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ANALYSIS AND EVALUATION OF THE ABILITY OF THE VOLUNTARY INTERMODAL SEALIFT AGREEMENT TO SUPPORT U.S. SEALIFT REQUIREMENTS DURING TWO NEARLY SIMULTANEOUS MAJOR REGIONAL CONFLICTS

by

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The Voluntary Intermodal Sealift Agreement (VISA) is an interagency agreement between the Department of Defense (DOD) and the Department of Transportation (DOT) and represents a new level of cooperation between the DOT's Maritime Administration, DOD, and U.S. commercial shipping companies. VISA was formulated in the wake of sealift lessons learned during the Persian Gulf War of 1990 to 1991 and was approved by the Secretary of Defense on January 30, 1997 as a sealift readiness program. The purpose of VISA is to make intermodal systems, including ships, ships' space, and intermodal equipment and management services available to DOD as required to support emergency deployment and sustainment of U.S. military forces.

The President's National Security Strategy calls for the United States to be able to defeat adversaries in two distant, simultaneous major theater wars. According to DOD, VISA will provide adequate commercial sealift and intermodal capabilities, when combined with organic sealift assets, to provide sustainment in support of the National Security Strategy. This research examines the development of VISA, its implementation process, and analyses its ability to provide sufficient sealift in the event of two nearly simultaneous major regional conflicts.

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ABSTRACT

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I. INTRODUCTION

A. BACKGROUND

The massive effort to deploy and sustain the troops for Operations Desert Shield and Desert Storm focused much discussion on the United States' ability to project forces to a major distant crisis. Critical to this ability is the nation's strategic sealift capability – the ability to transport vast amounts of equipment and supplies, over long distances, in time to provide the deployed troops the support they need. [Ref. 1:p. 48]

Operations Desert Shield and Desert Storm confirmed the transformation of military strategy for the United States – from one of reliance on forward deployed garrison forces to one of increased emphasis on responsiveness. In the aftermath of the Cold War, strategic mobility – the system of equipment, personnel, and logistical know-how for moving military forces over intercontinental distances – has become more important than ever before. The Department of Defense (DOD) has reduced the number of U.S. troops stationed abroad so the United States will need to deploy forces over a longer distance if it becomes involved in a foreign conflict. The ability to project large numbers of forces quickly has been and will remain a distinctive feature of the U.S. military. [Ref. 2]

The U.S. military delivers troops and cargo over intercontinental distances in three ways: by air, ship, or by flying troops abroad to meet up with prepositioned equipment. Each of these modes has its own combination of strengths and weaknesses. Airlift planes are fast, but their great expense makes them impractical for delivering more than a small portion of cargo in a large-scale deployment. Prepositioning combines the

speed of airlift with the volume of cargo that sealift can provide. But storing military equipment in other countries requires planners to determine ahead of time where conflicts are likely to occur and which units would deploy first. Moreover, host countries may limit how and where the United States can use that equipment, and large prepositioned U.S. stocks can present an attractive target for potential enemies. Sealift, although the slowest method of delivery, has the volume and flexibility required for strategic mobility. Therefore, when the United States goes to war, 95% of its military cargo is transported by sea. [Ref. 3:p. 41]

The United States' sealift deployment plan is based on active-duty military ships, chartered U.S. merchant marine fleet ships, National Defense Reserve Fleet ships, and military and commercial ships from Allied nations. This paper will focus on issues concerning the U.S. merchant marine or commercial civilian fleet as it is used to support the President's National Security Strategy. It will, however, cover some of the strengths and weaknesses of the other areas of sealift to provide some perspective on the nation's entire sealift ability.

The strategic sealift mission is divided into two major categories: surge shipping and sustainment shipping. Surge shipping is critical to the rapid buildup of combat power during the initial stages of a deployment. Ships used in surge shipping must be capable of handling outsized military vehicles, tanks, helicopters, and unit equipment. These forward-deployed forces are then resupplied and maintained by sustainment shipping.

Despite the United States' sweeping victory in the Gulf War, the conflict revealed critical deficiencies in sealift capabilities. First, the rapidly dwindling U.S.-flag fleet represents a potentially catastrophic dilemma for military planners. The relatively large number of foreign-flag ships chartered for Desert Shield/Desert Storm highlights the issue of the absence of U.S.-flag sealift. A result of this deficiency is the problem of the decreased number of U.S. merchant mariners available to man U.S.-flag ships in the event of a conflict. Second, the military does not make sufficient use of the commercial shipping industry's intermodal infrastructure. Containerization and door-to-door delivery are concepts that the military has just started to address. Finally, the method in which commercial ships were being contracted was too slow and caused some resentment in the commercial shipping industry. [Ref. 4:p. 7]

In response to these and other problems, the Maritime Security Act was passed by Congress and signed into law by President Clinton in 1996. This act established the Maritime Security Program (MSP) which allows U.S. owned, U.S.-flag vessels to enroll in the Maritime Security Fleet – volunteering these vessels for use by DOD during contingencies in return for subsidies and guaranteed government cargo traffic. By eliminating outdated trade route restrictions and other limitations, the program provides increased flexibility to companies which they need to operate successfully in worldwide trade routes. MSP also requires participating ship owners to enter into an Emergency Preparedness Agreement with DOD, which obligates the owner to participate in the Voluntary Intermodal Sealift Agreement (VISA). [Ref. 5:p. 10]

Participants in VISA agree to make their vessels, non-vessel resources, terminal facilities and intermodal systems, equipment, and management services available to DOD. The agreement houses the mechanism which mandates that shipping companies provide origin to destination transportation services during military contingencies.

B. OBJECTIVE

The Bottom-Up Review conducted in 1993 examined the security environment at the end of the Cold War and came to the conclusion that the United States should maintain sufficient military power to be able to win two major regional conflicts that occur nearly simultaneously. [Ref. 6] The President's National Security Strategy states that "the United States must remain able to deter credibly and defeat large-scale, cross-border aggression in two distant theaters in overlapping timeframes." [Ref. 7] This strategy is reiterated in the Joint Chiefs of Staff's National Military Strategy. [Ref. 8] The objective of this thesis is to analyze VISA's ability to provide DOD with the required sealift capability, in addition to organic sealift, to support the National Security Strategy. The ability of VISA to provide added value to DOD through the provision and use of intermodal infrastructures will also be examined.

C. RESEARCH QUESTIONS

1. Primary Question

- Will VISA, as it is currently constructed, provide the sealift support required for the mobilization that would occur in the event of two nearly simultaneous major regional conflicts?

2. Supporting Research Questions

- What is the condition and readiness of current DOD organic sealift assets?
- What are the estimated sealift requirements for two nearly simultaneous major regional conflicts?
- How would VISA be activated and implemented in the event of a national emergency?
- How is a determination made on the number of ships to mobilize in the event of a national emergency?
- Is the commercial shipping industry involved in the planning and execution of mobilization? If so, to what extent?
- Does VISA ensure adequate use of commercial intermodal capabilities?
- If foreign ownership of U.S. shipping companies expands, what contingency plans are in place to deal with this problem?
- What plans are in place to adapt VISA to deal with the decline in the U.S.-flag shipping fleet?
- What options are available if U.S.-flag ships are not available in sufficient numbers to support partial or full mobilization under VISA?

D. SCOPE, LIMITATIONS, AND ASSUMPTIONS

This thesis will explore whether VISA has the ability to provide DOD with sufficient support for both surge and sustainment sealift in the prosecution of two nearly simultaneous major regional conflicts. It will examine and discuss previous DOD/civilian shipping company sealift agreements, pertinent maritime legislation, the

development of VISA, the structure of the agreement itself, the implementation process, and problems that could prohibit successful implementation. Probable sealift requirements for two nearly simultaneous major regional conflicts will be reviewed and DOD organic sealift assets will be examined. This thesis will conclude by summarizing the issues, drawing conclusions, and making recommendations concerning the efficacy of VISA, future sealift agreements, and further study.

The research will focus on the civilian shipping industry; however, DOD sealift is comprised of several elements. These elements will be examined for the purpose of providing a perspective on present and future contributions made to sealift by commercial industry. The use of commercial sealift for sustaining military operations is addressed as it relates to the U.S. commercial shipping industry, with no discussion of operating agreements with NATO countries. The concept of outsourcing strategic sealift will not be covered in this thesis beyond the background of the commercial shipping industry and government maritime legislation.

E. ORGANIZATION

Chapter I presented an introduction and general background on VISA. It also covered the objective of this thesis and listed the primary and supporting research questions. The chapter then outlined the scope, limitations, and assumptions of the thesis. Chapter II will examine the development and reasons for the development of VISA. It provides a background on the sealift lessons learned from the Persian Gulf War and an overview of the legislation that brought VISA into existence. It also examines weaknesses in DOD organic sealift support.

Chapter III covers Department of Transportation (DOT), DOD and civilian shipping company involvement and participation in VISA, and examines the structure of the agreement. Civilian involvement in strategic sealift planning is also explored.

Chapter IV examines the implementation of VISA in support of the National Security Strategy. The National Security Strategy itself is discussed along with estimates of probable sealift support requirements. The VISA implementation process and intermodal contributions are then examined.

Chapter V discusses problems due to the decline of the U.S.-flag fleet and the commensurate decline in U.S. merchant marine manning. Foreign ownership of U.S. shipping companies and the impact of all of these issues on VISA and future sealift agreements are discussed. Chapter VI summarizes the issues affecting VISA and makes conclusions as to the current efficacy of the agreement in supporting the sealift requirements presented by the National Security Strategy. Recommendations are made concerning VISA and future sealift agreements and areas of further research are offered.

II. FACTORS LEADING TO THE DEVELOPMENT OF VISA

A. INTRODUCTION

Chapter II provides a background of the factors that influenced and led the U.S. government, in conjunction with civilian shipping companies, to develop and enact VISA. This chapter first discusses the Sealift Readiness Program (SRP), the agreement between DOD and commercial shipping companies that preceded and was replaced by VISA. Next, it covers the use of containerization and U.S. organic sealift capabilities during the Persian Gulf War, specifically the shortfalls or weaknesses in organic sealift that would necessitate the use of commercial sealift resources. The chapter then covers the lessons learned concerning the use of commercial shipping for sealift in support of U.S. forces during the Persian Gulf War. This is followed by a discussion of the legislation that led to the enactment of VISA – in particular, the Maritime Security Program. Finally, the chapter covers the enactment of VISA itself.

B. THE SEALIFT READINESS PROGRAM (SRP)

The SRP has its roots in the Merchant Marine Act of 1936 under which the government paid ocean carriers an annual subsidy to make up for the higher cost of operating under the U.S.-flag. From the beginning of maritime regulation, Congress realized the need to support the U.S. maritime industry, both as a means to remain competitive and to maintain a viable auxiliary force for DOD. A vessel flying the U.S.-flag meant a ship built to a strict construction code, crewed by trained American citizens, and reliable in times of crisis (this is still true today). Subsidy laws mandated that various portions of government-generated cargoes be reserved for U.S.-flag carriers, and

that Operating Differential Subsidies (ODS) be provided. ODS contracts compensated carriers for the cost differentials between U.S. operators and their competitors. [Ref. 9:p.32]

Administered by the Military Sealift Command (MSC), SRP required shipping companies that bid on MSC contracts or received government subsidies to commit 50 percent of their cargo capacity (in ships) to MSC for possible use during less-than full mobilization, contingencies, and emergencies. SRP required commercial carriers to supply previously designated ships to DOD when required and did not take into account support functions such as line haul and management services. [Ref. 10] "The SRP commits vessels, not capacity," said Frank Weber, the U.S. Transportation Command's (USTRANSCOM) deputy director of plans and policy. "And if that vessel you've counted on is somewhere else, you have a problem." Many SRP participants were unhappy with the program, saying that SRP allowed the Pentagon to virtually commandeer their ships for months at a time without paying fair prices for the vessels or offering to compensate the owners for lost commercial business. [Ref. 11]

Of the 122 militarily useful vessels in the program, 23 were tankers and 99 were dry cargo. To activate the program, MSC had to show that (1) the National Defense Reserve Fleet Ships were not available in sufficient time or number to meet requirements and (2) there was insufficient shipping capability at fair and reasonable price to meet requirements. In addition, the Maritime Administration (MARAD) of the Department of Transportation had to prepare a report on the impact the activation would have on the

commercial shipping industry. Approval authority rested with the Secretary of Defense and the Secretary of Transportation. [Ref. 12:p. 124]

For several reasons, the United States Transportation Command (USTRANSCOM) did not use SRP during Desert Shield/Desert Storm. First, much of the U.S. maritime industry responded to the contingency voluntarily. By the end of the war, USTRANSCOM had employed 62 SRP-enrolled vessels without even activating the program. Second, USTRANSCOM primarily needed RO/RO ships and nearly all of those in SRP were already in active support of DOD. Third, USTRANSCOM considered the approval process unresponsive to time-sensitive military operations. SRP requires the Pentagon to negotiate with ship owners for access to their ships and facilities after the White House activates the vessels. [Ref. 11] Finally, activating the remaining RO/RO and container ships in SRP could have caused shipping companies severe and possibly permanent financial damage by eliminating them from the commercial shipping trade. These problems brought the military usefulness of the program into question and led to the search for a fairer and more efficient agreement between DOD and the commercial shipping industry. [Ref. 12:p. 124]

C. THE PERSIAN GULF WAR

1. Sealift Support

The Persian Gulf War saw the largest deployment of military force since Vietnam. The sealift support of Operation Desert Shield and Desert Storm transported more military equipment in less time than for any other event in history. From the beginning of Operation Desert Shield on 7 August 1990 through 15 April 1991, more

than 3.4 million short tons of dry cargo and 6.6 million short tons of fuel were transported. More than 95 percent of this cargo was moved by sea. [Ref. 13:p. 7]

The cargo moved to the Persian Gulf region included 3,500 tanks, 2,200 armored vehicles and 1,000 assorted helicopters as well as a large assortment of artillery pieces and other military combat and support equipment for over 500,000 troops deployed from bases in both the U.S. and Europe. By September 1991, a total of 409 ships had been used. [Ref. 13:p. 7]

Sealift support to the Persian Gulf was divided into four phases. Phase I of the Gulf War covered the period from 10 August through 8 November 1990 and comprised the defensive buildup of forces to prevent an Iraqi invasion of Saudi Arabia. Phase II covered the period from 9 November 1990 through 14 January 1991. This phase placed sufficient offensive capabilities in Saudi Arabia to liberate Kuwait by force. Phase III began on 15 January 1991 and continued through 5 March 1991. This phase included support of forces engaged in combat during the air and ground campaigns. Finally, Operation Desert Sortie, the return of troops and equipment from Kuwait and Saudi Arabia, was Phase IV. It lasted from 10 March 1991 through the return of all material from Saudi Arabia to the United States, in December of 1992. The surge and sustainment sealift operations, the focus of lessons learned when crafting VISA, occurred in Phases I and II of the Gulf War. [Ref. 13:p. 8]

2. Ammunition and Unit Equipment

Although a large percentage of dry, sustainment cargo was shipped in containers through the Special Middle East Sealift Agreement (SMESA), the use of containers in

shipping unit equipment and ammunition was underutilized during the Persian Gulf War. Military Traffic Management Command (MTMC) estimated that it booked, and MSC shipped, about 37,000 40-foot SMESA containers to the Persian Gulf during the Persian Gulf War. Under SMESA, the liners also carried some breakbulk and a small number of 20-foot and refrigerated containers. In contrast, approximately 2,100 20-foot containers of ammunition and 7,000 40-foot containers of unit equipment moved to the Persian Gulf. [Ref. 12:p. 183]

USTRANSCOM promoted containerization early in the war and stressed that the containerization of unit cargo and ammunition would speed deployment by capitalizing on the commercial industry's intermodal expertise and capabilities. However, because the use of containers was untested, many commanders feared that containerization would slow deployment and split up unit cargo. Many of USTRANSCOM's customers also argued that container shortages prohibited expanding the use of containers. Unfamiliarity with containerization contributed to service hesitancy in adopting the method for ammunition and unit equipment. [Ref. 12:p. 185]

Commercial shipping lines had an intermodal infrastructure in place to move large quantities of containerized unit equipment over land and ocean routes. During Desert Shield/Desert Storm, the military never used more than 30 percent of the commercial shipping company's available lift capacity. Shipping companies would have easily been able to handle increases in container traffic caused by ammunition and unit equipment shipments. In addition, the military would have benefited from improvements

in efficiency, speed of movement, and visibility had more containerization been used. [Ref. 12:p. 187]

3. The Special Middle East Shipping Agreement

The first weekend after Iraq invaded Kuwait, a team of military and industry representatives assembled. For ten days, they assessed options and capabilities for providing liner transportation into Southwest Asia that could adequately support a major sustainment operation. [Ref. 14]

Participating members of this task force were representatives of the Military Traffic Management Command (MTMC), the Military Sealift Command (MSC), and U.S.-flag ocean shipping companies. Representing the shipping companies were American President Lines, Waterman Steamship Corporation, and Sea-Land Services. The final product of this collective effort was the Special Middle East Shipping Agreement (SMESA). SMESA incorporated into one document all terms and conditions necessary to meet changing logistics situations while simplifying the administration requirements in a combat theater of operations. The agreement allowed MSC to contract with U.S. shipping companies to transport DOD cargo aboard regularly scheduled United States –Middle East container services. Through this agreement, USTRANSCOM capitalized on the container ship strength of the U.S. maritime industry to deliver sustainment cargo to the Persian Gulf. [Ref. 14]

As the military's first large-scale use of containers, SMESA was both flexible and reliable. Awarded on 23 August 1990, the contract called for a 10-week long service, beginning on the 27th, with a government option for extensions. A capability of 2,700

40-foot containers per week was planned. U.S.-flag SMESA carriers sailed almost daily on their established routes to transshipment points where they transferred their cargo to smaller, foreign-flag feeder vessels under charter. The foreign-flag ships then shuttled the SMESA cargo to the United States Central Command's (USCENTCOM) area of responsibility. The SMESA contract also required carriers to arrange line haul service in Saudi Arabia. Containers traveled inland using the commercial companies' established infrastructure. [Ref. 12:p.182] Seven U.S.-flag shipping companies operating under SMESA moved 29% of all dry cargo that went into the Persian Gulf, equating to 37,000 forty foot equivalent units (FEU) between August 1990 and March 1991. [Ref. 15] This successful use of intermodalism, containerization, and foreign-flagged shipping, and the perceived failure of SRP formed a basis for the development of the Maritime Security Program and VISA.

Based on their Desert Shield/Desert Storm experiences, commercial shipping companies offered several suggestions to improve strategic deployment. All called for increased use of containerization and most wanted to play a larger role in military exercises and planning. The ocean shipping industry also made calls for MSC to revise the emergency sealift contracting procedures. Because of the cumbersome emergency contracting procedures, military cargo was on route to the Persian Gulf aboard civilian liners before contracts had been finalized. [Ref. 9:p. 133]

4. Organic Sealift

The organic sealift assets available to DOD during the Persian Gulf War were the Afloat Prepositioning Force, the Fast Sealift Ships (FSS), and the Ready Reserve Force

(RRF). The Iraqi invasion and annexation of Kuwait, despite a creditable strategic lift performance by DOD, exposed weaknesses in the ability of the United States to move forces by sealift. In particular the Ready Reserve Force had limited success during the Persian Gulf War. [Ref. 4:p. 12]

The maritime prepositioning ships (MPS) responded much as expected. Some MPS vessels were not initially at their prepositioning sites because they were undergoing scheduled maintenance and exercising – a normal occurrence to be expected at the beginning of a no-notice operation. After these ships had made their initial deliveries, they either reverted to common-user status and joined the other sealift assets in moving cargo from the U.S., or were held for intra-theater support. [Ref. 16:p. 4]

The eight fast sealift ships were maintained in an inactive status with a skeleton crew of nine contract merchant mariners, and kept on a four-day steaming notice. In general, they performed well during the Gulf War. For the entire operation, the FSS average speed was 27 knots. The ships delivered almost 20 percent of the unit equipment and related support in Phase I and about 12 percent in Phase II. Their high productivity is a reflection of both their size and speed. [Ref. 16:p. 4]

MARAD's National Defense Reserve Fleet (NDRF) is funded through DOD's National Defense Sealift Fund. At the start of the Persian Gulf War, the NDRF was comprised of 212 ships with 96 of these part of the Ready Reserve Force (RRF). The RRF is a fleet of militarily useful ships that were purchased by the Navy primarily in the 1980's. In peacetime, RRF ships are laid up in non-operational status under the control of MARAD. When called up for the Persian Gulf War, RRF ships needed to be towed to

a nearby shipyard for mechanical preparations, and crews were drawn from available U.S. merchant mariners before the ship was turned over to the Military Sealift Command for operation. RRF ships have an average breakout time of 4 to 20 days, depending on their level of preparedness. The 116 additional vessels in the NDRF, some dating from World War II, had breakout times ranging from 30 to 90 days. None of these ships were activated during the Gulf War due to their slow activation time, smaller size, older propulsion systems, larger crew requirements, and slower loading and transit times. [Ref. 12:p. 121]

During the Persian Gulf War, the Ready Reserve Force fleet did not achieve desired standards. Of the 44 RRF ships receiving activation orders during Phase I, only 12 were actually activated on time. Twelve ships were one to five days late, and 20 were at least six days late. Of the 26 ships called in Phase II, only three activated on time and 17 were more than five days late. Mechanical failures were the cause of the vast majority of the delays. [Ref. 16:p. 11]

5. Commercial Charter

In addition to organic sealift resources, MSC can charter ships from the commercial fleet. At the start of the Persian Gulf War, MSC had about 10 dry-cargo ships and 20 tankers from the U.S. merchant fleet under long-term charter. In all, 28 U.S.-flag charters were used to transport unit equipment. No U.S.-flag privately owned ships were requisitioned or ordered into military service for the deployment to the Persian Gulf. All ships used came from available tonnage and were procured through voluntary charters. [Ref. 13:p. 39]

A total of 191 ships were chartered to carry unit equipment and related support during the Gulf War. Foreign-flag ships were about 70 percent of the charters used in Phase I, and about 85 percent of those used in Phase II. U.S.-controlled charters accounted for less than 30 percent of the total. [Ref. 16:p. 30]

Charters were used extensively for four basic reasons. First, RO/RO ships were the preferred ship type for the transport of military vehicles, and there were only 17 in the RRF. Second, the RRF was slow in activating. Third, there was some worry that crews would be increasingly hard to obtain as more and more RRF ships were activated. Finally, relative to the cost of activating and operating RRF ships, charters were much cheaper. RRF ships also have deactivation costs. In addition, charters are usually made only for a one-way trip, further decreasing their cost relative to the RRF. [Ref. 16:p. 31]

D. THE MARITIME SECURITY PROGRAM

On October 8, 1996, President Clinton signed into law the Maritime Security Act (MSA) of 1996. The Maritime Security Program (MSP) is an integral part of the Maritime Security Act of 1996 and was developed to provide assistance to U.S.-flag operators and vessels selected for participation. MSP was enacted to assure that the United States has a fleet of U.S. commercial cargo vessels needed to carry critical supplies during times of national emergency or war. [Ref. 5]

The criteria for participation in MSP are intermodal system capacity, adequate commercial transportation resources, commercial viability, operator expense, vessel size, and military utility. MSP also requires the Secretary of Transportation to encourage the establishment of a fleet of active, militarily useful, privately-owned vessels to meet

national defense and other security requirements, while maintaining an American presence in international commercial shipping. In this way, MSP reflects the stipulations of the Merchant Marine Act of 1936 that the United States should have a merchant marine capable of serving as a military auxiliary in time of war or national emergency. [Ref. 9:p. 38]

MSP authorizes the government to spend up to $100 million a year for 47 commercial vessels and differs from SRP in terms of its reimbursement structure. Under SRP, commercial vessels received operating subsidies through the ODS program and these subsidies were targeted at salaries. [Ref. 17] MSP provides more flexibility to commercial carriers because under the agreement MARAD can pay up to $2.1 million per year, per vessel, as a flat fee. This fee can then be used in whatever way the company feels would be most useful, with the exception of government lobbying. The flat fee provides an incentive for improving collective bargaining agreements since the subsidy is no longer connected to salaries. MSP also eliminates outdated trade route restrictions and fixed numbers of sailings, giving shipping companies even more flexibility. Under MSP, shipping companies could also operate a limited number of line-haul foreign-flag vessels and unlimited foreign-flag feeder vessels. MSP also would eliminate the three-year waiting period for foreign built, U.S.-flag vessels and bulk type vessels built or under construction before January 1, 1993. Foreign-flag feeder vessels would be fully eligible to carry preference cargoes in conjunction with U.S.-flag line-haul vessels. [Ref. 18:p. 52]

The firms and number of vessels each has committed to the Maritime Security Program are:

American President Lines, Ltd.	9 Container Ships
Central Gulf Lines, Inc.	1 LASH (barge carrying ship)
	2 RO/RO Vessels
Crowley Maritime Corp.	3 Container Ships
Farrell Lines Inc.	3 Container Ships
First American Bulk Carrier Corp.	2 Container Ships
Lykes Lines Limited, L.L.C.	3 Container Ships
Maersk Line Limited.	4 Container Ships
OSG Car Carriers, Inc.	1 RO/RO Vessel
Sea-Land Service, Inc.	15 Container Ships
Waterman Steamship Corp.	4 LASH
Total	47 Vessels

[Ref. 9:p. 43]

Ocean shipping companies have given the program generally positive reviews. "We are encouraged to see the administration put forward a Maritime Security Program, but we were disappointed that the administration wasn't able to come forward with a fully funded multi-year program," said Gil Roeder, a spokesman for American President Lines. The shipping industry will have to wait two years after the authorization of MSP for legislation enacting a fully funded program. [Ref. 10]

Owners of vessels accepted into MSP and receiving authorized payments are required to sign an Emergency Preparedness Agreement (EPA) which obligates the owner to participate in VISA. The payment is restitution for the increased cost of maintaining a ship under U.S. registry and VISA. MSP is expected to cost only half as much as the ODS program, which provided approximately $4 million to 53 vessels annually for a total cost exceeding $200 million. [Ref. 9:p. 40]

E. VISA ENACTMENT

The Voluntary Intermodal Sealift Agreement (VISA), a partnership between the U.S. government and the commercial shipping industry, was introduced in 1996 and phased in over the next two years. The agreement makes it possible for the U.S. Department of Defense to use ships and shore-based transportation systems of ocean shipping companies to meet contingency needs. It was a parallel initiative with the congressionally approved Maritime Security Program and was approved by Secretary of Defense Cohen as an alternative to the DOD Sealift Readiness Program. [Ref. 11]

Secretary of Defense William S. Cohen approved VISA on January 30, 1997 to bring the commercial shipping companies of the United States into the DOD planning process. The program, developed from lessons learned during Desert Storm and Desert Shield, parallels the existing DOD Civil Reserve Air Fleet (CRAF) program to integrate civilian aircraft into the Defense Transportation System. Like CRAF, VISA is employed in three stages, with the final stage being implemented only during times of grave national crisis. [Ref. 19]

Mutually dependent, MSP and VISA are linked by MSP's requirement that its participants enter the Emergency Preparedness Agreement with DOD. For the first time, shipping companies are brought into the planning process through a joint executive level mechanism to exchange ideas and ensure understanding of sealift requirements and capabilities among participants. This creates closer working partnerships in peacetime instead of trying to create new arrangements during crisis situations. Rates, terms, and conditions are spelled out to carriers before an operation begins. VISA uses pre-signed

contracts that automatically take effect when the Pentagon taps a participant's capacity. [Ref. 20] Mr. Gene Pentimonti, who sits on the industry committee that worked with MARAD and USTRANSCOM, said the contracts will give VISA participants "the stability of knowing that when their assets are being used by DOD, they will be fairly compensated. It's a safe, stable way of dealing with the government." [Ref. 11] DOD has even agreed to share classified information with carriers in advance of an operation. This early warning will become increasingly important as excess capacity continues to shrink in the commercial sector. [Ref. 10]

F. CHAPTER SUMMARY

This chapter covered the factors leading to the development of VISA. These factors included the Sealift Readiness Program (the precursor to VISA), the lessons learned during the Persian Gulf War concerning the use of sealift, and the Maritime Security Program.

Specifically, the chapter examined the weaknesses inherent to SRP and the reasons it was not enacted during the Persian Gulf War. It then looked at the use of containerization during the Gulf War and the Special Middle East Shipping Agreement, which was a model from which VISA was developed. The chapter then examined DOD's use of organic sealift assets and commercial charters during the Gulf War. Weaknesses in both of these areas contributed to the effort by both DOD and the commercial shipping industry to pursue a more equitable and efficient sealift agreement. Finally, the chapter examined the Maritime Security Program and the enactment of VISA.

The Persian Gulf War offered an opportunity to examine the relationship of the military war effort and the commercial shipping industry. Some sealift shortfalls did occur and served to focus government and industry's attention on enacting policies and plans to shape effective strategic sealift that is sufficient to meet any contingency. VISA, together with the Maritime Security Program, was designed to enable DOD to take maximum advantage of U.S. shipping company assets while at the same time ensuring the continuation of a healthy commercial shipping industry and U.S.-flag shipping fleet.

III. ADMINISTRATION AND ACTIVATION OF VISA

A. INTRODUCTION

This chapter discusses the administration of VISA during peacetime and the roles played by various government agencies and the commercial shipping companies in VISA administration. It also covers the process of VISA activation in the event of a national emergency.

VISA's objective is to maximize DOD's use of the multibillion dollar, state-of-the-art U.S. commercial intermodal transportation system to serve the United States in peace and war while seeking to minimize disruption to commercial shipping operations. Through VISA, DOD works closely with U.S.-flag shipping companies in developing sealift contingency plans. VISA's activation in an emergency will be time-phased to streamline the availability of capacity to coincide with DOD requirements.

VISA was also developed to improve DOD's wartime procurement contingency plans. These plans would enable DOD to make immediate use of commercial cargo vessels and intermodal networks.

At the inception of Operation Desert Shield in August 1990, no cargo moved through liner services while DOD debated terms of contracts. VISA will eventually contain pre-negotiated rates to preclude the need for negotiations and to allow cargo to be immediately shipped.

B. VISA CONTINGENCY PROVISIONS

VISA provides for the staged, time-phased availability of participating commercial shipping company's services and systems to meet National Command

Authority (NCA) directed DOD contingency requirements in both national emergencies and less demanding defense-oriented situations. These services and systems are provided through prenegotiated contingency contracts between the government and VISA participants. All arrangements are jointly planned with MARAD, USTRANSCOM, and participating shipping companies in peacetime to allow for the most effective and efficient use of commercial sealift capacity. [Ref. 21]

VISA is activated in three stages, similar to the Civil Reserve Air Fleet (CRAF) program. Stages I and II set up prenegotiated contracts between DOD and the participating commercial shipping companies to provide sealift capacity for all projected contingency requirements. These agreements are executed in accordance with approved DOD contracting methods. Stage III provides for additional capacity when Stages I and II commitments or volunteered capacity are insufficient to meet contingency requirements. The execution of Stage III also means that adequate shipping services from non-participating shipping companies are not available through established contracts or U.S. government treaty agreements. The SRP may be activated simultaneously with the activation of Stage III for those carriers still under obligation to that program. [Ref. 22]

C. VISA ACTIVATION

VISA is activated at the request of Commander in Chief, United States Transportation Command (USCINCTRANS), with the approval of the Secretary of Defense, as needed to support contingency operations. Throughout the activation of any

Stages of VISA, DOD may utilize voluntary commitment of sealift capacity or systems. [Ref. 21]

Activating any voluntary commitments of capacity to support contingency operations is done in accordance with prenegotiated contingency contracts between DOD and the VISA participants. Requests for volunteer capacity are extended simultaneously to both participants in VISA and other U.S.-flag shipping companies not participating in VISA. First priority is given to participating shipping companies that have signed Stage I and/or Stage II contracts and are capable of meeting the operational requirements. USTRANSCOM activates prenegotiated contingency contracts where possible with the participating shipping companies providing voluntary capacity. When voluntary capacity does not meet contingency requirements, DOD will activate the VISA stages as necessary. [Ref. 21]

Stage I is activated in whole or in part by the Commander-in-Chief, USTRANSCOM with the approval of the Secretary of Defense when voluntary capacity is determined to be insufficient to meet contingency sealift requirements. USTRANSCOM implements Stage I contingency contracts as needed to meet DOD requirements. [Ref. 21]

Stage II is activated in whole or in part when sealift requirements exceed the capability of Stage I (15 percent of participant capacity) and voluntarily committed sealift resources. Stage II is activated in the same process as Stage I. [Ref. 21]

Stage III is activated in whole or in part when contingency sealift requirements exceed the capability of Stages I and II (40 percent of participant capacity), and other

shipping services are not available. Stage III, as with Stages I and II, is activated by USCINCTRANS with the approval of the Secretary of Defense. Upon activation, the Secretary of Defense requests that the Secretary of Transportation allocate sealift capacity based on DOD requirements. All of the capacity committed to VISA by participating shipping companies is subject to use during Stage III (100 percent of participating MSP vessel capacity and 50 percent of participating non-MSP vessel capacity). Upon the allocation of sealift assets by the Secretary of Transportation through MARAD, USTRANSCOM negotiates and executes contingency contracts with the participating shipping companies using pre-approved rate methods. [Ref. 21]

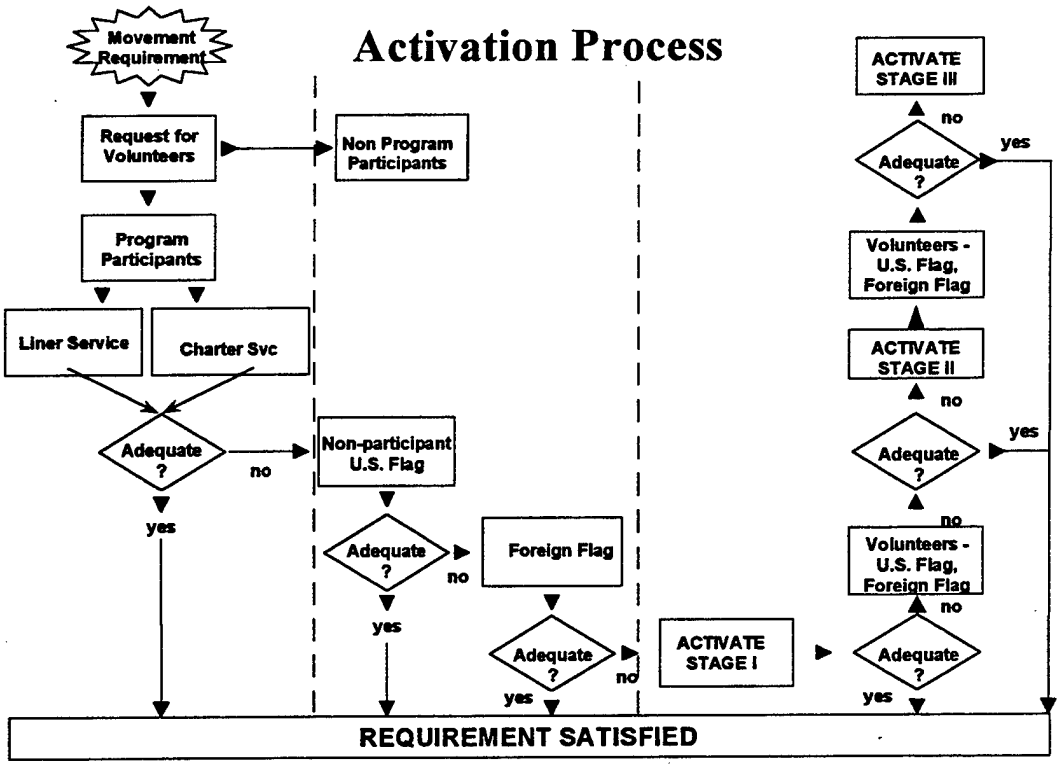

Figure 1. VISA Activation Process [Ref. 23]

The stages indicate the percentage of space to be made available to DOD given the level of contingency and the corresponding Concept of Operations (CONOPS) developed to meet the contingency requirements. After matching commercial lift requirements with VISA lift capability, taking into account organic sealift capacity, USTRANSCOM developed VISA stage capacity percentages. Activation of Stage I is to provide DOD with 15 percent of a participant's cargo space, and Stage II will provide 40 percent. Activation of Stage III provides DOD with 50 percent of VISA participant's cargo capacity. It is only after Stage III capacity - along with organic sealift and U.S. and foreign-flag charters - is found to be inadequate that ships would be directly requisitioned by DOD.

D. VISA ENROLLMENT

Any U.S.-flag vessel operator organized under the laws of a state of the United States, or the District of Columbia, who is able and willing to commit militarily useful sealift assets, may become a participant in VISA by submitting a VISA application form with MARAD. Enrolling U.S.-flag ocean shipping companies also enter into a Voluntary Enrollment Contract (VEC) with DOD's Military Traffic Management Command (MTMC) and Military Sealift Command (MSC) which establishes a legal obligation to perform and which specifies payment or payment methods for all services rendered. Once the VEC is completed, the enrolling company completes the contracting process by executing a Drytime Contingency Contract (DCC) with MSC (for charter operators) and/or as applicable, a VISA Contingency Contract (VCC) with MTMC (for liner

operators). Once the DOD contingency contracts are completed, the Maritime administrator confirms the shipping company's enrollment or re-enrollment by letter to all appropriate parties. [Ref. 22]

Shipping companies receiving payments under the Maritime Security Program (MSP) must become a participant in VISA with respect to all vessels enrolled in MSP. Participation must continue until the date the MSP operating agreement would have terminated according to its original terms. MSP operators must enroll in VISA as a Stage III participant, at a minimum. This participation satisfies the requirement for an MSP participant to be enrolled in an emergency preparedness program approved by the Secretary of Defense. [Ref. 22]

The requirement for MSP shipping companies to enroll in VISA forms an important link between VISA and MSP. More than 90 percent of the U.S.-flag commercial dry cargo fleet is enrolled in VISA Stage III and over 80 percent of that capacity comes from MSP vessels. [Ref. 23] Figure 2 provides a list of shipping companies enrolled in VISA and indicates which of these companies is a recipient of MSP subsidies.

Current Enrollment Status

Alaska Cargo Transport, Inc.
American Auto Carriers, Inc.
American Automar, Inc.
American President Lines, Ltd.
American Ship Management, LLC *
Central Gulf Lines, Inc. *
Crowley Maritime Corp. *
Falgout Brothers, Inc.
Farrell Lines Incorporated *
First American Bulk Carrier Corp. *
Lykes Lines Limited, L.L.C. *
Maersk Line Limited *
Matson Navigation Company, Inc.
Moby Marine Corp.
NPR, Inc.
OSG Car Carriers, Inc. *
RR & VO L.L.C.
Sea-Land Service, Inc. *
Sealift Inc.
Totem Ocean Trailer Express, Inc.
Trailer Bridge, Inc.
Van Ommeren Shipping (USA), Inc.
Waterman Steamship Corporation *

*** MSP Recipients**

Figure 2. Current VISA Enrollment Status [Ref. 23]

Prior to the end of each fiscal year, interested U.S.-flag shipping companies are invited to enroll in VISA for the next fiscal year. With VISA fully integrated into DOD's priority system for award of cargo to VISA participants, the VISA enrollment cycle has been linked to DOD's peacetime cargo contracting cycle. Existing VISA participants and new applicants are required to enroll/re-enroll in VISA for the next fiscal year. The planned enrollment period at the end of the fiscal year is the only opportunity for shipping companies to join VISA for the following fiscal year. The only exception to this is for a non-VISA company that reflags a vessel into U.S. registry. That company may join VISA upon completion of reflagging at any time during the fiscal year. [Ref. 22]

E. VISA PRIORITIES

1. Contract Priorities

In exchange for providing DOD with access to sealift services based on a level of commitment, DOD awards peacetime cargo contracts to VISA participants on a priority basis. Award of DOD cargoes to meet DOD peacetime and contingency requirements is made on the basis of the following priorities:

1. U.S.-flag vessel capacity operated by VISA participants, and U.S.-flag Vessel Sharing Agreement (VSA) capacity held by VISA participants.
2. U.S.-flag vessel capacity operated by non-participants.
3. Combination U.S.-flag/foreign-flag vessel capacity operated by VISA participants, and combination U.S.-flag/foreign-flag VSA capacity held by VISA participants.
4. Combination U.S.-flag/foreign-flag vessel capacity operated by non-participants.
5. U.S.-owned or operated foreign-flag vessel capacity and VSA capacity held by VISA participants.
6. U.S.-owned or operated foreign-flag vessel capacity and VSA capacity held by non-participants.
7. Foreign-owned or operated foreign-flag vessel capacity of non-participants.

[Ref. 24]

As stated earlier in this chapter, priority for the utilization of cargo capacity by DOD is given to VISA participants who have signed Stage I and Stage II contracts. This priority is followed both for the shipment of peacetime cargo and for the shipment of cargo during a contingency operation. The U.S.-flag vessels of VISA participants and the U.S.-flag vessels used by participants through Vessel Sharing Agreements have top priority in the award of DOD cargo contracts. This is in return for their participation in VISA and their acceptance of the risk of commercial disruption when meeting DOD contingency requirements.

2. Vessel Sharing Agreements (VSA)

VSA capacity is space-chartered to a participating shipping company for carriage of cargo aboard that company's vessels and/or vessels shared with another company or companies. The shipping companies share vessel capacity through commercial vessel sharing agreements. VISA allows participating shipping companies to enter into VSA to utilize non-participant U.S.-flag or foreign-owned and operated foreign-flag vessel capacity as a substitute for VISA contingency capability. To use VSA capacity; however, the shipping company must demonstrate adequate control over that capacity during the period of utilization and the use of the VSA capacity must be agreed upon in advance by USTRANSCOM and MARAD. [Ref. 20]

F. VISA REQUIREMENTS AND COMPENSATION

1. Compensation

In addition to receiving priority in the award of peacetime cargo, several compensation methodologies are being developed for use during contingency activation. Each participant should be able to choose a compensation method during enrollment that is commensurate with the risk and service provided. The rate methodology determinations for liner and charter service are currently undergoing development at USTRANSCOM by a Rate Methodology Working Group consisting of both DOD and commercial shipping company personnel. [Ref. 25] Two rates are being developed; a unit rate for regularly routed liner service and a per diem rate for off-route charter service. Compensation will be based on the rate plus the actual reimbursement cost. [Ref. 23]

2. Capacity Commitment

Recall that the objective of VISA is to provide DOD with commercial sealift and intermodal capability by way of a coordinated transition from peacetime to wartime. Through joint planning between shipping companies, MARAD, and USTRANSCOM, participating shipping companies provide predetermined sealift support capacity for the designated VISA stages. [Ref. 21]

Each participant in the VISA program agrees to provide commercial sealift and/or intermodal shipping services in accordance with DOD contingency contracts. USTRANSCOM reviews and approves each participant's commitment to ensure it meets DOD contingency requirements. A participant's capacity commitment to Stages I and II is one of the considerations in determining the level of DOD peacetime contracts awarded. [Ref. 21]

Any U.S.-flag shipping company desiring to receive preference in the award of DOD peacetime contracts must commit no less than 50 percent of its total U.S.-flag militarily useful, oceangoing U.S.-flag fleet capacity on an annual basis. USTRANSCOM and MARAD coordinate to ensure that the amount of sealift assets committed to Stages I and II will not have an adverse national economic impact. To minimize domestic commercial disruption, participants operating vessels in the domestic trades are not required to commit the capacity of those U.S. domestic trading vessels to VISA Stages I and II. Overall VISA commitment requirements are based on annual enrollment. [Ref. 21]

3. Carrier Coordination Agreements (CCA)

In order to protect U.S.-flag shipping company's market share during contingency activation, VISA allows participants to join with other shipping companies to form Carrier Coordination Agreements (CCAs) to satisfy commercial or DOD requirements. A CCA is an agreement between two or more carriers to coordinate their services in a contingency. When any stage of VISA is activated or when DOD requests volunteer capacity, participants may implement approved CCAs to meet DOD sealift needs and to minimize disruptions to their commercial services. [Ref. 21]

Shipping companies that enter into CCAs with MARAD approval are provided a defense against antitrust laws through their participation in the VISA program. [Ref. 21] This protection from government antitrust regulations is an important benefit to shipping companies and an incentive to participate in VISA. Allowing shipping companies to form CCAs offsets VISA participants' risk of losing commercial business while fulfilling DOD sealift requirements during a national emergency.

G. JOINT PLANNING

1. The Executive Working Group (EWG)

The EWG was organized by the National Defense Transportation Association (NDTA) Sealift Committee in March 1995, and consists of representatives from DOD, DOT, and the transportation industry. The EWG is not a decision making body nor is it involved in contract negotiation between government and industry. It is a forum used to identify policy issues and alternatives, set priorities, and establish milestones to reach agreed upon objectives. [Ref. 23] Industry representatives on the EWG are selected by

the Chairman of the NDTA Sealift Committee. On a strategic level, the EWG works to strengthen the government-industry partnership, ensuring that mutual objectives are established and maintained, and that the specific objectives of VISA are fully implemented. [Ref. 26]

The EWG meets monthly to study transportation issues of interest to government and industry and report the status of these issues to the NDTA membership. Additional EWG objectives are to examine sealift contracting and compensation processes to ensure they meet the mutual strategic needs of DOD, DOT, and the ocean shipping industry; examine opportunities to expand the business base for VISA participants; examine alternatives for the use of DOD organic fleet; and examine the readiness and capability of commercial maritime transportation resources to meet national security requirements. [Ref. 27]

The EWG was instrumental in the development of VISA, both drafting the VISA program document and the Stage I and II contracting arrangements. Sealift contracting and compensation processes are constantly examined to ensure that they meet the mutual strategic needs of government and industry. The group is currently developing the VISA Stage III rate methodology through the Rate Methodology Working Group. Also examined by the EWG are alternatives for the use of DOD organic fleet assets and the readiness and capability of commercial maritime transportation resources to meet national security requirements. [Ref. 23]

2. The Joint Planning Advisory Group (JPAG)

The JPAG meets quarterly in peacetime and when necessary during a contingency. Its purpose is to recommend and develop concepts of operations (CONOPS) to meet DOD-approved contingency requirements. CONOPS are developed from sealift requirements established from Major Regional Conflict Operation Plans (OPLANS). CONOPS are sealift contingency plans through which individual shipping companies or teams of shipping companies (under Carrier Coordination Agreements) agree to employ their intermodal network and capacity to meet specific emergency sealift requirements during VISA Stages I and II. [Ref. 23]

The JPAG also identifies commercial sealift capacity that may be used to meet DOD contingency requirements and capacity requested by USTRANSCOM for use in exercises and special movements. [Ref. 21] VISA capacity can be applied in four ways to satisfy contingency sealift requirements through CONOPS. The first is "on route," which uses a shipping company's established string of commercial ships and networks, moving on established peacetime routes. The second is "on route, off service," which uses a shipping company's string of commercial ships, but requires a diversion from its established peacetime route to satisfy requirements. The third is "off route," where the shipping company maintains control over its commercial ships, but delivers DOD cargo on DOD directed contingency routes (SMESA was an example of off route utilization). The final method of applying VISA capacity is through charter. DOD directly charters and has operational control over a commercial shipping company's ships, and directs delivery of DOD cargo on DOD established contingency routes. The JPAG evaluates

requirements and capacity, and develops the optimal method to meet contingency needs. [Ref. 28]

The JPAG is co-chaired by MARAD and USTRANSCOM/TCJ5 (Plans and Policy), and is convened as jointly determined by the co-chairs. It consists of designated representatives from MARAD, USTRANSCOM, each participating shipping company, and maritime labor. Other attendees may be invited at the discretion of the co-chairs as necessary to meet JPAG requirements. All participating shipping companies are invited to all open JPAG meetings. For certain classified meetings, attendance may be limited to designated participants to meet specific operational requirements. [Ref. 21]

In coordination with the contractor Volpe Center/Stanley Associates (which provides on-site facilitation, coordination, record keeping, and data support), USTRANSCOM/TCJ5 presents the sealift CONOPS for a pre-designated area of operation. The presentation provides all of the key assumptions used in developing the requirement and an overview of the movement requirements by week. The movement requirements presented to the JPAG include cargo type, quantity, port of embarkation, port of debarkation, and other essential data. The JPAG then verifies and analyzes recommended applications of sealift capacity to meet DOD requirements and fully develop the CONOPS. [Ref. 9:p. 44]

USTRANSCOM/TCJ3/J4 (Operations and Logistics) provides summary briefings on potential areas of operations and operational plans. In coordination with JPAG participants, TCJ3/J4 provides operational planning and logistical expertise in refining OPLAN requirements. They integrate VISA planning into the operational process for

peacetime contingency sealift operations and review shipping company proposals for sealift to meet requirements. [Ref. 9:p. 45]

MSC provides operational and planning expertise on implementing CONOPS for Stages I and II and discusses the charter market, if necessary. The Military Traffic Management Command (MTMC) provides operational and planning expertise on the use of liner services and the implementation of CONOPS for Stages I and II. [Ref. 9:p. 45]

MARAD hosts the JPAG and provides appropriate facilities and administrative support. MARAD discusses and provides procedures for using waivers, and balances the commercial and economic impact of Stages I and II, and Stage III procedures for sealift allocation and priorities. MARAD also verifies the status and committed capacity of subsidized MSP shipping companies. [Ref. 9:p. 46]

The participating shipping companies review the VISA lift profiles provided at the JPAG and recommend options in meeting DOD requirements. They provide and discuss information on their current intermodal capacity. This capacity includes foreign-flag capacity and peacetime business routes. The shipping companies also review DOD and carrier-developed CONOPS developed to meet requirements and extend their operational expertise to the JPAG in analyzing the CONOPS. [Ref. 9:p. 46]

H. CHAPTER SUMMARY

This chapter examined the process of enrollment and participation in the VISA program. The roles of both government and civilian participants in the development and administration of VISA were explained. Specifically, the chapter looked at the partnership of government and industry that VISA encourages and the workings and

membership of the EWG and the JPAG. The activation process for VISA contingency provisions, from voluntary capacity to Stage III mobilization, was also presented.

The development of CONOPS for contingency sealift provides a flexibility to sealift support that did not exist prior to the development of VISA. Commercial shipping company support of VISA and these firms' participation in planning and executing contingency sealift ensures that sealift planning is realistic and reliable. The driving force within VISA is the JPAG which has become an effective forum to identify potential problems in activating VISA, resolve those problems, and develop effective contingency plans to meet DOD requirements. VISA involves a fully coordinated effort among all participating parties built upon joint planning, prior negotiation of terms and conditions, and exercises to ensure that intermodal networks are utilized as efficiently as possible when needed. [Ref. 20:p. 57]

IV. VISA SUPPORT OF MOBILITY REQUIREMENTS

A. INTRODUCTION

Chapter IV reviews the President's National Security Strategy requirement that the armed forces be prepared to fight two nearly simultaneous major theater wars (MTW) [formerly known as major regional conflicts]. The Mobility Requirements Study (MRS) will be discussed as it supports the National Security Strategy and pertains to sealift support of this strategy. Current strategic sealift assets and the implementation of these assets during both surge and sustainment sealift operations will be examined. The advantages and disadvantages of the military use of intermodalism are presented along with some of the lessons learned during the Persian Gulf War by commercial intermodal shippers. Finally, the operational process of employing VISA sealift capacity during a contingency is presented.

B. NATIONAL SECURITY STRATEGY (NSS)

In October of 1993, the final report of Secretary of Defense Les Aspin's Bottom-Up Review (BUR) was published. The BUR was a comprehensive review of the United States' defense strategy and force structure written in view of the end of the Cold War and dissolution of the Soviet Union. Changes in the international security environment had fundamentally altered the security needs of the United States, and a reassessment of national defense concepts and programs was needed.

In the forward to the BUR, Secretary Aspin explained his reasons for commissioning the review and describes the purpose of the review.

> First and foremost, the Bottom-Up Review provides the direction for shifting America's focus away from a strategy designed to meet a

> global Soviet threat to one oriented toward the new dangers of the post-Cold War era. Chief among the new dangers is that of aggression by regional powers.
>
> One of the central factors in our analysis was the judgement that the United States must field forces capable, in concert with its allies, of fighting and winning two major regional conflicts that occur nearly simultaneously. This capability is important in part because we do not want a potential aggressor in one region to be tempted to take advantage if we are already engaged in halting aggression in another. Further, sizing U.S. forces to fight and win two major regional conflicts provides a hedge against the possibility that a future adversary might one-day confront us with a larger-than-expected threat. [Ref. 6]

On the basis of a comprehensive assessment of U.S. defense needs, the BUR determined the force structure required to carry out the two nearly simultaneous MRC strategy. For the Army, this force structure consists of ten active divisions plus five reserve divisions. [Ref. 6:p. 28] Most of the sealift in support of the two-MRC strategy would be used to transport these divisions to regions of conflict. The BUR formed the foundation for President Clinton's National Security Strategy. As a result, one of the highlights of the that strategy is the emphasis on the requirement for the armed forces to be able to fight and win two nearly simultaneous major theater wars.

> At the high end of responding to crises is fighting and winning major theater wars. This mission will remain the ultimate test of our Total Force, our active and reserve military components, and one in which it must always succeed. For the foreseeable future, the United States, in concert with regional allies, must remain able to deter credibly and defeat large-scale, cross-border aggression in two distant theaters in overlapping time frames. [Ref. 7]

The NSS states that "we must maintain the ability to rapidly defeat initial enemy advances short of enemy objectives in two theaters, in close succession." [Ref. 7]

The United States National Military Strategy (NMS) continues to emphasize the need for the armed forces to be able to fight and win conflicts in two theaters. The NMS

states, "As a global power with worldwide interests, it is imperative that the United States be able to deter and defeat nearly simultaneous, large-scale, cross-border aggression in two distant theaters in overlapping time frames..." [Ref. 8] On the subject of strategic mobility, the NMS explains the need to take advantage of the global transportation infrastructure:

> Robust strategic sealift, air mobility, and ground transportation combined with prepositioned supplies and equipment ashore and afloat, are critical to maintaining strategic agility. In addition our forces will normally require access to U.S. and overseas support infrastructure to maintain our ability to project power in times of crisis. Enroute infrastructure will assist our forces in rapidly establishing and positioning themselves to dominate any situation. Keeping pace with evolving technology in the transportation industry guarantees our mobility forces continued global reach. [Ref. 8]

VISA was developed to satisfy this requirement for the use of the commercial transportation industry's intermodal infrastructure. Also, as a replacement for SRP, VISA is designed to provide sealift support to enable DOD to prosecute and succeed in the two nearly simultaneous MTW scenarios put forward in the NSS and NMS.

C. MOBILITY REQUIREMENTS STUDY

Since the end of the Persian Gulf War, the Office of the Joint Chiefs of Staff has coordinated two analyses of the U.S. military's strategic lift needs: the 1992 Mobility Requirements Study, and the 1995 Mobility Requirements Study Bottom-Up Review Update (MRS BURU). Rather than looking at a broad range of scenarios in which the United States might need to move its forces, both analyses focused on a few two theater

scenarios that military planners believe will place the greatest demands on strategic mobility. [Ref. 2:p. 51]

The MRS BURU concluded that the Navy should continue to fill the sealift requirements that were identified in the 1992 Mobility Requirements Study. That analysis called for purchasing 19 Large Medium Speed RO/RO (LMSR) vessels, some of which would be used to preposition equipment, and establishing a fleet of 36 smaller RO/ROs for the Ready Reserve Force. The first five of the LMSRs were purchased on the world market and sent to U.S. shipyards for conversion to military use. The 14 remaining LMSRs will be new vessels, constructed at U.S. shipyards. [Ref. 29:p. 14]

In accordance with the President's National Security Strategy, the most demanding scenario for sealift mobility is two major theater wars occurring at nearly the same time. According to the MRS BURU, the greatest challenge to U.S. strategic mobility would come from a scenario in which a major conflict broke out on the Korean Peninsula followed shortly by another in the Persian Gulf region. [Ref. 2:p. 30]

As a result of this study, DOD has begun prepositioning equipment in the Persian Gulf region and South Korea. Current plans call for the Army to preposition enough equipment for two heavy brigades and a divisional headquarters in the Persian Gulf region over the next several years. (A brigade is roughly one-third the size of a division.) In South Korea, the Army recently prepositioned tanks and armored fighting vehicles for one heavy brigade. Since the Army already has two manned heavy brigades stationed there, the additional equipment would provide a complete division if war broke out. Both the Marine Corps and Army plan to extend the amount of equipment that is on

prepositioned ships. The Marines plan to add one ship to each of three existing squadrons of vessels locates in the Mediterranean, at Diego Garcia in the Indian Ocean, and at Guam and Saipan in the Pacific. In 1993, the Army began placing equipment for a heavy brigade and support units on seven RO/RO ships anchored at Diego Garcia. DOD expects to replace those ships with eight LMSRs by the end of the decade, more than doubling the amount of cargo space available. [Ref. 2:p. xv]

The MRS BURU also concluded that DOD could rely on commercial shipping to transport sustainment supplies in a timely manner. The analysis estimated that DOD would need to contract with shipping companies for 6,000 to 6,500 20-foot-equivalent containers per week to carry cargo, plus 13 to 16 containerships or a limited number of breakbulk ships to deliver ammunition under dedicated charter agreements. [Ref. 2:p. 52]

D. STRATEGIC SEALIFT

The President's National Security Strategy and the United States National Military Strategy cannot be executed without forward presence, power projection, and the ability to sustain forces during an operation and redeploy forces when the operation is over. As one of the principal means for delivering equipment and logistics support, sealift impacts the ability to conduct sustained operations. Flexible, assured sealift support permits force commanders to expand the strategic, operational, and tactical options available. [Ref. 30:p. I-3]

During large strategic deployment operations, sealift support is typically divided into two phases: surge and sustainment. The surge phase includes ships from the

USTRANSCOM controlled fleet. This fleet consists of the Fast Sealift Ships (FSS), the Ready Reserve Force (RRF), the large medium speed RO/RO (LMSR) vessels, and commercial ocean shipping when contracted by USTRANSCOM. The sustainment phase consists primarily of shipping provided by the U.S. merchant fleet. [Ref. 30:p I-4]

1. Government Controlled Assets

U.S. National Security Strategy now rests primarily on the projection of personnel and their equipment to a theater of operations. Surge shipping is critical to the rapid buildup of combat forces during the initial stage of a deployment. The United States must be prepared to deploy all the equipment and personnel to support 10 Army divisions, in addition to corps and theater support elements, to two theaters of operations. Plans based on the assumption of two major theater wars require approximately five Army divisions for each conflict. Virtually all Marine Corps and Air Force assets as well as the bulk of Navy forces must also deploy to fulfill the strategy. [Ref. 31:p. 67]

The U.S. armed services rely on four sets of government-controlled surge sealift assets intended to deploy heavy equipment in a contingency operation. These ships have differing missions and response times during the surge phase of an operation.

The first ships to respond in a crisis are the vessels belonging to the Afloat Prepositioning Force. The Army currently has the equipment of one heavy brigade afloat, and the Marine Corps has three separate Maritime Prepositioning Squadrons that are designed to provide support for a Marine Expeditionary Brigade. All of these ships are in full operational status with full crews and are strategically located near potential

crisis areas throughout the world. In most cases, the vessels must be under way within four hours of notification to sail. [Ref. 31:p. 68]

The Military Sealift Command controls eight fast sealift ships, large combination RO/RO and lift-on/lift-off ships. This is the second set of ships DOD will call on in a national emergency. These vessels are located near U.S. ports of debarkation and operate in reduced status with partial crews. They must be capable of being activated within 96 hours of notification. [Ref. 31:p. 69]

The third set of ships that DOD can call on for surge support are the 19 LMSRs currently being procured and built. Eight of these vessels will join the Afloat Prepositioning Force with the ships they replace joining the Ready Reserve Force. The other 11 vessels will be strategically located and maintained in a reduced operating status with partial crews. These vessels have a response time similar to that of the fast sealift ships, with activation 96 hours from notification. [Ref. 31:p. 69]

The fourth surge sealift asset consists of the ships of the Ready Reserve Force (RRF). These 96 vessels are strategically located near major U.S. deployment seaports. RRF ships are maintained in four categories of readiness. Depending on their respective missions, these ships must be capable of sailing to ports of embarkation within four, five, 10, or 20 days of notification. Ships with a four-day embarkation requirement have 10-person crews, while five-day embarkation ships have nine-person crews. Ships with response times of 10 and 20 days have no permanently assigned crew aboard. MARAD contracts the maintenance for these 10- and 20-day vessels, and contractors hire teams

that service all the vessels under their contract. When these ships are activated a full crew must also be hired. [Ref. 31:p. 69]

The RRF is the core element of a larger fleet of reserve ships known as the National Defense Reserve Fleet (NDRF). The organization of the NDRF consists of the RRF and the Naval Inactive Fleet (NIF), which is commonly referred to as the mothball fleet. [Ref. 32] The ships in the NIF require at least 30 days to become operational after the notification to activate is received. This long lead-time prevents the NIF from satisfying surge requirements, while the obsolete technology of many NIF ships reduces their ability to provide sustainment support. [Ref. 33]

2. Commercial Assets

DOD also relies on commercial ships to support surge sealift requirements; however, most U.S.-flag commercial ships are not well-suited to support surge cargo requirements. Most of the commercial sealift assets used during a contingency would be contracted to provide sustainment sealift. These ships are acquired either through charters or capacity committed to the VISA program and, when used during the surge phase of an operation, are required to support the Ready Reserve Force assets. The commercial U.S. merchant fleet is; however, primarily used during the sustainment sealift phase.

U.S.-flag shipping does not consist of ship types suitable for transporting surge cargo. RO/RO ships are the most militarily useful for surge sealift. This ship type can load large quantities of vehicles and equipment unsuitable for the containerized transport used at commercial intermodal facilities. Of the 253 dry cargo ships acquired during

Desert Shield, 94 (37 percent) were RO/RO ships. Of the 94 RO/RO ships acquired, only 51 came from U.S.-owned sources (25 from DOD, 17 from DOT, and 9 from the commercial U.S.-flag fleet). The remaining 43 RO/RO ships were foreign-flag charters. [Ref. 34:p 7]

During Operations Desert Shield and Desert Storm, MSC contracted for 24 U.S.-flag dry cargo ships, of which only nine were RO/RO vessels. The remaining eight RO/RO ships in the U.S.-flag commercial fleet were not obtained by MSC because they were reported by USTRANSCOM to be unsuitable for military surge cargoes. An additional problem encountered by MSC was the location of U.S. commercial ships at the start of Operation Desert Shield. Due to the nature of commercial business, these ships were scattered around the world and therefore could not respond immediately to surge cargo movement requirements. [Ref. 34:p. 7]

The limited availability of commercial U.S.-flag RO/RO ships caused DOD to use less efficient breakbulk vessels which carry less capacity, take longer to load, and are usually slower than RO/RO vessels. The limited availability of U.S. RO/RO capacity delayed the movement of surge cargo overseas and contributed to the dependence on foreign-flag capacity to support Operation Desert Shield surge sealift requirements. During Operation Desert Shield, MSC contracted for 137 foreign-flag ships of which 105 delivered cargo. Of these 105 foreign-flag ships, 34 were RO/RO and 71 were breakbulk. [Ref. 34:p. 8]

The vast majority of vessels required to support sustainment sealift operations are not under DOD control during peacetime. To acquire these ships, some type of charter

agreements must be effected between DOD and the owning and controlling organizations. DOD can obtain shipping from the following sources: (1) U.S.-flag commercial charters and liner service, (2) Foreign owned and operated ships, used in accordance with existing laws and policies, (3) Capacity committed to VISA, (4) Effective U.S. Controlled Fleet (EUSC) ships, (5) Militarily useful U.S.-flag ships which are subject to requisitioning. [Ref. 30:p. V-1]

MSC frequently charters U.S. and foreign-flag ships during peacetime to provide additional sealift capacity. Chartering is a routine commercial transaction and can usually be accomplished within a few days. However, all chartered ships may not be immediately available during a contingency operation. Depending on ship location, the amount of time required to arrive at a designated loading port may be as much as 30 days. [Ref. 30:p. V-6] On the other hand, if the chartered ship is originally located at the designated loading port, no time lag exists.

The requisitioning of U.S.-flag ships is avoided if at all possible because of the costs incurred by the shipping companies due to lost business. Also, when ships are requisitioned, DOD loses the use of the intermodal systems operated by the shipping companies. When asked about ship requisitioning after the Persian Gulf War, Michael M. Murphy, Vice President of Government Affairs with American President Lines, Ltd. stated:

> There is no question in our minds that had the military requisitioned our ships and caused our weekly service schedules to be disrupted that we would have lost customers for a long period of time. Commercial customers value several things in their carriers, including weekly service. They demand this service since it supports their own customer's requirements. One has only to look at carriers who provide

> inconsistent, infrequent service, and it is evident why they have such a low share of intermodal containerized cargo.
>
> ...the military would have suffered had our ships been requisitioned. The worldwide military, intermodal transportation system would have been shut down. Government controlled ships, many sailing partially full, would have been used as a part of a truck, train, ship, terminal operation where all entities operated separately. The time, cost, and cargo control inherent in the intermodal system would have been lost, resulting in decreased support for bases outside the combat zone. [Ref. 35]

Approximately 20 percent of military cargo moves in U.S.-flag liner ships. [Ref. 22] Liner operators are shipping companies operating ships on scheduled sailings over established trade routes. They provide service to all on a first-come, first-served basis. Military cargo offered by MSC to liner carriers is usually offered in less-than-full shipload lots, sharing space with private sector business. Shipments from a variety of DOD sources are usually consolidated in containers for delivery to commercial terminals. The containers are then loaded onto container ships and carried under terms and conditions set forth by MSC. U.S.-flag liner services were used extensively during operations Desert Shield and Desert Storm. SMESA, described earlier in this thesis, was developed by DOD to capitalize on the intermodal advantages of these liner services. VISA, like SMESA, was developed to take advantage of liner services and their intermodal infrastructure. [Ref. 36]

E. INTERMODALISM

Intermodalism is the use of two or more modes of transportation during the shipment of cargo with no separate handling between the modes. Most intermodal systems use some combination of surface, rail, and ocean modes. The use of intermodalism presents several advantages. Intermodalism eliminates the traditional need

to rehandle cargo, simplifies documentation, and reduces cost. It also provides the flexibility of alternative routings. For example, if ports on the East Coast are overloaded, cargo can be shipped to alternative ports on the Gulf or West Coast.

For at least 30 years, containers and container ships have been the primary intermodal instruments of the commercial shipping industry. By using standard size containers packed at origin and unloaded at destination, cargo can be handled quickly. More importantly, containers can be transported by rail, truck or ship so the actual cargo is handled once and is protected by the container from damage. U.S. shipping companies have developed intermodal networks for their customers that will deliver international cargo smoothly from origin to destination. The intermodal network, operating on a fixed schedule (liner service), can provide full in-transit visibility through a computer and communication network. [Ref. 37:p. 4]

Operation Desert Shield/Storm was the first large-scale military operation to capitalize on the benefits of an integrated, intermodal container transportation system. During the three weeks of the initial surge phase, all military cargo moved exclusively via airlift, chartered U.S. and foreign-flag vessels, and vessels operated by MSC. Thereafter, the military began to book sustainment cargo with the U.S.-flag liner sector. [Ref. 38]

Since intermodal container bookings began on August 23, 1990, the U.S.-flag liner sector met or exceeded nearly every DOD delivery requirement. This high level of reliability was maintained despite the need for additional complex deployment

adjustments to ensure capacity availability, and despite continuous in-country logistical challenges, as in Saudi Arabia for example. [Ref. 38]

Although delivery requirements were met throughout the Persian Gulf War, better logistical planning – including cargo identification and planning of truck availability and delivery routings before cargo landed in port – could have shaved as much as 10 days off of the 23 to 30 day delivery times. [Ref. 38] When cargo started pouring into Dammam, Saudi Arabia, delays resulted when contents of offloaded containers could not be identified. The military booked much of the cargo as generic N.O.S. (Not Otherwise Specified), and the documentation and internal processes were unable to keep pace with the volume of cargo moved. One solution to this problem has been for DOD to adopt commercially available commodity identification systems and procedures. [Ref. 39]

Much of the success of the sealift operation resulted from the ability of the shipping companies, through their intermodal systems, to provide the military a point-to-point container service to Dammam, Saudi Arabia, under the control of a single operator, from virtually any source point in the United States. This intermodal point-to-point capacity gave DOD the flexibility to move cargo in a timely manner over any coast, irrespective of origin, and provide cost and operations benefits. The use of integrated intermodal services is less costly than contracting separately for independent rail, ocean, and truck services. In addition, shipping companies develop information systems that assist in cargo identification and disposition, and provide additional services for their rates – such as staging container operations, providing chassis and drayage, and coordinating deliveries. [Ref. 36]

The use of the commercial intermodal infrastructure presents some problems for the military. Oversize and overweight equipment does not function well in the intermodal system, requiring reversion to older methods to handle cargo. The increasing size of container ships (with several now having a capacity of 6000 or more twenty-foot containers) may present some problems. A limited number of ports are capable of handling ships of this size, especially in less developed countries. Unit integrity is difficult to maintain with a containerized move because all of the cargo looks the same and is interchangeable by design. The military has also raised concerns about the shipment of sensitive military cargo through the civilian cargo system for two reasons: security and access. If cargo is transloaded in foreign ports, maintaining adequate security for containers loaded with ammunition, for example, is a major concern due to the threat of pilferage. Concerns also exist about the accessibility of foreign transshipment ports to military cargo, both due to political factors and due to safety concerns (as with obtaining waivers for ammunition shipments). [Ref. 37:p. 20]

Because commercial shipping is primarily used for sustainment sealift, many of the problems presented by the shipment of unit equipment and ammunition are manageable. These items are still shipped mainly by RO/RO or breakbulk vessel in the surge sealift phase. In the future; however, if DOD decides to use more commercial intermodal shipping for surge sealift, these problems will have to be addressed and solved.

F. EMPLOYMENT OF VISA CAPACITY

The employment of sealift begins in the execution planning phase of joint crisis action planning in which an Operation Order (OPORD) is developed for execution by using or modifying an existing OPLAN, expanding an existing Operation Plan in Concept Format (CONPLAN), or building an OPORD where no plans exist. Employment continues until the operation is terminated by proper authority or is completed, including retrograde movement of forces and material. [Ref. 30:p. VI-1]

The execution-planning period may be weeks, days, or even hours in length depending on the political situation and scenario. During this period, USTRANSCOM and MSC identify the sealift forces required for execution of the OPORD and tentatively schedule the sealift to move the earliest deploying units. [Ref. 30:p VI-2]

During these first planning stages of a contingency operation, the JPAG would function as a planning session to determine how to meet the ocean lift portion of the OPORD. USTRANSCOM, MARAD, and shipping industry representatives plan how to use U.S.-flag commercial sealift capacity and develop a sealift CONOPS to support OPORD requirements. VISA lift requirements would be derived from the Time-Phased Force Deployment Data (TPFDD) considering types and amount of cargo and available VISA capacity. The JPAG would take into consideration organic sealift assets and chartered shipping in determining VISA capacity required. [Ref. 28]

The execution phase begins with the NCA decision to choose a military option for the resolution of the crisis and to execute the OPORD. Acting on the authority of the Secretary of Defense, the Chairman of the Joint Chiefs of Staff issues an Execute Order

that directs the supported commander of a combatant command (CINC) to carry out the OPORD. The supported CINC then issues Execute Orders to subordinate and supporting commanders directing that they execute their supporting OPORDs. [Ref. 30:p. VI-3]

Throughout the execution of an OPORD, USTRANSCOM is responsible for coordinating with the supported CINC for the validation of transportation requirements and for developing, monitoring, and adjusting transportation schedules. USTRANSCOM identifies lift shortfalls and other transportation related problems to the supported CINC and the Chairman of the Joint Chiefs of Staff. [Ref. 30:p. VI-3]

Once the deployment begins, the MTMC Deployment Support Command coordinates the movement requirements for deploying units. If MSC has insufficient chartered or government owned sealift to satisfy requirements, USTRANSCOM passes a request to MARAD to activate necessary RRF ships. USTRANSCOM will also make the decision on whether to issue a request for volunteers, with priority going to VISA participants. If insufficient volunteer capacity is available, USTRANSCOM will activate VISA Stage I or Stage II, depending on lift requirements. VISA Stage III is activated when insufficient sealift capacity is obtained from VISA Stages I and II. As a final option, USTRANSCOM would directly requisition EUSC and U.S.-flag ships required to fulfill contingency sealift requirements. [Ref. 23]

G. CHAPTER SUMMARY

Chapter IV reviews the President's National Security Strategy and the requirement that the U.S. armed forces be prepared to fight and win two nearly simultaneous conflicts in two major theaters of war. This strategy was based on the

Bottom-Up Review (BUR) completed in 1993, which addressed the new regional dangers facing the U.S. in the post Cold War world. After assessing possible threats, the BUR called for the U.S. to sustain forces capable of winning two major regional conflicts that occur nearly simultaneously.

The Mobility Requirements Study and the Mobility Requirements Study Bottom-Up Review Update were then reviewed. These two studies called for an increase in the strength of the U.S. organic sealift fleet – more ships in the RRF and the building of 19 LMSRs to augment current forces. Larger surge sealift capacity with more RO/RO type ships to transport unit equipment was needed to support National Security Strategy requirements.

Strategic sealift assets, both government controlled and commercial, were examined. Organic assets include MSC-owned ships and the ships of the RRF, which are maintained and administered by MARAD. During a contingency, MSC acquires commercial ships through charters and ship capacity through the VISA program. Through VISA, the military gains not just the ships, but also the use of shipping company's intermodal infrastructure. The latter part of the chapter focused on the use of intermodalism and its advantages and disadvantages along with lessons learned during the Persian Gulf War.

Finally, the employment of sealift capacity during a contingency was reviewed and included execution planning and the use of the JPAG to determine VISA sealift capacity through to the execution of sealift OPORDs.

V. COMMERCIAL SHIPPING ISSUES AFFECTING VISA

A. INTRODUCTION

Chapter V examines several issues concerning the commercial shipping industry that affect the VISA program. First, the decline of the U.S.-flag fleet continues despite attempts by the government to offset the higher operating costs of U.S. registry. MSP and VISA are programs enacted in an attempt to slow this decline and at the same time allow DOD to take advantage of the worldwide intermodal infrastructure and foreign-flagged shipping when required. Chapter V then describes the growth and defense implementation of the Effective U.S. Controlled (EUSC) Fleet. The expansion of alliances throughout the shipping industry and the effect that these alliances have on the use of commercial shipping by DOD are examined. Through VISA, DOD will be able to use alliances to gain access to world shipping and intermodal facilities.

The decline of the U.S. merchant marine and its impact on sealift is then discussed. With the decline in U.S.-flag shipping, billets for U.S. merchant mariners are becoming difficult to find. U.S. merchant mariners are needed to man almost all of the government-controlled sealift assets. VISA and MSP are designed to slow the decline of the U.S.-flag fleet, thereby saving billets for U.S. merchant mariners who would be needed during a national defense crisis.

The last section of Chapter V considers the implications of using foreign-flag shipping during a contingency operation. Finally, the extent to which MARAD will allow foreign ownership within the VISA program is examined.

B. DECLINE OF THE U.S.-FLAG FLEET

The United States merchant fleet is burdened with the highest maritime personnel costs in the world and is in precipitous decline, largely due to high operating expenses. Except where cargo reservation policies and government subsidies demand U.S. registry, as with MSP and VISA, most U.S. shipping companies are registering their ships under flags of convenience (FOCs), which permit greater flexibility in shipboard labor arrangements. [Ref. 40:p. 283]

At the beginning of 1998, the number of privately owned commercial ships in the U.S.-flag fleet was down to 259 from over 400 ships in the mid-1970's and dropping rapidly. That total includes 119 ships in domestic trade and 36 other ships engaged exclusively in U.S. government work. Thus, only 104 U.S.-flag ships are currently operating in international trade, where head-to-head competition with foreign-flag ships and nations takes place daily. Only 47 of these ships receive government assistance in the form of MSP payments of $2.1 million per ship per year. [Ref. 41]

Although the MSP payments will allow the 47 ships enrolled in the program to continue to operate as U.S.-flag ships, the continued registration under the U.S. flag of the 57 other ships currently engaged in foreign trade is tenuous at best. As those ships are retired, it is probable that their replacement tonnage will be foreign-flagged. This means a loss in revenue for the U.S. treasury and, more important for national defense, a significant reduction in seagoing billets for U.S. merchant mariners. [Ref. 41] U.S. maritime labor unions reported that approximately 8,221 active mariners were available to meet sealift needs in 1997, nearly seven percent less available than reported in 1996.

[Ref. 22] This decline will continue in the future, though possibly at a slower rate due to MSP.

U.S. maritime policy requirements and restrictions surrounding the registration of ships under a U.S. flag have contributed to the reduction in the U.S.-flag fleet. U.S. policy requires that the crews of U.S.-flag ships be United States citizens and that the ships be operated by a U.S. company which is managed by and predominately owned by U.S. citizens. U.S.-flag ships must also operate under crewing statutes and regulations dating from 1915, requiring crews to be 50 to 90 percent larger than those of other industrialized countries and paid higher U.S. wages. [Ref. 40:p. 284]

Industry analysts have predicted the consequences of a rapidly shrinking U.S. maritime industry for years. In 1987, the President's Commission on the Merchant Marine and Defense asserted:

> There is today insufficient strategic sealift, both ships and trained personnel, for the United States, using only its resources as required by defense planning assumptions, to execute a major deployment in a contingency operation in a single distant theater such as SWA. [Ref. 33:p. 75]

The effort during the 1980s to increase sealift capacity focused on a near-term solution that rapidly expanded government ownership of merchant ships, but failed to reverse the long-term downward trend of the merchant fleet. The ramifications of this policy were apparent during Operations Desert Shield and Desert Storm and are reflected in the statements of VADM Paul D. Butcher, USN, Deputy Commander in Chief, USTRANSCOM. In his testimony before the House Merchant Marine and Fisheries Committee in 1991 he stated:

> If we would have had to move faster to combat further aggression by Iraq, we may not have had the sealift to do it. From a national security perspective then, we need to revitalize our U.S. maritime industry. [Ref. 33:p. 75]

In March 1993, American President Lines, Inc. and Sea-Land, the two largest U.S.-flag liner companies, began taking steps to withdraw ships from registry under the U.S. flag. SeaLand, the largest U.S.-flagged ocean shipping company, had never received subsidies under the ODS program. In addition to its 40 U.S.-flagged ships, SeaLand also operated over 70 foreign-flagged vessels worldwide. Although SeaLand did not receive ODS, it was the largest carrier of government preference cargo, essentially an indirect subsidy with fewer restrictions than ODS. The end of the Cold War had decreased the amount of cargo generated by government shipping and SeaLand was sought to replace its lost share of revenue with direct payments. Therefore, any new policy put forward would have had to allow the operation of foreign-flag vessels in conjunction with U.S. registered vessels in order for SeaLand to participate. [Ref. 42:p. 53]

American President Lines (APL), the second largest U.S.-flagged shipping company had been a beneficiary of ODS payments. Despite possessing a relatively modern and efficient fleet, APL claimed that a new financial assistance program was needed to offset the increasingly higher cost of remaining U.S.-flagged. The remaining subsidized carriers; Lykes Lines, Farrell Lines, Crowley Maritime Corporation, and Matson Navigation Company, had similar needs to those of the larger carriers – mainly to replace existing fleets and offset higher costs associated with the U.S. registry. [Ref. 42:p. 54]

C. THE EFFECTIVE U.S. CONTROLLED FLEET (EUSC)

Ships owned by U.S. shipping companies but operating under foreign flags are part of the "effective U.S. controlled fleet (EUSC)". The vessels are engaged in U.S. trades and are available for use in times of emergencies. The EUSC concept was devised by the Roosevelt Administration on the eve of World War II as a way to circumvent the Neutrality Act. The term "EUSC" was coined in the early 1950s by the Joint Chiefs of Staff as strategic sealift shortfalls became apparent. U.S. shipowners were encouraged under the EUSC concept to register ships in Panama and Honduras to allow U.S. aid to be transported to Europe. [Ref. 43:p. 17]

In the mid-1990s, the flag-of-convenience fleet comprised some 230 vessels, most of which were large bulk carriers and large crude carriers unsuited for defense needs. Of these ships, 165 – 65 dry cargo ships, 85 tankers, and 15 passenger ships - are deemed to be militarily useful and are considered to be under the effective control of the U.S. government. [Ref. 29] The dependability of EUSC ships rests on the assumption that no significant legal obstacles exist in any of the countries of registry that might prevent the U.S. government from exercising its requisitioning authority. [Ref. 43:p. 17]

Some U.S. regulations discourage the continued U.S. ownership of ships registered under foreign flags. Prior to the Tax Reform Act of 1986, operators of U.S.-owned foreign-flag vessels were allowed to defer taxes on foreign earnings, provided the earnings were reinvested in ships. Foreign maritime nations permit their national-flag carriers to accumulate such profits tax-free. This tax difference is blamed for much of the recent sharp decline in the U.S.-owned foreign-flag fleet. [Ref. 33:p. 72]

Analysis conducted for the Mobility Requirements Study suggests that sufficient numbers of EUSC and allied containerships are available in the commercial market to support most military requirements for delivering sustainment supplies. In a national emergency, the President could technically requisition U.S.-flag and EUSC ships to transport military cargo. But unless the United States faced two major regional contingencies at the same time, it would not need to requisition ships. VISA participants would be able to cover ocean-shipping requirements in almost all contingency operations. If needed, DOD can also approach allies for additional shipping capacity or possibly charter foreign-flag vessels. [Ref. 2:p. 27]

D. ALLIANCES

The use of foreign-flag vessels by DOD is probable at some point during a contingency operation. Larger U.S. shipping companies are entering into cargo- and equipment-sharing agreements through the formation of alliances with foreign ship owners. Some U.S. military cargo therefore may end up on a foreign-flag ship during one or another leg of a long transit.

Several years ago, shipping companies throughout the world began sharing space in their ships in order to provide more frequent service or to serve additional ports. These vessel-sharing agreements eventually led to closer business arrangements called "alliances," under which several shipping companies share not only cargo space, but also their intermodal and electronic tracking systems. Alliance members generally are large, reputable companies dedicated to providing the most cost-efficient, most frequent, and most reliable intermodal service to any port in the world. Approximately eight major

alliances currently exist and some of those members are considering expanding affiliations to create even larger alliances. [Ref. 44:p. 49]

VISA clearly commits U.S.-flag capacity and assures the U.S. military access to U.S. ships – but it also permits the use of foreign-flag ships when U.S. vessels are not available. The payments to U.S. shipping companies through MSP and VISA ensure the use of all transportation assets , including all of the ships in major alliances. This makes many additional ships available to DOD when commercial shipping is needed to meet contingency requirements. [Ref. 44:p. 49]

Participation of a U.S. shipping company in an alliance allows the other members of the alliance access to the U.S. shipping company's intermodal systems and, for foreign shipping companies, access to the U.S. market. A foreign shipping company would not want to jeopardize access to this market. As an example, American President Lines (APL), a participant in the VISA program, belongs to a consortium known as the Global Alliance. This alliance includes APL, Orient Overseas Container Line, Mitsui O.S.K. Lines, and Nedlloyd Lines. In 1996, Nedlloyd merged with P&O Containers to form P&O Nedlloyd, one of the largest container shipping companies in the world. P&O Nedlloyd then joined the Global Alliance, increasing the size of the alliance from 66 ships to 90 ships. Thus, the nine ships that APL has contractually committed to the MSP and participate in VISA are currently in the Global Alliance. This opens up shipping and intermodal assets that significantly extend APL's own capabilities and are available to DOD when needed. APL's major contribution to the alliance are not its ships, but its

container ports, intermodal trucking and double-stack rail systems, and its electronic cargo tracking system. [Ref. 44:p. 49]

E. DECLINE IN U.S. CIVILIAN MERCHANT MARINE

The loss by civilian mariners of their seafaring jobs is of concern not only to the maritime unions, but also to the U.S. military. The Department of Defense depends on civilian mariners to man the afloat prepositioning forces, the fast sealift ships, and the Ready Reserve Force. If skilled seafaring jobs continue to decline in a time of relative peace, the United States will experience extreme difficulty in filling shipboard billets during a contingency requirement. [Ref. 45:p. 25]

The 78 RRF ships activated in response to Operation Desert Shield/Storm had some 2,500 merchant marine billets. Although no activated RRF ship failed to sail because of crew shortage, a few late activations were at least partially due to manning difficulties. The task of locating approximately 1,400 seafarers for the 44 RRF ships activated for surge support was made more difficult because the initial call-up came on a weekend and continued through August, a traditional vacation month. Despite the reasonable success in crewing the RRF ships for Operation Desert Shield, manning problems have increased and are expected to continue to increase. The continuous downward trend in merchant mariners will continue to worsen in parallel with the decline of the U.S.-flag merchant fleet. [Ref. 46]

Subsidy payments for those ships enrolled in MSP and VISA are designed to slow the flagging of ships outside of the United States. These payments, along with cargo preference laws, offset the higher operating costs born by U.S.-flag merchant ships. MSP

and VISA therefore have a secondary value of ensuring the employment of skilled manpower that can be called on to man vessels in the RRF.

F. USE OF FOREIGN-FLAG SHIPPING

One concern that the military has with VISA is that during a contingency operation, U.S. military cargoes could travel on foreign-flag vessels. The notion of using networks and alliances that depend on foreign-flag shipping raises questions of reliability. As a counter to that concern, carriers are required to demonstrate the soundness of their relationship with their operational partners in order to participate in the VISA program. The carrier also has to have enough capacity to take up the slack if for some reason its foreign partners refuse to carry cargo. [Ref. 47]

In 1997, MARAD was tested on just how far they would allow foreign involvement in MSP and VISA. On June 20, 1997, MARAD denied an application by Lykes Brothers Steamship Company to transfer roughly $6.3 million in yearly subsidies from Lykes to CP Ships of Canada. Lykes was attempting to reorganize under Chapter 11 bankruptcy and CP Ships planned on buying the shipping company, but stated that the subsidy transfers were crucial to the purchase. Despite this statement, CP Ships proceeded with plans to acquire Lykes for $34 million the day after the application was denied. [Ref. 48]

MARAD denied the application because of concern that there would be excessive foreign control over the vessels participating in VISA. MARAD cited CP Ships' ability to cause the U.S. based owner of the subsidized vessels to sell them and its ability to effectively control labor contract negotiations. CP Ships also planned to shelter the U.S.

based owner from normal business risk and planned to bar it from assuming additional related business interest. [Ref. 48]

Ten days after the denial of the Lykes application, APL filed a formal application with MARAD to transfer $18.9 million in long-term annual subsidies to a newly created, U.S. owned and operated company. According to APL, the creation of American Ship Management in San Francisco would ease the transfer of subsidies motivated by the shipping company's proposed sale to Neptune Orient Lines of Singapore. Legal title to the nine APL ships in MSP would be transferred to a U.S. citizen controlled trust. The vessels would then be chartered to American Ship Management as a U.S. corporation with no affiliation to APL. [Ref. 48]

In filing the application, APL took pains to distance itself from the unsuccessful Lykes filing. APL insisted that American Ship Management would be entirely independent of APL and that the application followed MARAD specifications to the letter. [Ref. 48]

In October 1997, MARAD approved the transfer application. The MSP agreements were transferred to American Ship Management upon closure of the acquisition of APL by Neptune Orient Lines, Ltd. in November 1997. Upon the transfer, American Ship Management became a signatory to VISA and a full participant in the VISA program. [Ref. 49]

The sale of APL and Lykes, the second and third largest U.S.-flag operators respectively, to non-U.S. companies reflects the trend in the world's maritime trades towards the ownership and operation of ships by multinational companies. A direct result

of these agreements is the ability of shipping companies to share vessel assets and cargo capacity with foreign companies on designated trade routes, resulting in improvements in capacity management. [Ref. 42] The U.S. government will want to take advantage of these shipping industry improvements, but will have to continue to balance the need for sealift improvements with the desire to use U.S. shipping to satisfy sealift requirements.

G. CHAPTER SUMMARY

This chapter examined several issues of concern with the commercial shipping industry that affect the VISA program and VISAs ability to provide commercial sealift support to DOD during contingencies. The first issue was the decline of the U.S.-flag fleet due to the higher operating costs of U.S. registry. MSP was designed to provide payments to offset this higher cost and allow a number of militarily useful ships to remain registered under the U.S. flag. VISA is the means by which these ships would be brought into service for DOD in the event of a national emergency. VISA allows the companies that own these U.S.-flag ships to take advantage of vessel sharing agreements and alliances in order to maximize capacity and minimize the cost of lost commercial business.

The use of the Effective U.S. Controlled Fleet (EUSC) by DOD was then examined. EUSC is described and the chapter looks at the feasibility of using these ships as sealift assets, especially during a large contingency operation.

The chapter then described the growth of alliances within the commercial shipping industry. VISA is designed to take advantage of this trend and allows the use of

foreign-flag ships to carry military cargo if U.S. shipping is not available. Alliances make more capacity available to commercial shipping companies for use by DOD.

The decline in the number of U.S. merchant mariners was then examined, along with the affect that this decline has on U.S. sealift shipping. The effect is primarily on U.S. government-controlled reserve sealift assets. MSP and VISA, in conserving the U.S.-flag fleet, provide employment for U.S. merchant mariners. These merchant mariners are then available to man the ships in the RRF during contingency operations.

Finally, the use of foreign-flag shipping was examined. Specifically, the use of foreign-flag shipping through VISA during a contingency operation and past government allowances for the use of foreign-flag shipping.

All of these issues are of concern to DOD as they affect the use of adequate sealift during national emergencies. VISA was enacted in order to alleviate their impact on sealift support, but the implementation of VISA is also affected by these issues.

VI. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A. SUMMARY

In deciding future sealift deployment methods, three issues are of primary importance. These issues are speed of delivery, autonomy of operations, and cost minimization. Decisions must be made on what tradeoffs to make between these issues to receive maximum benefit from each. [Ref. 37] VISA, developed from lessons learned during the Persian Gulf War, is designed to maximize the benefits of each of these issues.

Speed of delivery is a key operational requirement. The ability to deliver surge support quickly to an area of conflict is a credible deterrent to aggression. Also, early arrival of forces can prevent major damage from being done to an ally and possibly shorten the length of the conflict. Rates and charters prenegotiated through the VISA program increase the speed at which commercial capacity can be used in the first phase of a contingency operation. The intermodal infrastructure of VISA participants speeds throughput of cargo from points of origin to ports of embarkation, also enabling quicker mobilization. Weaknesses in the efficient use of intermodalism by the military still exist; however, as discussed earlier in this thesis.

Maintaining the capability for the U.S. to act alone as a nation is considered to be of vital importance. NATO has current plans to provide 400 ships to the U.S. for a reinforcement of Europe. However, the NATO allies have stated that the only legitimate use of the NATO ships is for the mission of relieving Europe. On the other hand, over 35 nations allowed the U.S. to charter ships for the Operation Desert Shield and Desert Storm deployments. [Ref. 37] VISA and MSP were both developed to slow the decline

in the U.S.-flag fleet and decrease dependence on foreign shipping during a contingency. VISA has the advantage of giving the U.S. military access to a global intermodal system while ensuring that the use of U.S.-flag shipping is a top priority. VISA also allows shipping companies to use existing liner services and capacity to transport sealift cargo, keeping disruption of commercial services to a minimum. This makes U.S. shipping companies more willing to flag ships under U.S. registry and keep capacity available for use by DOD.

The final issue is that of cost. In this era of declining defense budgets, there is great pressure to limit costs. Over $7 billion was spent in the 1980s on sealift programs and enhancements. [Ref. 38] The current LMSR program and the plans to increase the size and efficiency of the RRF are also expensive initiatives. VISA and MSP pay a lower amount of subsidies to U.S. shipping companies, as compared to earlier subsidy programs, in order to keep a sufficient number of U.S.-flag ships operational. Increases in the efficiency of the use of U.S. commercial shipping reduces the need for expensive organic sealift. VISA, through the use of the JPAG, prenegotiated rates and charters, and existing intermodal systems, allows DOD to rely more on commercial shipping for sealift requirements and limit high cost organic shipping initiatives.

These three issues concerning sealift have a complex relationship. Increases in speed and autonomy both increase the cost of shipping. DOD organic sealift assets are the most expensive but give the greatest independence and, in most cases, are faster to deploy than commercial sealift. U.S. commercial assets are less expensive because most of their costs are covered by normal peacetime commercial operation, but commercial

shipping is not as militarily useful and takes longer to deploy. Finally, reliance on foreign commercial assets has no cost in peacetime but leaves the U.S. entirely dependent on the good will of ship owning countries. Foreign ships also take the longest to deploy due to the need to negotiate contracts and establish working relationships. [Ref. 37]

The current U.S. strategic mobility program attempts to balance the efficiencies of the U.S. commercial intermodal transportation network with the rapid response of the DOD organic fleet, while leaving some potential for low-cost augmentation by foreign-flag allied ships. The Mobility Requirements Study called for an enlargement of U.S. organic sealift capability. This was in order to provide the surge sealift capacity required to support a two nearly simultaneous MTW scenario, as called for by the President's National Security Strategy. VISA is designed to take advantage of the commercial intermodal infrastructure and provide commercial strategic sealift to areas of conflict faster and at a lower cost than previous programs. However, VISA cannot provide sufficient U.S.-flag sealift support for worst case contingency scenarios - the capacity just does not exist.

B. CONCLUSIONS

The current National Security Strategy calls for the U.S. armed forces to be able to fight and win in two nearly simultaneous major theaters of war. In the most common scenario, the U.S. would be called upon to halt aggression on the Korean Peninsula, followed by a second conflict breaking out in the Persian Gulf. [Ref. 6] The force required to halt and defeat enemy forces in one major theater of war consists of approximately 5 army divisions, as recommended in the Mobility Requirements Study.

The MRS estimated that this force would have to be transported into theater in 52 days to provide some confidence of success. [Ref. 1]

In accordance with the Mobility Requirements Study, DOD organic sealift (LMSRs, FSSs, RRF, Prepositioned ships) is adequate to transport two army heavy divisions and associated corps support within 30 days of the crisis. The remaining surge and sustainment sealift is provided by organic fleet second sailings, commercial assets, and foreign charters. Although 71 percent of U.S.-flag commercial shipping capacity is enrolled in VISA Stage III, this capacity falls far short of that required to meet the DOD contingency requirements specified in the NSS. [Ref. 22] Additional voluntary sealift capacity will be required from non-VISA U.S.-flag carriers and allied foreign-flag carriers.

Because unit equipment is generally not containerizable, RO/RO and breakbulk vessels would have to be chartered to transport any unit equipment in excess of organic fleet capacity. Due to the fact that the U.S. commercial fleet primarily consists of container ships, the RO/RO and breakbulk vessels chartered would be foreign-flag. The transportation of ammunition also presents some problems in using commercial sealift. As mentioned earlier in this thesis, concerns about security and safety can make the use of commercial shipping in transporting ammunition to theaters of war problematic. Even with increases in the efficient use of commercial sealift through VISA, these issues limit the use of commercial sealift capacity in supporting DOD sealift requirements.

VISA provides a coordinated, integrated process to access commercial sealift capacity. It also provides flexible planning and simulation capability. In this way VISA

is an improvement over SRP; however, as with SRP, VISA does not provide the additional U.S.-flag sealift necessary to support a two nearly simultaneous MTW scenario.

C. RECOMMENDATIONS

1. DOD should expand the use of intermodal systems.

DOD should continue to work with commercial shipping companies to integrate transportation and distribution systems. In terms of cost, efficiency, and flexibility, intermodal systems are superior to organic shipping. Although some organic capacity will always be required because of its rapid deployment ability, DOD can lower costs by using commercial intermodal systems to the maximum extent possible.

The military should also work to identify and develop ways to provide for the containerization of more unit equipment and ammunition. This would decrease the reliance on RO/RO type vessels and enable DOD to increase the use of commercial shipping and intermodal systems for surge sealift requirements.

2. DOD must continue to develop partnerships with the commercial shipping industry.

DOD should continue developing the JPAG and partnerships with the commercial shipping industry. Improving the planning of contingency operations and communications between DOD and commercial shipping companies is essential to the efficient use of sealift capacity. The development of prenegotiated contingency contracts is an effective means of ensuring that commercial capacity is available when needed. The ongoing development of prenegotiated rates for each VISA contingency activation

stage will also speed activation of capacity and limit commercial disadvantages experienced by shipping companies. These prenegotiated procurement methods preclude the need for lengthy negotiations and allow assets to deploy immediately when required.

The development of CONOPS to anticipate various sealift scenarios is an important aspect of the partnership between the shipping industry and DOD. This joint planning allows DOD to use industry expertise and gives industry representatives a better idea of how their sealift capacity is to be used during a contingency.

3. Congress needs to enact legislation that ensures the continued existence of a viable U.S.-flag fleet.

The existence of U.S.-flag ships is crucial in ensuring that adequate sealift is available during a contingency. The continued decline of the U.S. merchant fleet will leave DOD dependent upon foreign-flag ships with no allegiance to the U.S. In addition, the continued decline of the U.S.-flag fleet would create a shortage of qualified U.S. merchant seamen. This would cause problems for DOD in activating the organic sealift assets manned by U.S. merchant mariners.

MSP and VISA were designed to keep a number of ships under the U.S. flag, but they contain no incentives for future U.S.-flag operations. Once the present fleet of ships is retired, shipping companies will continue with foreign-flag replacements.

4. DOD must develop contingency sealift plans that include the use of foreign-flag vessels.

The use of foreign-flag vessels raises national security concerns, but the reality is that foreign-flag vessels will have to be used in any major theater war scenario.

Contingency plans should be drawn up that include stand-by contracts for the use of foreign shipping and possible hiring of foreign seamen to augment crews of U.S. organic sealift vessels. With no solution in sight to slow the decline of the U.S.-flag fleet, it makes sense to anticipate possible or probable shortfalls in U.S. sealift and develop appropriate scenarios.

D. RECOMMENDATIONS FOR FURTHER STUDY

As pointed out earlier in this thesis, DOD has expanded its organic sealift fleet in response to the findings of the Mobility Requirements Study. This expansion has been at some cost to the government and the continued dependence of DOD on RO/RO type vessels has been criticized. An analysis of the costs and benefits of this reliance on organic lift as opposed to cheaper commercial shipping would be useful in the development of future sealift policy.

Another area for further study is the possibility of making U.S. unit equipment transportable within the intermodal infrastructure of U.S. shipping companies. Because of the size and weight of most military equipment, DOD is dependent on RO/RO vessels for much of its surge sealift requirements. Standardizing unit equipment for containerization would allow DOD to more fully utilize commercial sealift resources. A study could be conducted on the costs and benefits of standardization, both from a DOD and commercial industry perspective.

As stated earlier, the decline in the U.S. merchant fleet has affected the pool of trained and experienced mariners available to man sealift assets in an emergency. Several solutions have been brought forward - the development of a Merchant Marine

Reserve, the use of foreign seamen, the hiring of U.S. mariners on foreign vessels - but all of these are controversial. An analysis of these issues or the affect that this problem has on the manning of the RRF are possible areas of study.

LIST OF REFERENCES

1. Rathbun, Robin E., "Strategic Mobility for the 1990s: The Mobility Requirements Study," *Strategic Review*, pp.48-56, Summer 1992.

2. Congress of the United States, Congressional Budget Office, "Moving U.S. Forces: Options for Strategic Mobility," *A CBO Study*, February 1997.

3. Ackley, Richard T., "Sealift and National Security," *U.S. Naval Institute Proceedings*, July 1992.

4. Gibson, Andrew E. and Shuford, Jacob L., "Desert Shield and Strategic Sealift," *Naval War College Review*, Vol. 44, pp. 6-19, Spring 1991.

5. Herberger, Albert J., "The Maritime Security Act: Fulfilling a Strategic Maritime Imperative," *Defense Transportation Journal,* April 1997.

6. Aspin, Les, Secretary of Defense., "Report on the Bottom-Up Review," United States Department of Defense, October 1993.

7. Clinton, President William J., "National Security Strategy," May 1997.

8. United States Joint Chiefs of Staff., "National Military Strategy," 1997.

9. Johnson, E. E. and Gopffarth, B. L., "Joint Strategy and Strategic Sealift for the Next Century," thesis, Naval Postgraduate School, Monterey, California, March 1998.

10. "New Sealift Agreement Takes Shape," *Journal of Commerce*, March 18, 1996.

11. Burgess, L., "Pentagon Revises Sealift Access Program," *Journal of Commerce*, October 20, 1995.

12. Matthews, J. and Holt, C., "So Many, So Much, So Far, So Fast," USTRANSCOM, 1996.

13. Laches, Peter C., "An Analysis of the Mobility Requirements Study and the Future of Strategic Sealift," thesis, Naval Postgraduate School, Monterey, California, March 1993.

14. Strausbaugh, Thomas L., "The Special Middle East Shipping Agreement (SMESA)," *Defense Transportation Journal*, Vol. 47, No. 2, pp. 19-20, April 1991.

15. Melvin, Albert A., "The U.S. Flag Merchant Marine's Containership Fleet: The Key to U.S. Strategic Sealift," *Defense Transportation Journal*, pp. 10-11, April 1996.

16. Rost, Ronald F., Addams, John F., Nelson, John J., *Sealift in Operation Desert Shield/Desert Storm: 7 August 1990 to 17 February 1991*, Center for Naval Analysis, Alexandria, Virginia, May 1992.

17. Beargie, T., "House OKs Liner Subsidy Bill," *American Shipper*, Vol. 38, No. 1, January 1996.

18. Kelly, Edward V., "A New Framework for the U.S. Flag Fleet," *Sea Power*, Vol. 40, Issue 5, pp. 51-54, May 1997.

19. Bonney, J., "Military Seeks Capacity, Not Ships," *American Shipper*, Vol. 37, No. 11, November 1995.

20. Graykowski, John E., "Prepared Statement of John E. Graykowski, Acting Maritime Administrator, Department of Transportation, Before the House Committee on National Security Oversight Panel on the Merchant Marine," *Federal News Service*, pp. 56-66, March 10, 1998.

21. "Notice of Voluntary Intermodal Sealift Agreement (VISA)," *Federal Register*, 62FR6838, Vol. 62, No. 30, February 13, 1997.

22. "MARAD 1997 Annual Report," http://marad.dot.gov/report/chone.html, January 1998.

23. Shea, Col. Tom, USTRANSCOM TCJ5-AS, "VISA, Voluntary Intermodal Sealift Agreement," USTRANSCOM Presentation, 1997.

24. "VISA," *MARAD News*, http://marad.dot.gov/whats_new/fr17au98.html, August 17, 1998.

25. McGinty, Sally, Phoncon, January 12, 1999.

26. "VISA Executive Working Group (EWG) Video-Teleconference (VTC) Meeting Minutes," 31 July 1998.

27. "Voluntary Intermodal Sealift Agreement," USTRANSCOM TCJ5 homepage, http://ustcweb.safb.af.mil/J5/visa.html, accessed January 22, 1999.

28. "Review of VISA CONOPS," USTRANSCOM Presentation, Joint Planning Advisory Group (JPAG) Meeting, February 10, 1998.

29. Government Section, *Defense Transportation Journal*, 1998 Almanac Issue, p. 13, February 1998.

30. United States Joint Chiefs of Staff, "Joint Tactics, Techniques and Procedures for Sealift Support to Joint Operations," Joint Pub 4-01.2, October 9, 1996.

31. Harris, David G. and Stewart, Richard D., "U.S. Surge Sealift Capabilities: A Question of Sufficiency," *Parameters*, pp. 68-69, Spring 1998.

32. Ferris, Stephen P., "Crisis in Strategic Sealift," *Army Logistician*, pp. 28-30, March-April, 1996.

33. Hayes, Mark L., "Sealift: The Achilles' Heel of our National Strategy," *Marine Corps Gazette*, pp. 71-80, November 1992.

34. Office of the Inspector General, Department of Defense, "Audit Report, DOD Sealift Operations," Report Number 92-135, September 9, 1992.

35. Murphy, Michael M., Vice President, Government Affairs, American President Lines, Ltd., "Response to additional questions for the hearing record on the Merchant Marine Committee's Oversight Hearing on Sealift Performance in Operation Desert Shield/Desert Storm and on future sealift requirements," October 15, 1991.

36. American Presidents Lines, White Paper, "Desert Shield/Desert Storm: Some Extraordinary Successes and Critical Lessons Learned in the Transportation of Military Freight," May 17, 1991.

37. Ladd, Daniel, "Improvements to Deployment Performance," Research Paper, Commander, U.S. Transportation Command, December 12, 1996.

38. "Statement of Michael M. Murphy, Vice President, Government Affairs, American President Lines before the Committee on Merchant Marine and Fisheries, House of Representatives, On the U.S. Capability to Meet Future Sealift Requirements," May 21, 1991.

39. Bonney, Joseph, "Logistics: The Military Invented the Word, but Failed to Use the System," *American Shipper*, July 1991.

40. Helmick, Jon S. and Glaskowsky, Nicholas A., "Regulatory Constraints on Innovative Manning Practices in the U.S.-Flag Merchant Fleet," *Logistics and Transportation Review*, Vol. 30, No. 3, 1995.

41. Kesteloot, Robert W., "U.S.-Flag Fleet Faces Major Problems," *Sea Power*, May 1998.

42. Kott, Timothy J., "The Fiscal, Maritime, and National Security Factors Influencing the Development of the Maritime Security Act of 1996 (MSA)," thesis, Naval Postgraduate School, Monterey, California, December 1997.

43. Truver, Scott C. and Keller, Stephen, "Sailing Into the Sunset?," *Sea Power*, May 1998.

44. Kesteloot, Robert W., "Strategic Sealift Faces Its Third Challenge," *Sea Power*, May 1997.

45. Misch, Gary S., "New Hope for Maritime Reform?," *Sea Power*, May 1993.

46. Ready Reserve Working Group, The Ready Reserve Force: Enhancing a National Asset, Joint Department of Transportation, Department of Defense report, October 1991.

47. Wastler, A.R., "Flag Fleet, Military Might: A Relationship in Flux," *Journal of Commerce*, September 26, 1996.

48. Brennan, T., "MARAD: Subsidy Transfer?," *Traffic World*, June 30, 1997.

49. "Statement of American Ship Management, LLC in Response to U.S. Maritime Administration Contract Approval," PR Newswire, October 16, 1997.

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