use of a 24-hour security watch, restricted access for visitors, use of a trained reaction force, application of the rules of deadly force and, as a last resort, getting the ship underway. [17] During deployment, additional security can be provided by Navy escort, or by embarked USMC Fleet Anti-Terrorism Security Teams (FAST).

It is imperative that FAST response forces be maintained in a high state of readiness. This means regular training in all the anticipated scenarios. Exercises aboard the sealift ships must be frequent. Equipment and supplies must also be ready. Shortages must not be permitted and standards must remain high. Offload would not be initiated unless the required degree of security could be assured. If the offload is considered imperative and the security situation is risky the CINC could use any of the assets available, i.e. a carrier group, a marine amphibious unit (MAU),or air superiority to provide the required support. Host Nation support (HNS) could also be used to augment the security plan.

Good intelligence is vital. The value of intelligence in the area of security cannot be over-emphasized. An accurate estimate of the security threat is essential if the vulnerability of the sealift fleet is to be minimized. In this regard, the primary responsibility should lie with national intelligence

agencies, such as the Central Intelligence Agency and Defense Intelligence Agency.

The theater CINC's are currently responsible for assessing the security in their AOR. The CINC's should insure the coordination and communication in the issues of security and threats to sealift. They need to develop a method for the dissemination and exchange of information to enhance sealift security procedures. The prompt, clear, and orderly dissemination of information is vital to the success of the sealift security program. U.S. Transportation Command (USTRANSCOM) is the unified command responsible for coordinating and ensuring all mobility requirements are met in support of the national security strategy. USTRANSCOM should take the lead and adopt a standard physical security checklist and vulnerability assessment procedure for all sealift assets. USTRANSCOM should also be responsible to disseminate all security information during peace and times of contingency. The individual CINC's should prescribe tactics, allocate assigned resources to meet threats, and maintain overall command within their AOR. CINC's should be responsible to defend their required sealift. DOD should formalize the commitment to provide the resources to the Navy for the security of the sealift ships against the identified threats as required in Joint pub 4-01.2.[18]

Consideration should also be given to available off the shelf defense systems like the containerized naval weapons

systems for merchant ships to evaluate if the security provided justifies the expense.

Given the vulnerability of the sealift ships, additional research is needed to determine if the risks warrant the costs associated with implementing improved security measures.

VIII. Conclusion.

Theater CINCs develop plans based on the timely arrival of the logistical supplies and equipment in sealift ships. The successful implementation of Operational Plans (OPLAN) is predicated on the ability of US strategic mobility assets arriving in accordance with the programmed schedule. Theater CINCs depend on the sealift cargo to deploy and sustain airlifted forces. The possibility that a single, violent act can shatter the balanced, time sensitive U.S. deployment schedule demands a new sense of awareness and vigilance on the part of DOD. The sealift ships are vital aspects of the mobilization, deployment and sustainment process.

The ability to fight and win is dependent on the effectiveness with which U.S. forces are projected into any theater of conflict. History has demonstrated the critical role the sealift ships plays in supplying the CINC's deterrent force. The goal of future mobility planning must ensure that our sealift ships can be sailed securely and continue to provide their key support whenever and wherever needed.

Security requirements of the sealift ships enroute to a contingency objective area and the offload sites have been evaluated by MSC and are considered adequate. Nevertheless, since the identified threats are continually changing and each situation is different, security requirements cannot be considered as static. The CINC's should be briefed on the threats and vulnerabilities to the sealift ships in their theater of operations and assess what countermeasures and redundancies are built in their plans to take care of the threats. It is recommended that the security requirements be regularly re-evaluated and checked during readiness exercises and contingency deployments. In addition, special attention must be directed to the regular evaluation of the threat in potential target areas. Also, an evaluation should be made of the use of self defense systems such as containerized naval weapons systems or something similar off the shelf. Provisions for providing the manning for these weapons systems will have to be addressed. Currently sealift ships are manned by civilians which are not trained as combatants. Perhaps the creation of Naval Armed Guard reserve units, similar to those units used in World War II should be considered for manning self defense weapons systems. This program placed Navy personnel aboard armed merchant ships to operate the ships' guns.

Sealift ships are the most credible rapid response forces currently available for global contingencies. It is in the national interest that the sealift fleet can be safely deployed

to maintain the U.S. deterrent policy and our power projection capability. The ability to get forces to a crisis in a timely manner is key to achieving the U.S. strategic goals.

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[2] Maritime Administration Memorandum, Reserve Fleet Inventory, Sept 30, 1999.

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[7]Simon Tao, Maritime Administration (MARAD), telephone conversation, Defense of MARAD Ships, 28 Apr 00.

[8] Matthews, James K. and Cora J. Holt, So Many, So Much, So Far, So Fast. Library of Congress Cataloging-in-Publication Data, 1992., p. 118

[9] Ibid. p. 119

[10]Ibid. P. 120

[11] David C. Grohoski, "The Vulnerabilities of US Strategic Ports to Acts of Sabotage" (Unpublished Research Paper, U.S. Naval War College, Newport, RI:1996), 2.

[12] Sandy Woodward, One Hundred Days, The Memoirs of the Falklands Battle Group Commander, (London: Butler & Tanner 1992),p. 293.

[13] Max Hastings and Simon Jenkins, The Battle for the Falklands(New York: W.W. Norton and Company, 1983), 291

[14] Joint Pub 4-01.2 Joint Tactics, Techniques and procedures for Sealift Support to Joint Operations, 9 Oct. 1996.

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