

2

AD-A233 982

AD-A233 982



The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

SEALIFT IN OPERATION DESERT SHIELD

BY

COMMANDER ROBERT B. LAMBERT
United States Navy

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

USAWC CLASS OF 1991

DTIC
ELECTE
APR 3 1991
S B D



U.S. ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013-5050

91 4 01 088

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED			15. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION / AVAILABILITY OF REPORT Approved for public release. Distribution is unlimited.		
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE					
4. PERFORMING ORGANIZATION REPORT NUMBER(S) U.S. Army War College Carlisle Barracks, PA 17013			5. MONITORING ORGANIZATION REPORT NUMBER(S) Same		
6a. NAME OF PERFORMING ORGANIZATION U.S. Army War College		6b. OFFICE SYMBOL (if applicable) AWCAC	7a. NAME OF MONITORING ORGANIZATION		
6c. ADDRESS (City, State, and ZIP Code) Carlisle Barracks, PA 17013-5050			7b. ADDRESS (City, State, and ZIP Code)		
8a. NAME OF FUNDING / SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (if applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c. ADDRESS (City, State, and ZIP Code)			10. SOURCE OF FUNDING NUMBERS		
			PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.
					WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) SEALIFT IN OPERATION DESERT SHIELD					
12. PERSONAL AUTHOR(S) Commander Robert B. Lambert, United States Navy					
13a. TYPE OF REPORT Individual		13b. TIME COVERED FROM _____ TO _____		14. DATE OF REPORT (Year, Month, Day) 1991, March, 5	
15. PAGE COUNT 27					
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP			
19. ABSTRACT (Continue on reverse if necessary and identify by block number) During the first three months of Operation Desert Shield, the United States Transportation Command moved more men, equipment and supplies further and faster than ever before in history. Desert Shield was the first test of the young logistics combined command. This case study focuses on the successful strategic sealift provided by the Military Sealift Command during Phase I of Desert Shield. As a completed evolution, Phase I provides an excellent basis for the case study of strategic sealift. This case study examines the accomplishments of strategic sealift, critiques the problems encountered, and envisions the implications of the results on the future of strategic sealift.					
20. DISTRIBUTION / AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED		
22a. NAME OF RESPONSIBLE INDIVIDUAL			22b. TELEPHONE (Include Area Code)		22c. OFFICE SYMBOL

USAWC MILITARY STUDIES PROGRAM PAPER

The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

SEALIFT IN OPERATION DESERT SHIELD

AN INDIVIDUAL STUDY PROJECT

by

Commander Robert B. Lambert
United States Navy

Commander G. Edward Blum, USN
Project Adviser

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

U.S. Army War College
Carlisle Barracks, Pennsylvania 17013

ABSTRACT

AUTHOR Robert B. Lambert, CDR, USN

TITLE: Sealift in Operation Desert Shield

FORMAT: Individual Study Project

DATE: 5 March 1991 PAGES: 27 CLASSIFICATION: Unclassified

During the first three months of Operation Desert Shield, the United States Transportation Command moved more men, equipment and supplies further and faster than ever before in history. Desert Shield was the first test of the young logistics combined command. This case study focuses on the successful strategic sealift provided by the Military Sealift Command during Phase I of Desert Shield. As a completed evolution, Phase I provides an excellent basis for the case study of strategic sealift. This case study examines the accomplishments of strategic sealift, critiques the problems encountered, and envisions the implications of the results on the future of strategic sealift.

Accession For	
NTIS GRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

INTRODUCTION

In Operation Desert Shield "never before have so many American troops been deployed so far so fast."¹ In a little over three months, the U.S. Transportation Command (TRANSCOM) arranged delivery of more than 190,000 men, equipment and supplies to Saudi Arabia. With 95 percent of military cargo being carried by strategic sealift, the movement of over 2 million metric tons 8,600 miles is quite an accomplishment. The ability of Military Sealift Command (MSC) to achieve sealift requirements is especially impressive in light of the spate of dire predictions of the inabilities of U.S. sealift.

The ability of strategic airlift and sealift to support national defense initiatives has been in dispute since the end of World War II. The major focus of the dispute is the sharp decline of the U.S. Merchant Marine and U.S.-flag ships. In 1984, the Commission on Merchant Marine and Defense decried the shortage of dedicated military sealift and the continued decline of the nation's Merchant Marine. The Commission's first report stated that the U.S. possessed insufficient vessel assets "to execute a major deployment in a contingency operation in a single distant theater such as Southwest Asia."² In July of 1989, the news of sealift was even worse. "The situation has not improved since that first report. In fact, sealift actually deteriorated."³

General Carl E. Vuono, U.S. Army Chief of Staff, delivered this stinging assessment of strategic lift in January 1990.

Even the most deployable and combat-ready land force cannot be employed without adequate strategic lift. The U.S. cannot afford to risk the effectiveness and credibility of its overall defense strategy by failing to develop and field adequate world wide lift assets. Airlift and Sealift assets currently available or approved for acquisition are inadequate.⁴

The seafift/maritime problems have been more than adequately documented in previous studies, articles, books, and reports. The intent of this paper is to examine the success of Desert Shield in spite of documented sealift deficiencies. Because Operation Desert Shield evolved into the currently on-going Operation Desert Storm, the full lessons on the logistic issues will not be known for some time. This paper will explore the sealift aspects of the completed Phase I of Desert Shield (basically the first three months of the overall campaign) - what was accomplished, critique of sealift operations, and the implications for future deployments.

SEALIFT ACCOMPLISHMENTS

Under no notice conditions, MSC did a remarkable job in sealifting over 2 million metric tons of cargo in nearly 140 ships 8,600 miles to the Saudi Arabia area of operations. Critics of sealift response time deplore the three months taken to move the cargo. Such critics fail to fully recognize the fact that it is not economically feasible to maintain large numbers of cargo vessels in short response time readiness status. The time required to prepare ships for sailing may be compressed but cannot be eliminated.

Unlike the armadas of convoys used in World War II, sealift logistics in Desert Shield were not commenced under full mobilization of a country involved in a global conflict. In fact, Desert Shield began from a standing start - operating on a peacetime economy. Optimally strategic sealift planning begins with sufficient warning time prior to the actual commencement order.

Military dry cargo sealift requirements have evolved into two definable categories - surge and sustainment. Surge sealift refers to unit equipment (UE) cargo consisting mainly of large vehicles, tanks, weapons systems, and aircraft. Surge sealift requirements comprise the initial unit reinforcement to an area of operation. Sustainment cargo is largely composed of spares, ammunition, rations, and general supplies. Sealift tasking for Phase I of Desert Shield consisted of both surge and sustainment requirements.

The following timetable was compiled from various unclassified articles and summarizes the compressed schedule under which the MSC operated.

2 Aug - Iraq invades Kuwait.

7 Aug - PHASE I deployment order.

7 Aug - Maritime and Afloat Prepositioned Ships (MPS/APS) ships sail to AOR.

7 Aug - Fast Sealift Ships (FSS) activated.

9 Aug - Ready Reserve Force (RRF) activation begins.

10 Aug - Charter of U.S. shipping begins.

11 Aug - Charter of foreign shipping begins.

13 Aug - First FSS departs U.S.

15 Aug - MPS ships offloaded in Saudi Arabia.

17 Aug - APS ships offloaded in Saudi Arabia.

25 Aug - First container ship departs U.S.

27 Aug - First FSS arrives in Saudi Arabia.

8 Sep - First charter unit offloaded in Saudi Arabia.

13 Sep - First container ship arrives Saudi Arabia.

14 Sep - First FSS back in U.S.

23 Sep - 4 FSS ships depart U.S. on second voyage.

7 Nov - PHASE II deployment order.

Besides moving more military cargo further and faster than ever before in U.S. history, a number of other sealift firsts were accomplished. Significant milestones include employment of MPS and APS ships, activation and employment of FSS and RRF ships, charter and integration of foreign sealift,

and integration of free foreign ships. Each milestone represents a major subset of the overall achievement of sealift in Desert Shield.

EMPLOYMENT OF MPS/APS. The thirteen vessels of the Maritime Prepositioned Ships are divided into three squadrons. MPS squadrons are normally prepositioned at Diego Garcia, Guam, and the Eastern Atlantic. Each MPS squadron carried enough equipment and supplies to support a US Marine Expeditionary Brigade of 16,500 men for 30 days. Each ship carries a spread load of cargo of food, water, oil, ammunition, supplies, and unit equipment.

Twelve vessels of the Afloat Preposition Ships are split between Diego Garcia and Subic Bay, Philippines. APS squadrons are prepositioned ships used primarily for Army and Air Force support. The APS fleet is composed of three freighters, four tankers, one float-on/float off, and four LASH ships. The LASH (Lighter Aboard Ship) ships can transport approximately 75 barges (40x60 ft lighters). The LASH vessels provide a drop-off capability in an outer harbor by the mother vessel. Using organic small pusher tugs, the barges can be delivered to an off-loading site.

MPS/APS evolved from the Near Term Prepositioning Force established during the Carter administration. Although the composition, capability, and location of the MPS/APS fleet has increased, the mission of prepositioned sealift remains essentially the same. Both MPS and APS are commercial ships under long term contract to MSC and manned by a civilian crew.

Due to the limited advanced warning proffered by Desert Shield, one MPS ship was in Jacksonville, Florida for its biannual maintenance and cargo check when Desert Shield began. The ship was quickly reloaded and sent on its way. Another MPS ship had departed Diego Garcia enroute for its biannual maintenance. Vice Admiral Francis R. Donovan, Commander of the MSC, anticipated the possible need for the MPS and ordered the MPS ship back to the Indian Ocean on 5 August.⁵

For Phase I of Desert Shield 19 of the 25 MPS/APS ships were activated. These ships included 9 Roll-On/Roll-Off (RO/RO), 4 LASH (lighter aboard ship), 3 breakbulk, 2 tankers, and 1 heavy lift.⁶ Eight days after the deployment order was issued the MPS/APS ships began arriving in Saudi Arabia.

ACTIVATION AND EMPLOYMENT OF FAST SEALIFT SHIPS. Eight Fast Sealift Ships are owned by the Navy and maintained on a four day readiness criteria with reduced civilian crews. FSS represents our most rapid response and militarily useful sealift capability. The ships (SL-7s) were originally built for the Sealand Corporation as very fast container ships capable of 30+ knots. In 1981, rising fuel costs made the ships no longer commercially viable and the vessels were sold to the government. The Navy converted the container ships into RO/ROs. "These eight ships can carry an entire Army armor or mechanized division at 30 knots for an average trip to Europe of five and one half days or 17 days to the Middle East oil choke points."⁷

The FSS ships were ordered to deploy on 7 August. The first ship was ready in 48 hours, several in 72 hours, and all in 96 hours, except the one FSS in the middle of an overhaul. That ship was reassembled and underway in 10 days.⁶

Averaging better than 25 knots for the trip, the first FSS made the 8,600 mile voyage in only 14 sailing days. As important, the speed and endurance of the FSS also increases sustainment sealift capability. Shorter round trip travel time translates directly into more trips in a given timeframe. Only 46 days after the deployment order for Desert Shield was issued, four FSS ships had made the round trip voyage and departed the U.S. with a second load of military cargo.

ACTIVATION AND EMPLOYMENT OF READY RESERVE FORCE. The RRF is a quick response, government owned, merchant marine reserve fleet maintained by the Maritime Administration (MARAD) to meet surge sealift requirements for contingency and mobilization. These 96 ships bought from U.S. and foreign private operators are highly militarily useful (breakbulk, barge, and RORO) ships and are maintained in an inactive preservation status with 5, 10, and 20 day activation status. When activated they are broken out, manned, and operated by private contractors. The RRF represents a significant sealift resource in a type of shipping lacking in the active Merchant Marine.

Because of the overlap of the phases of Desert Shield, the number of RRF ships activated solely for Phase I cannot be exactly determined. However,

40 to 45 RRF ships were activated during the time window of Phase I. "In the view of Maritime Administrator Warren G. Lebeck, the overall response of seafaring labor was good, with only one ship sailing without a full crew and that one short only a single member."⁹

In addition to the military useful cargo ships the following specialized vessels were also activated:

- Two Aviation Maintenance Ships.

These ships were converted to carry intermediate maintenance activity assets and spares in mobile vans for USMC aircraft and helicopters

- Two Hospital Ships.

Hospital ships provide definitive care medical facilities. Each ship with 1000-bed treatment facility and 12 operating rooms

- Two Auxilliary Crane Ships.

These container ships are outfitted with cranes to facilitate load/discharge for other ships at objective areas where port facilities are inadequate or non-existent.¹⁰

CHARTER AND INTEGRATION OF FOREIGN SEALIFT. With literally thousands of internationally registered ships on the seas, numerically there are ample ships to meet our wartime needs. Availability of foreign ships to meet the U.S. needs in an emergency becomes the major question. In the case of Desert Shield, overwhelming world support of the U.S. position ensured more than enough available sealift. The following countries offered ships for

charter: Norway, Saudi Arabia, Cyprus, Italy, Great Britian, Netherlands, Panama, Bahamas, Antigua, Greece, and Denmark. A total of 35 cargo ships (14 RORO, 19 breakbulk, 1 heavy lift, 1 tug) were chartered from those 11 countries.¹¹

Why did MSC use foreign sealift? Vice Adm. Donovan explained,

We did what we needed to do for expediency. It was faster to hire American or foreign ships that were in port on the Gulf Coast than to get ships out of the James River Ready Reserve Force fleet and sail them to load at a Gulf Port. I needed ships in two or three days, not five days or more.¹²

Indeed, expediency was the name of the game. The sealift surge requirements and the distance to Southwest Asia, coupled with the minimal advance warning, dictated extremely rapid response. In 38 days after the President's order to commence Operation Desert Shield, MSC's strategic sealift force had increased 168 percent.¹³ Because of the initiative of MSC and TRANSCOM, sealift capability was there when needed.

SEALIFT CRITIQUE

The response of strategic sealift to the staggering logistics required for Desert Shield was impressive. A thorough critique of any operation must include the good, the bad, the lessons learned, and the lessons relearned. Such a critique, however, must be viewed with the caveat of the operational environment.

Desert Shield, the first major test of the U.S. strategic sealift policy, provides many lessons to warfighters, planners, and politicians alike. Foremost in the minds of those who seek to learn from the logistics experience of Desert Shield must be the circumstances under which Desert Shield was conducted. In short, the lessons to be learned are scenario dependent. Each deployment of U.S. troops, ships and planes is unique to its environment.

The Desert Shield Scenario

The requirements for Phase I was to move nearly 200,000 troops and equipment with little advance notification. Additionally, the cargo needed in Saudi Arabia included not only mechanized equipment, but also the heaviest armor in the U.S. inventory. As staggering as those requirements might have been, the deployment was nearly half way around the globe. To add to the difficulties, the U.S. was not (and still is not) operating from a fully mobilized base.

On the positive side the U.S. enjoyed three major advantages.

(1) Allied and friendly nations, upon request and for a price, offered ships to the United States for charter....(2) By 2 October, exactly two months after Iraqi troops invaded Kuwait, hostilities involving U.S. forces had not begun. The Iraqis, prudently, were not attacking American ships either at sea or while they were unloading at Saudi ports. (3) Saudi Arabia provided, and continues to provide, substantial amounts of fresh water and petroleum to U.S. forces in the region.¹⁴

Analysis

THE U.S. DOES NOT HAVE ENOUGH ORGANIC SEALIFT. About one-third of the ships used in Phase I of Desert Shield sealift were of foreign registry.¹⁵ Activation of more RFF ships would have been difficult if not impossible. Modern merchant ships are diesel vessels while many of the RRF ships are steam powered. One of the factors that limited activation of the RRF to 40--some ships was the lack of qualified steam plant seafarers. Activation of ships from the National Defense Reserve Fleet (NDRF) would have presented similar problems. Many of the 162 NDRF ships date back to WWII victory ships. For the most part the machinery and power plants on them are obsolete, making it difficult to find spares and knowledgeable crews to operate them.

Desert Shield enjoyed global support and operated with no combat losses enroute or in port. Different circumstances would most likely have reduced allied civilian charter. Desert Shield presented a special case with special

advantages for the U.S. According to Vice Adm. Paul D. Butcher, Deputy Commander in Chief, TRANSCOM, "Our transportation task would have been much more demanding if we had had to fight our way into Saudi Arabia. We cannot assume that we will have this luxury in the future."¹⁶

Also of importance is the fact that although a massive and rapid military build-up, Desert Shield was the single area of operations confronting the U.S., Allies, and the United Nations. Although masterfully orchestrated by MSC and TRANSCOM, sufficient sealift for Desert Shield was available because it was the only game in town.

THERE WERE PROBLEMS WITH THE RFF ACTIVATION. The RFF ships were not activated all at once. The shipyards where the mothballed ships are located could have had serious problems if the entire 40 RRF ships had been activated at once.¹⁷

In recent years, Congress has appropriated significantly less than the funds requested to maintain the RRF. Without adequate funds, ships cannot be exercised regularly, faulty components cannot be found and repaired, and necessary parts cannot be purchased. As a result of underfunding, when the call came to activate the 17 RRF RORO ships, a number of those activated failed to meet the 5-, 10-, or 20- days readiness status. However, in several instances it did not matter because the cargo was not ready for loading.¹⁸

FAST SEALIFT WORKS. Seven of the eight FSS ships performed as advertised. By transitting from East Coast ports to Saudi Arabia in 14 days, the FSS ships validated the wisdom of their purchase and conversion by the Navy. There was a down side to the FSS picture. One Fast Sealift Ship suffered a major boiler fire on her first voyage and had to be towed to Rota, Spain. A sea tow is a challenging operation and makes for a slow Atlantic crossing. The cargo had to be transferred to another FSS while in port for further transit to Saudi Arabia.

THE MPS/APS SYSTEM WAS TOTALLY SUCCESSFUL. The MPS/APS ships may have been the unsung stars of the first week of Desert Shield. The first MPS ship arrived in Saudi Arabia seven days after the deployment orders were given. Marine Expeditionary Brigade (MEB) personnel were flown in by Military Airlift Command (MAC) airplanes. The joining of the MEB and APS provided the first armor and artillery capability to ground forces to prevent Iraqi aggression into Saudi Arabia.

MORE SEALIFT IS NOT THE ONLY FORCE PROJECTION SOLUTION. Defining the sealift requirement is extremely complex due to the multitude of variables: i.e., ship size, configuration, speed, load and off-load capabilities, availability, dependability, reinforcement requirements, availability of Army equipment for loading, port capabilities and locations, weight and size of requirements, distances to be travelled, fuel and time for return trips, maintenance and crew rest, expected military requirements, etc.

Compounding the problem even more is the modernization of battlefield equipment. Improved translates into more and heavier weapons systems to be lifted. The Bradley Infantry Fighting Vehicle is only inches too wide to fit in containerized spaces onboard modern container ships and container ships represent the largest single type of modern merchant cargo ship. The M1 series tank is superior to the tank it replaced but it is also much heavier and bulkier. Modernization programs have increased fuel and ammunition support requirements which impact the amount lift required to surge and sustain. Additionally, not all ammunition is not containerized, which furthers compounds lift needs.

The time required for sealift is basically a linear problem. According to the OPNAV briefing guide on strategic sealift, the sealift time to support logistics from the "fort to the foxhole" can be considered as follows:

To Port -	2 to 9 days.
Load -	1 to 5 days.
At sea -	14 to 25 days (Southwest Asia).
Unload -	1 to 5 days.
From port -	2 days.
Organize -	3 to 5 days.
 TOTAL -	 21 to 49 days (Southwest Asia).

Scrutiny of the above sealift schedule reveals that days saved in any of the six phases translates directly into a shorter total sealift time. Conversely, when problems arise in any phase, the timeline is expanded.

It should be noted that the time required for sealift is independent of the start date. With ample warning, the start date is calculated to have the sealift cargo arrive in theater to marry up with ground forces prior to hostilities. Without warning, as was the case in Desert Shield, sealift appears to move slowly and arrive late. In actual fact the sealift timeline was as fast, if not faster, than predicted.

In general, the land side of sealift went surprisingly smoothly. Because of the magnitude of the logistics requirements of Desert Shield, time and timing were especially critical. The Army experienced a number of "hiccups" which may have been individually minor but collectively adversely affected the sealift effort.

Planners calculated that the eight FSS ships could transport one armored or mechanized division. However, the 24th Mechanized Division brought more equipment to port than the FSS fleet could carry. So much equipment was brought that two additional ships had to be chartered to move the Division. The sealift timeline was increased in two places - increased loading time while awaiting chartered ships, and at sea time due to the slower speed of the charter ships.

Other Army units arrived at loading ports with more sealift cargo than anticipated. Automated Unit Equipment Lists (AUELS) are designed to

establish the cubic size and weight of an Army unit. Unfortunately, some units' AUELs reflected an administrative, peacetime deployment - the additional weight of fuel and ammunition was not included in the AUELs. As a result of the inaccurate AUELs, cargo ships weighed out before they cubed out. One ship actually settled on the silt at the loading port. Sailing was delayed until high tide refloated the ship and allowed the excess cargo weight to be removed. Additional sealift was required to transport the added weight, thus expanding the sealift timeline.¹⁹

There were mismatches with Army supercargo teams and the cargo ships' berthing and messing facilities. Cargo ships are designed to maximize cargo space and minimize crew/passenger space. When Army units deploy with 100 soldiers as a supercargo team, the personnel capacity of the ship is exceeded. Sailing dates are delayed when the Army units must acquire additional life vests, life rafts, and refrigeration vans for preservation of additional food for the voyage.²⁰

Sometimes a relatively simple item, such as key control, delays ship loading. Many Army vehicles are equipped with steering locks. Some units failed to adequately provide staging area personnel with the keys to those locks. Loading time was delayed when the locks had to be cut. Lack of attention to detail expanded the sealift timeline.²¹

Despite the absence of enemy opposition, only luck prevented some enroute losses. Petroleum, oils, and lubricants (POL) products are potentially lethal onboard a ship. Proper storage of POL products is ingrained in sailors, but apparently such is not the case for soldiers. POL, improperly stowed, caused

damage to POL containers and the potential for leakage. Also, some POL was stowed with ammunition. The combination of POL and ammunition can be fatal. The potential for a catastrophic onboard explosion and subsequent loss of ship, lives, and equipment existed because of improper stowage.²²

As with any operation as large as Desert Shield, there were bottlenecks at the ports of debarkation. It does little good for sealift to get the cargo to port quickly if sufficient cargo ships berths, transportation personnel, and vehicles are not present. RORO ships, such as FSS, are relatively easy to off-load given a berthing space. Other cargo vessels require cranes (and operators) to facilitate the off-load. Trained personnel must be on hand to move the equipment "to the foxhole". Even with the help of the vehicles and men provided by the Saudis, there were occasional delays at the debarkation port. Again, each delay extended the sealift timeline.

U.S. STRATEGIC SEALIFT COMMAND STRUCTURE IS EFFECTIVE. TRANSCOM was established in 1987 as a unified command responsible for the global air, land and sea transportation capabilities for the Department of Defense. TRANSCOM combined the formerly separate DOD Transportation Operating Agencies of MSC, MAC, and MTMC.²³ However, each of the three agencies also remained as a command for the respective service - creating a dual-hatted role for agency commanders.

Critics of the new TRANSCOM organization pointed to the possibility of divided loyalties each agency might have. With MSC

responsible to both TRANSCOM and the Department of the Navy (DON), where did true allegiance lie? Operation Desert Shield should put that criticism to rest. The possible dual-hat controversy failed to materialize. The services, TRANSCOM, and the agencies united exceptionally well to achieve a common purpose - provide the necessary strategic lift for U.S. forces in the Persian Gulf.

The performance of TRANSCOM was truly remarkable. TRANSCOM entered Desert Shield as a relatively young and untested unified command - yet emerged with an outstanding reputation. Ensuring ships, planes, men and equipment arrive at the appointed place and time is an exhaustive and sometimes frustrating task. Through planning, foresight, initiative, and cooperation, TRANSCOM, MCS, MAC, and MTMC combined to belie the cynics and made Operation Desert Shield logistics successful.

IMPLICATIONS FOR FUTURE SEALIFT

Although we were able to obtain sealift capability from our allies, friends, and the world shipping market, we must not forget that it is essential that we maintain the capability to respond to regional threats to our national security decisively and with sufficient force to produce a favorable outcome.²⁴

The logistic lessons learned from Desert Shield dictate that steps be taken now to provide adequate strategic sealift for the future. Broad categories under which these steps must be taken include: Army training, equipment design, U.S. Merchant Marine, and organic fast sealift.

ARMY TRAINING. The Army was not as well prepared and trained for sealift operations as it could have been. There are definite limitations to both size and weight of cargo that a single ship can carry. There are also finite limitations on the total amount of sealift available in any scenario. Accurate AUELs are a prerequisite to ensure that the assigned ship can carry the assigned load. Units must be disciplined to carry only what is necessary. Training is required to protect against POL and ammunition being stored together. Proper storage of equipment and supplies is critical onboard a ship. As a minimum, units must conduct actual embarkation and debarkation exercises with combat loads on a regular basis. Mistakes cost time and time is of the utmost importance for rapid sealift response. Desert Shield drives this point home.

EQUIPMENT DESIGN For future sealift, it is critical that new equipment and lift capabilities be tailored together. Both elements carry equal weight. It does little good to procure modern battlefield weapon systems that cannot be deployed. Conversely, it makes little sense to be able to rapidly deploy second-rate weapons. Weapon systems planners and sealift planners must communicate, cooperate, and co-ordinate designs to provide troops modern weapons when and where they are needed.

U.S. MERCHANT MARINE. Unquestionably, the U.S. Merchant Marine has been an important and reliable source of strategic sealift. By using the private sector to purchase, maintain and crew the ships in peacetime, the Merchant Marine provides the most cost effective method of strategic sealift. But the stark reality is the U.S. Merchant Marine has been in a steep decline with no relief in sight. Currently, less than four percent of U.S. seaborne trade is carried by U.S. ships.

The commercial shipping market has become dominated by fewer, larger, slower ships with diesel propulsion. Fewer commercial ships means less ships available for sealift. For economic survival, merchant ships are containerized and non-self sustaining. Neither characteristic is desirable for bulky military cargo that may need to be off-loaded at unprepared port facilities.

Modernized vessels also require smaller crews. The overall merchant sailor job market is shrinking. Activation of the RRF depends on the availability of qualified sailors. The diminishing pool of qualified steam plant sailors and seafarers in general limits the number of RRF/NDRF ships that may be activated during a crisis.

Vice Adm. Donovan has offered one new program to alleviate the manning shortfall. He suggested establishment of a Merchant Marine Reserve under MARAD to maintain skeleton crews on board reserve force ships. Both ship maintenance and personnel training could be accomplished with a Merchant Marine Reserve program.

Essential to a successful Merchant Marine Reserve program is inclusion in the national return to work policy. DOD reservist are guaranteed the right to return to their civilian job after being called to active duty. Reservists in the Merchant Marine deserve the same right.

To address the decline in the number of U.S. ships, one approach is the re-establishment of protective tariffs. The tariffs would provide incentives to U.S. ship builders and the U.S. Merchant Marine. There would be a financial advantage to buy/use American. Unfortunately, tariffs are politically explosive both at home and abroad, but clearly something must be done. If the U.S. is to maintain a credible Merchant Marine, the time to act is now or it will be too late.

ORGANIC FAST SEALIFT. By far the costliest program to increase sealift capacity is to increase the size of the FSS-type fleet. When compared to the Merchant Marine, organic sealift requires MSC to purchase, maintain, and crew the additional ships. However, the current RRF/NDRF ships are old and getting older. New U.S. commercial shipping is not on the horizon. The U.S. may have no other choice.

If the U.S. is to increase its organic fast sealift, careful consideration must be given to an accurate assessment of the requirements and the size, speed, endurance, and self-sustainability of the fast sealift ship of the future.

The basic tenet must be to deliver great amounts of cargo overseas with a high degree of probability of discharge in a multitude of environments, and with a speed range of 30 to 35 knots, thus not compromising fuel consumption for cargo lift capacity.²⁵

Strategic sealift funding is available but, so far, untouched. For fiscal years 1990 and 1991, Congress has appropriated \$1.5 billion for sealift. In fiscal year 1990, \$225 million of that appropriation was used to buy out M1 tank production and for personnel accounts.²⁶ Desert Shield amply demonstrates the urgency of wisely committing the sealift funding now.

Commitment of the \$1.275 billion sealift budget would provide a much needed shot in the arm for the American shipbuilding industry. In addition to providing required sealift assets, using the money in domestic shipyards would employ American workers and stimulate the U.S. economy.

A NATIONAL PROBLEM. Samuel K. Skinner, Secretary of Transportation, succinctly stated the national implication of the logistics required for Operation Desert Shield. "America has just understood for the first time in many years what a Herculean effort it takes to move thousands of troops literally halfway around the world."²⁷ Strategic lift is not an Army, Navy, Air Force, or Merchant Marine dilemma. Strategic lift is a national problem. The shortfalls in strategic lift will only be corrected when it becomes the center of a major national defense effort. Sealift was there for Desert Shield. We must prepare for the next time.

ENDNOTES

1. L. Edgar Prina, "Two If By Sea, Are We Ready?" Army, December 1990, p. 12.
2. Commission on Merchant Marine and Defense: First Report, 30 September 1987, p. 2.
3. Allan W. Cameron, "Facing Up to America's Strategic Sealift Shortfall," Armed Forces Journal International, July 1989, p. 71.
4. Carl E. Vuono, GEN, A Strategic Force for the 1990s and Beyond: The United States Army, p. 13.
5. Prina, p. 20.
6. L. Edgar Prina, "Jones Committee Focuses on Sealift Deficiencies," Sea Power, November 1990, pp. 43-44.
7. John A. Adams, "Balancing Strategic Mobility and Tactical Capability," Military Review, August 1988, p. 23.
8. David S. Steigman, "Fastest with the mostest," Navy Times, 10 December 1990, p. 16.
9. Prina, p. 16.
10. Jon Kaskin, Strategic Sealift, OPNAV Staff, 1990, p. 10.
11. Prina, p. 43-44.
12. Steigman, p. 16.
13. Francis R. Donovan, VADM, USN, "Surge and Sustainment," Sea Power, November 1990, p. 42.
14. Prina, p. 46.
15. Steigman, p. 16.
16. Prina, p. 13.
17. Prina, pp. 15-16.
18. Prina, pp. 43-44.

19. U.S. Army Combined Arms Command, Center for Army Lessons Learned, Getting to the Desert, p. 7.

20. IBID, p. 8.

21. IBID, p. 13.

22. IBID, p. 20.

23. Duane H. Cassidy, "One stop mobility shopping," Defense 87, Nov/Dec 87, p. 55.

24. Prina, p. 45.

25. Cameron, p. 73.

26. Prina, p. 21.

27. Prina, p. 48.

BIBLIOGRAPHY

- Adams, John A. "Balancing Strategic Mobility and Tactical Capability." Military Review, Vol. LXVII, August 1988, pp. 22-26.
- Asher, Norman J., and Safer, William J.E. Cost Estimating Relationships for Air and Sealift Mobility Forces. Washington: Institute for Defense Analysis, March 1985.
- Burlage, John. "Supply line." Navy Times, 3 December 1990, p. 4.
- Cameron, Allan W. "Facing Up to America's Strategic Sealift Shortfall." Armed Forces Journal International, July 1989, pp. 70-75.
- Cassidy, Duane H. "One Stop Mobility Shopping." Defense 87, Nov/Dec 87, pp. 53-58.
- Commission on Merchant Marine and Defense: Appendix. First Report. Washington: Government Printing Office, 30 September 1987.
- Donovan, Francis R., Vice Adm, USN. "Surge and Sustainment." Sea Power, November 1990, pp. 39-45.
- General Accounting Office. GAO Observations Concerning Navy's Quick Response Sealift, Washington: Government Printing Office, 1986.
- Kashin, Jon. Strategic Sealift. Washington: OPNAV Staff, 1990.
- Linn, Thomas C. "The Imperatives of Future Conflict." Sea Power, October 1990, pp. 39-45.
- Miles, Robert F., COL. U.S. Transportation Command. Personal Interview. Scott Air Force Base, 9 December 1990.
- Navy Fact File. 9th Edition. NAVSO-P-3002, Washington: Office of Information, 1989.
- Prina, L. Edgar. "Conflict Spotlights Sealift, Shipbuilding Deficiencies." Sea Power, October 1990, pp. 46-49.
- Prina, L. Edgar. "Jones Committee Focuses on Sealift Deficiencies." Sea Power, November 1990, pp. 46-50.

Prina, L. Edgar. "Two If By Sea, Are We Ready?" Army, December 1990, pp. 12-21.

Steigman, David S. "Fastest with the mostest." Navy Times, 10 December 1990, p. 16.

Summers, Harry G. "Somebody's Going to Pay." Defense & Diplomacy, Vol. 8, Nov/Dec 1990, pp. 8-11.

The Almanac of Seapower. Vol 33, No. 1, January 1990, Navy League.

U.S. Army Combined Arms Command. Center for Army Lessons Learned Getting to the Desert. No. 90-11. Fort Leavenworth, Kansas: Army Field Printing Plant, December 1990.

Vuono, Carl E., GEN. "A Strategic Force for the 1990s and Beyond." The United States Army, Washington D.C., January 1990.