

AD-A053 590

NAVAL WAR COLL NEWPORT R I
MILITARY SURFACE TRANSPORTATION: SOME QUESTIONS FOR OUR HIGH CO--ETC(U)
JUN 72 M G CLARITY

F/G 15/5

UNCLASSIFIED

NL

1 OF 1
AD A053590

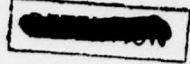


END
DATE
FILMED
6-78
DDC

AD A 053590

A

477660 110



UNITED STATES NAVAL WAR COLLEGE

COLLEGE OF NAVAL COMMAND AND STAFF

RESEARCH PAPER



MILITARY SURFACE TRANSPORTATION:
SOME QUESTIONS FOR OUR HIGH COMMAND (U)

by

Michael G. Clarity
Lieutenant Commander, U.S. Navy

AD NU.
DDC FILE COPY

DDC
RECEIVED
MAY 5 1978
RECEIVED
D

This paper is a student research paper prepared at the Naval War College. The thoughts and opinions expressed in this paper are those of the author and not necessarily those of the Department of the Navy or the President, Naval War College.

Material herein may not be published, reproduced or otherwise copied without specific permission of the President, Naval War College, in each instance. The content, however, is open to citation and other reference in accordance with accepted academic research practices.

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Military Surface Transportation: Some Questions for Our High Command.		5. TYPE OF REPORT & PERIOD COVERED Research paper
7. AUTHOR(s) Clarity, Michael G.	8. CONTRACT OR GRANT NUMBER(s)	
9. PERFORMING ORGANIZATION NAME AND ADDRESS College of Naval Command and Staff Naval War College Newport, Rhode Island 02840		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 19 Jun 72
11. CONTROLLING OFFICE NAME AND ADDRESS President, Naval War College Newport, Rhode Island 02840		12. REPORT DATE 1972
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		13. NUMBER OF PAGES 80
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Distribution unlimited. Approved for public release.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) CARGO SHIPS; LOGISTICS; MARINE TRANSPORTATION; MERCHANT VESSELS; MILITARY TRANSPORTATION; NAVAL LOGISTICS		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) An examination of the major surface transportation problems currently facing the Department of Defense. The five areas investigated are limited to those contemporary aspects of the Marine Industry directly affecting national defense capabilities: (1) the causes of the present-day decay and shrinkage of the commercial merchant fleet; (2) the recent "Container Revolution," and its resulting problems; (3) the current status of the Military Sealift Command nucleus fleet, along with recommendations for a ship replacement program; (4) the ability of both current and programmed sealift assets to support their		

6

9

10

11

13

This paper examines ->

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

strategic mobility role in future conflicts--again the author presents his proposals to improve our very obvious deficiencies in this critical area; (5) the organizational, administrative and personnel manning problems presently affecting the efficiency of the Defense transportation agencies themselves. The final section discusses the often proposed centralization of the three Defense transportation agencies; the dangers of peacetime efficiency standards as the sole criteria in the management of these agencies; interservice rivalry; desire of a greater role; and MSC officer manning problems.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

(cont h p1473A)

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

L
(and again)
(and)
 strategic mobility role in future conflicts ~~again~~ the author presents his proposals to improve ~~our very~~ obvious deficiencies in this critical area; (5) the organizational, administrative and personnel manning problems presently affecting the efficiency of the Defense transportation agencies themselves. The final section discusses the often proposed centralization of the three Defense transportation agencies; the dangers of peacetime efficiency standards as the sole criteria in the management of these agencies; interservice rivalry; desire of a greater role; and MSC officer manning problems.

A

1473B

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

UNCLASSIFIED

NAVAL WAR COLLEGE
Newport, R.I.

"MILITARY SURFACE TRANSPORTATION: SOME QUESTIONS FOR OUR HIGH COMMAND." (U)

by

Michael G. Clarity
Lieutenant Commander, U.S. Navy

A Thesis submitted to the Faculty of the Naval War College.

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

Signature: Michael G. Clarity

19 June 1972

Thesis directed by
Henry E. Eccles, RADM USN (Rtd.)
Logistics Consultant

Approved by:

DDC
RECEIVED
MAY 5 1972
D

Henry Eccles 5 June 1972
Faculty Research Advisor Date

APPROPRIATION FOR	
NAVY	Write Section <input checked="" type="checkbox"/>
USC	Unit Section <input type="checkbox"/>
UNASSIGNED	<input type="checkbox"/>
UNCLASSIFIED	<input type="checkbox"/>
BY	
IDENTIFICATION/APPROPRIATE CODES	
CLASS. CONTROL SYMBOL SPECIAL	
A	23 6/8

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

UNCLASSIFIED

Abstract of



477660

MILITARY SURFACE TRANSPORTATION: SOME QUESTIONS FOR OUR HIGH COMMAND.

An examination of the major surface transportation problems currently facing our Department of Defense. The five areas investigated do not include the ever present managerial or economic problems of the shipping companies themselves; but are limited to those contemporary aspects of the Marine Industry that are having a direct effect on our nation's defense capabilities. The causes of the present-day decay and shrinkage of our commercial merchant fleet is the first problem to be explored. The recent "Container Revolution", and its resulting problems, is the second area surveyed. Next, follows an examination of the current status of the Military Sealift Command nucleus fleet, along with the author's recommendations for an apparently necessary ship replacement program. The ability of both our current and programmed sealift assets, to support their "strategic mobility" role in future conflicts, is subsequently discussed. Again the author presents his proposals to improve our very obvious deficiencies in this critical area. The final problem area to be pursued, deals with the organizational, administrative and personnel manning problems presently affecting the efficiency of our Defense transportation agencies themselves. In this section, the often proposed centralization of the three Defense transportation agencies, the dangers of peacetime efficiency standards, as the sole criteria, in the management of these agencies, inter-service rivalry, desire for a greater role, and MSC officer manning problems are all

probed. Examples, observed during the author's recently completed MSC associated tour in Viet Nam, are utilized to illustrate many of the points presented in this final section. All of the five problem areas discussed are seriously challenging our defense readiness at the present time, and require the immediate and thorough consideration of our high command.

TABLE OF CONTENTS

CHAPTER	PAGE
ABSTRACT	ii
PREFACE	v
I THE DECAY AND SHRINKAGE OF OUR MERCHANT MARINE	1
Causes	4
Suggested Solutions	8
II THE CONTAINER REVOLUTION IN SURFACE TRANSPORTATION	15
Problems	17
Living With Containers	23
III THE STATUS OF THE MILITARY SEALIFT COMMAND NUCLEUS FLEET	24
Proposed Future Nucleus Fleet Composition .	27
Summary	32
IV THE ROLE OF SEALIFT IN SUPPORT OF THE "STRATEGIC MOBILITY" CONCEPT	33
Possibilities For The Future	36
V ORGANIZATIONAL, ADMINISTRATIVE AND PERSONNEL PROBLEMS AFFECTING THE EFFICIENCY OF DEFENSE SURFACE TRANSPORTATION	42
The Centralization Fad	42
The Dangers Of Peacetime Efficiency In A Defense Transportation System	46
Inter-Service Rivalry And Desire For A Greater Role	47
Personnel Manning Problems	50
Suggested Solutions	52
VI SUMMARY AND CONCLUSIONS	55
NOTES	68
BIBLIOGRAPHY	71

PREFACE

During both peacetime and wartime, sealift is, and will continue for sometime, to be our major means of transporting Defense Department sponsored cargoes overseas.

Even though the total amount of cargo being airlifted by our huge new cargo aircraft will continue to rise, the high cost of air transport will necessarily restrict the volume of this traffic to smaller, high value items and/or badly needed repair parts. The great majority (exceeding 90%) of both Defense and foreign trade cargoes, however, will continue to be transported by ship.

Prior to the recent "container revolution" in surface transportation, the cost of surface transportation per ton mile was computed at 1.8¢ (1:10) while air transportation was determined to be as high as 46¢ per ton mile by commercial air carrier, and 21.5¢ per ton mile via Military Airlift Command aircraft. (1:28).

Even in the latter stages of the Viet Nam conflict, in 1971, after a gradual buildup of effectuality, and the development of huge modern airstrips in the theater area, Military Airlift Command tonnage leveled off at a maximum of 45,000 tons of cargo being airlifted to Viet Nam annually. (2) Even though this is a considerable effort, it amounts to less than three shiploads of material, and is less than five percent of the total tonnage of material and supplies being delivered to Viet Nam each year.

Having pointed out that "sealift" is now, and will continue to be our primary means of transporting defense cargo overseas for sometime

to come, it is important to now recognize that our national capability in this area is being seriously endangered at this time. Several major problem areas involving our sealift competency must now be faced. It is the intention of this paper to discuss the seriousness of the problems at hand, and to offer some rudimentary ideas on possible solutions to these problems.

CHAPTER I

PROBLEM NUMBER ONE: THE DECAY AND SHRINKAGE OF OUR MERCHANT MARINE FLEET.

The decay and shrinkage of our Merchant Marine after each war is nothing new. After the Civil War the Merchant fleet was neglected in favor of expansion of internal transport. Great Britain, by default, became the leader in the development of steamships. By the first decade of the Twentieth Century, American Flag ships were carrying only one tenth of the National trade. (1) In the last 50 years there have been many occasions when the security of the Nation has been dependent in large measure on the availability of a strong active U.S. Merchant Marine. At the outbreak of World War I most of the foreign-flag vessels, which at that time carried nearly 90% of U.S. foreign trade, were withdrawn from our service. Goods piled up on our docks for lack of ships to carry them abroad. We had to do without essential imports. Freight rates soared.

When we became an active participant in World War I, we had to rely on our allies to transport our army and to carry its food and weapons. A huge and costly shipbuilding program was undertaken, but very few ships came off the ways in time to be of any use before the war ended. We were then left with hundreds of ships for the most part unsuited to peacetime trades.

At the approach of World War II the situation was quite similar, with our fleet deteriorating in size and quality, a large part of our goods being carried in foreign-flag ships. But that time we undertook

a shipbuilding program soon enough, and were able to build ships fast enough to meet the tremendous demands for shipping capacity of world-wide war.

During this period of crisis, the survival of not only our allies but of the entire free world depended upon the capacity of the American Merchant Marine to move troops and supplies for the armies, cargoes essential to the life of the civilian populations, and the raw materials needed for producing weapons that were all necessary to the successful prosecution of the war.

After the war these same ships moved the supplies needed for rehabilitation of devastated countries. Many of them were sold in the United States and abroad to build up lost or damaged fleets. Others were placed in reserve fleets at various points throughout the United States for use in future emergencies.

Such emergencies were not long in coming. When war broke out in Korea in 1950, several hundred of the reserve ships were sent back into service to move troops, supplies, and equipment, and also to carry foreign-aid cargoes essential to the preservation of the freedom of other countries throughout the world.

When the Suez Canal was closed in 1956, reserve fleet tankers were withdrawn to provide the extra capacity needed for hauling petroleum the long way around Africa.

After the Korean conflict, our Merchant Fleet again began to dwindle and many of our World War II cargo ships were again returned to the reserve fleet.

With the buildup of hostilities in South East Asia in 1965, 172 ships from the National Defense Reserve Fleet were again reactivated and served until about mid-1970, when the tempo of operations began to decrease. (2) These 172 vessels, the cream of the reserve fleet, are for the mostpart now completely run down, economically obsolete, and are incapable of further reactivation. The remainder of our active merchant marine, with the exception of the newly constructed container ships, are also of World War II vintage and are quickly reaching the point of required retirement. Those reserve fleet ships not reactivated for the Viet Nam conflict are even older and less suitable for another re-activation.

The reserve fleet, and the World War II vintage active Merchant ships, should now be considered obsolete and can no longer be counted on to augment our fleet in time of war. The active, United States flag, privately owned merchant fleet currently consists of approximately 900 ships with more than 60% of these exceeding 20 years of age. (2) After 1972 we will be unable to provide sufficient sealift for even limited war.

Of the 900 ships in the active U.S. flag fleet, mentioned above, the 470 liners in this group are being converted to container carriage and the fleet will eventually consist almost of all containerships. The implications of this "container revolution" are covered in the next chapter.

Many reasons are to blame for the present sad state of our Merchant Marine. Some of these are:

(A) Labor Costs

Many tend to place the entire blame for the condition of our merchant marine on the high cost of American union labor, namely the personnel who man our ships. This is certainly a contributing factor, however, by no means the sole or even the predominant reason. It is true that the American laborer receives more for his efforts than his foreign counterpart, but this for the most part reflects the higher standard of living in our country. While it is true that a foreign seaman's wages range from 20% of an American seaman's in Japan, to 26% in Great Britian, and about 45% in Sweden, (3) an American seaman still earns only \$534.67 a month (exclusive of overtime) which equates to about \$3.09 per hour, plus room and board, for a forty hour week. (4) Considering the seaman's required absence from home and family, this hourly wage is not exorbitant when compared with a New York union electrician or carpenter who receives \$8 per hour, or with New York firemen and policemen who receive over \$15,000 annually and have the benefit of a 20 year retirement system, which the seaman lacks. The U.S. Government recognized these differences in the standard of living when it created operating differential subsidies in the Merchant Marine Act of 1936, to compensate subsidized shipping companies for these additional wage costs.

The seaman's monthly wage, quoted above, is based on a forty hour week, however, and when a ship is underway over a weekend, the ship owner is required to pay the seaman additional overtime pay, at a rate of \$5 per hour, for the sixteen hours of watches that a seaman stands

on a weekend. When a ship is underway on all four weekends of a month, this would equate to a sixty percent overtime premium to be paid to each officer and seaman aboard, which is undoubtedly an unreasonable burden for the unsubsidized shipowner to bear.

Several major strikes have occurred as a result of the American seaman's quest for higher wages. These strikes have effected the status of our merchant fleet considerably. For during these often-times long strikes, cargo is often diverted to foreign bottoms. Frequently the shippers of this cargo continue to ship via the foreign bottoms after the strike is over. This loss of cargo and revenue is a serious factor contributing to the state of the industry. Since the cargo rates of all shipping companies are standardized by shipping agreement, and are contained in a published tariff, quality and dependability of service are major factors in a shipper's selection of a steamship company to transport his goods. Perhaps an agreement by the maritime unions, pegging their members wage rates to a sliding cost of living index, would provide the stability required to attract back many of the lost shipper customers and to provide continued employment for the seamen concerned.

(B) Construction Costs of U.S. Ships

The construction costs of U.S. Ships is considerably higher than the cost of building a similar ship overseas in Japan, in Northern Europe, or in any of many other countries. This difference again, is due to the much higher wages of U.S. shipyard workers. In order to maintain a ship construction capability in this country, however, a

construction differential subsidy is available to defray shipowners the difference in cost of building a ship in a U.S. shipyard and the cost of building a similar ship in a foreign shipyard. Since this subsidy is available, higher ship construction costs are not really then a significant reason for the present decay and shrinkage of the merchant marine. There are undue restrictions, however, on the operator of a subsidized vessel which will be discussed in a later section.

(C) Transfer of U.S. Flag Ships to Flags of Convenience

Many U.S. owned ships, including older cargo ships, as well as newer foreign built tankers have been transferred to flags of convenience of several other nations, including Panama, Liberia, and Honduras. Four hundred such ships, owned by American capital, were registered under a friendly foreign flag on 1 Jan. 1970. (2) These ships have been so transferred for a number of reasons, but they are mostly economic. As such they are free of U.S. manning and safety standards, can hire foreign cheaper labor, and don't have to pay U.S. taxes. These vessels operate, for the most part, in a type of trade not covered by operating differential subsidies and, without the availability of such subsidies, are attempting to operate as economically as is possible. Since the U.S. built ships in this category are all old, and since the newer ships are foreign built, these ships do not contribute significantly to the present poor state of the U.S. flag fleet.

(D) Increased Competition from Foreign Countries

Many new maritime nations have arisen since World War II. These countries, such as Israel, India, Pakistan, Latin America, as well as

the nationalized fleets of some older maritime nations like Argentina and the Phillipines, now present a high level of competition to the U.S. flag fleet. (5) The re-entry of Germany, Japan, and Western Europe into the world merchant marine industry has further intensified such competition. Russia's government owned and operated merchant marine is also now carrying a fairly large percentage of world trade formerly carried by U.S. flag vessels.

(E) U.S. Government Policy

By far the biggest factor affecting the present condition of our merchant marine fleet is government policy. This policy is admittedly greatly affected by the attitude of the United States electorate and national priorities as the population sees them. It is true, that the U.S. people are growing tired of the Viet Nam war, and are therefore less apt to support any new large Defense requested subsidy programs at this time. Likewise, key personnel in the defense establishment itself must be educated as to the present critical need for merchant shipping. As mentioned earlier, our history contains many examples of lethargy in this area, and its dramatic results at the beginning of almost every war in our history. At a time when each of the armed services' budgets is being drastically cut, it will be difficult to gain support for any new logistical programs, since individual service chiefs are now greatly concerned with acquiring new major weapons systems, re-kindling naval shipbuilding, and taking up many other projects that have been postponed as a result of the Viet Nam War.

The situation of the Merchant Marine fleet is far more serious

now, however, than at any time since 1936, because our entire reserve fleet, used during both the Korean and Viet Nam conflicts, as well as over 60% of our active merchant fleet will soon be obsolete and require scrapping. Since relatively few new ships are being constructed, and since most of these are of the container variety, we will soon have almost retrogressed to the stage we found ourselves at the beginning of World War I. As a result of our present day policy of "strategic mobility" it is essential that we have sufficient mobility forces on hand at the beginning of any future conflict. Once a conflict commences, we will not have time to construct ships, but will have to do the best we can with what we have, and unless things improve, that won't be much.

The government could, however, greatly improve the situation of our merchant fleet by implementing any one of a number of possible plans:

(1) Expand the MSC Nucleus Fleet

Greatly expand the Military Sealift Command nucleus fleet to include a sufficient number and type of ships to do the job. This would almost amount to a nationalized merchant marine and would face much opposition from the merchant marine industry. It would, however, provide the nation a capability that we might not otherwise possess in a few years time, unless something is done. Since container ships appear to be a profitable concept, the nucleus fleet need not contain strictly container ships, but should concentrate on break bulk ships, roll on/ roll off ships, heavy lift ships and any other required types that are no longer competitive. This would be somewhat similar in concept to Russia's government owned merchant fleet and would undoubt-

edly face some ideological opposition. Maintaining a wartime capability in peace time would also be non-competitive and quite expensive.

(2) Update and Liberalize the Subsidy Laws

At the present time the Department of Defense does not contribute one cent to the subsidy of merchant ships, yet in time of emergency, it relies on the availability of such commercial merchant shipping to transport the great majority of its military cargoes to the overseas theaters.

The present merchant marine operating differential subsidies, provided to subsidized shipping companies by the Maritime Administration, an agency of the Department of Commerce, are quite restrictive on ship operators, and as a result, many companies including all the new container shipping companies, have chosen to remain non-subsidized. To qualify for such subsidy, companies must have a specified number of sailings on a particular trade route that has been determined to be essential to the foreign trade of the United States. There are many other restrictions for the subsidized operator which are concerned with the manning, operation, outfitting and resupply of his ships. The subsidized operators profits are also limited to 10% of the capital he has invested. The salaries of his top management are also quite limited, and his books and financial records are subject to almost continual review by government agency auditors.

With a great increase in the number of ships engaged on the essential trade routes, from the new and vital Merchant Marines of Japan, Germany, Russia, the Northern European nations, etc, as well as

the success of container operations on these same routes, the operators of the older American subsidized vessels are having a hard time finding enough cargo to keep their ships even partially full. Since the number of his sailings is regulated, he can not, and is not, making a profit. As a result, his ships are quickly being taken out of service.

If subsidies are to work, they must be far less restrictive and must permit American shipowners to be competitive. Subsidies must therefore be far more costly than they are currently. (Between 1947 and 1954 the actual difference between subsidizable expenses of U.S. vessels and their foreign competitors amounted to \$1.2 billion. Of this amount \$187 million was recovered by excess profits rebates. (6) This amounts to \$78 million annually, a small price to pay for readiness.)

Restrictions on the number of sailings on specific trade routes should be lifted, and the operator should be allowed to seek out cargo wherever it might be. The subsidy should be based on the availability of a ship in time of war, and should be partially contributed to by the Defense Department which relies on the availability of these ships during such times. Certain safeguards must be maintained to insure that the government's investment is protected, but it need not be nearly as restrictive as the present rules are. Competition and ingenuity should be encouraged, rather than discouraged, and profits should not be limited. A subsidy after all is an "assist" by government to make the industry competitive, and it should do just that. Defense features like gantry cranes on container ships, to make them self-sustaining etc, can also be included as part of any subsidy program.

Construction-Differential Subsidies

I believe that all construction differential subsidies should be done away with. These subsidies, paid to American flag shipowners who build ships in U.S. shipyards, to be used in the foreign trade of the United States, are in existence for the purpose of assisting U.S. shipyards, with their higher costs and wages, to remain competitive and to maintain a commercial shipbuilding capability in the United States. Since our success in any future non-nuclear conflict will depend largely on the assets we have on hand at the beginning of any such conflict, ample available assets will far outweigh, any advantage to be gained by the meager shipbuilding capability we might maintain by means of considerable construction subsidies. Monies saved by elimination of this subsidy can be put toward more favorable operating differential subsidies. In the event of an increase in world tensions, indicating the probability of a major conflict which might require the construction of additional ships, we can again attempt to build up our shipbuilding industry as we did in early World War I. The yards themselves should be kept in "mothball" type condition, at government expense. Ample assets on hand at the commencement of a major conflict, however, would be the key to our logistical success. New construction should only serve to replace ships lost due to attrition. Naval shipyard supervisory personnel, as well as friendly foreign shipbuilding personnel, however, would be required to assist in the re-establishment of our commercial shipbuilding capability.

New ships should presently be competitively acquired by ship owners from the cheapest friendly foreign country, and operating differential subsidies should likewise be made available to these foreign built ships. A good percentage of the Russian Merchant Marine has been built in countries other than Russia, and they are fine vessels.

There would be an outward "flow of gold" by having our merchant ships built in foreign yards, but this would soon be counterbalanced by the reverse flow of gold resulting from having much more of our imports and exports carried in U.S. flag ships. Extensive studies on the "Balance of Payments and the U.S. Merchant Marine" have been conducted by Harbridge House Inc. for the Committee of American Steamship lines. Between 1957 and 1966, slow years for our then small merchant marine, the revenues obtained by U.S. flag merchant marine ships contributed \$7.3 billion dollars toward our balance of payments. (7) You can buy many merchant ships for \$7.3 billion dollars!

(3) Enact More Favorable Legislation for our Merchant Marine

The Cargo Preference Act (8) requires that at least half of U.S. Government financed cargoes must be transported in privately owned U.S. flag ships. These restrictions apply solely to goods purchased with Government Aid and do not apply to purely commercial transactions. This amounts to about 10% of our countries' exports, and 1.3% of our imports. This is a substantial share of our U.S. cargo liners business and makes up 66% of all outbound cargo carried by U.S. tramp ships. (9)

I believe this law should be changed to include 100% of defense sponsored and aide cargo, if sufficient shipping is readily available. It is understandable that foreign governments might object to favorable treatment of our own merchant marine for commercial transactions, and could retaliate in kind. But it is not likely that they could voice too loud an objection to our governments using U.S. bottoms solely, to distribute free aide and defense materials.

(4) Place Less Reliance on the NATO Shipping Pool

Many of our State and Defense Department key personnel are presently accepting the present state of our merchant marine, believing that our NATO allies will provide any required shipping in a time of need.

I contend that in the event of major war these vessels, currently under the operational control of their own nations, and continuously scattered about the globe, would take several months to be reassembled, placed in a NATO pool, and before they would be made available for our needs. A major war, however, would be required to implement this system and no such ships would be available to assist us in a "brush-fire", one-country wars, or in a conflict like the Viet Nam war, which has proven to be so unpopular with our allies.

(5) Encourage Ingenuity and Improvisation

As pointed out earlier, the United States, with its' high standard of living, can not compete with the Japanese or other lower wage earning countries in projects requiring a high number of man hours of labor. The recent success of our country has always been

in the field of innovation, invention, improvisation, and the creation of labor savings devices that create situations which make us very much competitive with the lower salaried, higher manpower nations. To attempt to compete in high manpower areas discounts, or even ignores, the lessons of history.

In the area of steamship operations, the recent advent of the container ship by U.S. innovators, has resulted in such vast savings in stevedoring man hours and ship turn-around times, that it has revolutionized the industry. (A separate chapter on this subject is contained in this paper.) Further improvisations in the shipbuilding line like the "Lash" and "Sea Bee" vessels hold promise of great success. Many other such improvisations are possible in the near future, and such research and development should be encouraged and subsidized by the government.

Developments such as fully automated engine rooms, submarine tankers, air cushion vehicles, hydrofoils, catamarans and inexpensive nuclear power, are all possibilities of future break-throughs in the industry. We should be encouraging research and development in these areas.

CHAPTER #2

PROBLEM #2: THE CONTAINER REVOLUTION IN SURFACE TRANSPORTATION

After having just devoted an entire chapter to the decay and shrinkage of our merchant marine fleet, it is necessary to now spend some time on one very positive and favorable development in the fleet, that has come about in the last several years: the advent of the intermodal container ship.

In 1957, Sea Land Service Inc. introduced three C-2 cargo ships converted to carry 226 containers in Atlantic and coastwise shipping. (1) It took about ten years for containerships to prove their value, and in 1967, the first keel-up containerships were constructed. Since that time container ships have rapidly been replacing traditional break-bulk ships in the U.S. Merchant Marine, and are currently contributing to the United States' regaining a more competitive position in ocean trade. U.S. industry has invested several billion dollars in container facilities thus far, including terminals, equipment and containerships. American companies have led the container revolution and foreign ship owners have been forced to follow suit. At the present time there are approximately 120 container ships and 460 break-bulk ships in the U.S. Merchant Marine. By 1980, the fleet is expected to number 220 container ships and 190 break-bulk ships. (2) Although there will be fewer ships available in 1980, the total U.S. Merchant Marine sealift capability, in tonnage, will be about the same because the ships will be more productive.

The container concept, in brief, consists of an integrated transportation system based on all cargo being stuffed into containers at a point of origin and delivered to shipside by a combination of rail and truck transport. The ships then become indispensable links in the chain, and are specifically designed to carry the containers. Upon arrival at the port of discharge, the containers are again loaded on truck trailers and/or railroad cars for final delivery to their inland points of destination. Because of the reduced amount of handling the cargo receives, and due to other factors like less opportunity for pilferage and loss, as well as reduction in packaging requirements, the overall cost of such transport can be considerably less than by standard break-bulk transport. The principle advantage of container operations to the operator, is the reduced turnaround time of vessels in port, together with lower handling cost. One estimate made in the Port of New York determined that 600 man hours were required to load 10000 tons of containerized cargo, compared with 11000 man hours for the same quantity of break-bulk cargo. (3) Ship loading and unloading time has been cut from as much as 14 days to as little as 24 hours. This results in savings in the cost of handling the cargo and also in lower operating costs for the ship itself.

So much for a brief history of containerization and the basic facts concerning this concept. There are many problem areas that should be causing concern among Defense transportation officials, however, that have arisen as a result of this program. Some of these will now be discussed:

(a) A Great Number of Containerships are not, and will not be,
Self-sustaining

For economical reasons many containership operators prefer shore gantry cranes to installed shipboard cranes for the loading and discharge of containers. These shore based cranes are about twice as fast as shipboard cranes and their reliability is not effected by sea spray and/or heavy weather that might be experienced during a voyage. Since containerships during peacetime usually operate on a fixed schedule between specific points, it is an economical matter for the operator to have shoreside gantry cranes installed at each of his ships' ports of call. The inclusion of an additional shipboard crane is not desirable for most such operators because of the space and weight of the required installation, which would cut down on cargo carrying capacity.

Projections of the containership fleet for 1973 indicate that approximately 50% of the fleet will be non self-sustaining. (4)

Since the merchant fleet is being reduced in size, due to the higher productivity of containerships, it is of prime importance to the Department of Defense that over 50% of these containerships will not have the capability of discharging their cargo in undeveloped areas where shoreside cranes are not available, or during war time in the larger ports, if the shore side cranes have been destroyed by enemy action.

The remedy for this problem might include: (1) Subsidizing the cost of installation of shipboard cranes aboard all container ships (or even just the basic deck rails etc. for the installation) and

reimbursing the operator for any revenue lost as a result of the commercial inconvenience of such an installation. (2) By DOD constructing, and holding in reserve, either floating gantry cranes and/or the components for shore side gantry cranes to be quickly assembled and installed in a theater area in the event of future hostilities.

(b) The Greater Significance of a Containership Loss

Since the number of vessels in the merchant fleet is being reduced, due to the greater productivity of containerships, the war loss of a container ship will be even more significant than the loss of an ordinary merchant ship during previous conflicts.

(c) Requirement for Pre-positioned Drayage in the Theater Area

Before the Containers can be Removed From the Terminal Area

Since containers range up to forty feet in length, with gross weights of up to 67000 lbs., it will be necessary to have adequate chassis, tractors and/or heavy lift helicopters in the theater area to clear the terminal area of the up to 654 such containers that one container ship might deliver.

Lack of Standardization in Containers

Even though only Sea Land Service containerships and containers were utilized in Viet Nam, the fact remains that seven different size containers and 37 different lifting and tie down devices are currently in use by various container carriers. (5)

With the great advantages in strategic mobility available to DOD by the acquisition, stuffing and pre-positioning of containers to fill the needs of various types of operations, it will be most important for

DOD to utilize a size container that can either fit, or be easily adapted to fit, the majority of U.S. commercial ships that will be available in event of war.

The International Standards Organization, of which the United States is a member, has adopted an 8' X 8' container of various lengths as its' standard size container, and the American Standards Institute has accepted 8' X 8' X 10', X 20', X 30', and X 40' as its' standard size containers. Neither Sea Land Service Inc. nor Matson Navigation Company, however, the United States two largest container carriers, utilizes any of these size containers. Perhaps an announcement by DOD that after 1980 only carriers capable of carrying standard size containers will be utilized for DOD cargoes is what is needed to correct this problem.

(d) Much Container Cargo is Still Being Stuffed into the Containers at the Ship's Loading Port

A significant part of the shippers' savings in using containers is to be gained by the reduction in "handling" the cargo receives. When the cargo is handled in the normal manner until it arrives at the loading port, no significant savings can be realized. As a matter of fact, stuffing odd size cargo, with a poor stowage factor, into a container by high cost stevedores, may be actually far more expensive than shipment by normal break-bulk methods. The savings in stevedoring man-hours by utilizing containers in the intermodal method is well realized by longshoremen, however, and their recent union demands that all containers be stuffed by union longshoremen, must be modified if

the advantages of containerization are to be retained.

(e) Over Reliance, Emphasis and Utilization of Containers

This next section on containerization is derived, for the most-part, from the experience and observations of the author as Officer in charge of MSC Units at Qui Nhon and Cam Ranh Bay in the Republic of Viet Nam during 1969 and 1970.

Most authorities agree that between 50 and 60 percent of all DOD cargo, used to resupply a unit engaged in combat, is suitable for shipment in containers. (The original influx including heavy equipment, trucks, artillery etc. is usually not so suited and must be shipped in either break-bulk or aboard Roll on/Roll off ships.) The other 40 to 50 percent of re-supply material consists of outsize objects or is of such a nature as to be unsuitable for container stowage.

The container shipping companies however, in their quest for greater revenues and profits, will try to encourage shippers to use containers for just about any type cargo. Since there was a ship shortage at the time Sea Land Service Inc. introduced container operations into the Viet Nam theater, and since there was a great deal of tonnage capacity on board the ships made available, the Services started shipping many items by container that could not otherwise be economically justified. Priorities may have warranted MTMTS acceptance of these shipments, but if so, they were in many cases false priorities. Example of such abuses included the shipment of palletized cement in containers, and in one case the shipment of empty CONEX boxes in a container. Often times retrograde junk cargo was shipped in containers

at rates well above the value of the cargo itself.

In one experiment, conducted during the author's tour in Viet Nam, and for which he received a letter of commendation from the Commanding General of the Cam Ranh Bay Support Command for his assistance in the project, the Army shipped an entire shipload of ammunition into Viet Nam by container. This ammunition loaded at Port Chicago, was discharged at Cam Ranh Bay in January 1970. Since there were no gantry cranes located at either Port Chicago or at the ammunition pier at Cam Ranh Bay, a special self-sustained container ship was used for the test. The 226 containers were all discharged at Cam Ranh Bay. Some was then trucked directly to the ammo depot at Cam Ranh, some was moved by truck convoy 158 miles to Ban Me Thuot, and some containers were loaded aboard a lighter at Cam Ranh Bay and towed to Qui Nhon.

The Army, and later the Joint Logistics Review Board, hailed the test as a great success, and even recommended dis-establishment of the ammo depot at Qui Nhon in favor of continued containerized ammo shipments.

It is not believed by the author, however, that this test in any way proved either the efficiency or the cost effectiveness of shipping ammunition in such a manner. The carrier, Sea Land Service Inc.'s representative admitted to me that the rates charged for the test cargo were non-compensatory, in hope of raising Army interest in the concept. The carrier also waived the contract requirement for 15 day return of empty containers, provided special materials handling equipment at each

test site, and provided costly packing to prevent movement of the palletized ammo within the container. If the required and complex materials handling equipments were to be made available at each potential container unloading site in Viet Nam, the cost would be gigantic. (A ramp, in addition to a special type battery-powered fork lift truck is required.) Furthermore, no more than two or perhaps three pallets of ammunition could be carried in each container. To the author, the lesson learned was that just because something can be carried in a container does not mean it is practical to do so.

(f) Possible Commercial Container Ship Monopoly

As mentioned above, Sea Land Services' representatives admitted to the author that some of their rates were non-compensatory in the hope of gaining additional Government tonnage.

In an article in the Dec. 28, 1971, New York Times, American Export-Isbrandtsen Lines was quoted as complaining to the Federal Maritime Commission that "Sealand Services had filed to carry military cargo in the Atlantic at rates so low as to be predatory." American Export Isbrandtsen contended that Sea Land rates were designed only to destroy the carrier's competition. Sea Land Services Inc. has already had two proposals before the Federal Maritime Commission involving Sea Land's taking over of the only other major U.S. container operator in the Atlantic - United States Lines. If successful in all these attempts, Sea Land would be left as sole U.S. flag carrier of container cargo in the Atlantic. This should not be permitted.

Once Sea Land Inc. has a monopoly in U.S. container carriage in

the Atlantic, and a near monopoly in the Pacific, the company would undoubtedly raise their rates. With the current reduction of non-container ships, the government would have little choice but to pay the higher rates.

Summary: Living with Containers

Since containers have proven to be a profitable concept for both the shipper and the carrier, shipment by container will undoubtedly continue to expand, causing container ship replacement of our antiquated break-bulk fleet, as earlier predicted. Quick adaptation to the economical utilization of containers is of primary importance to the Department of Defense at this time. Several steps, that should be taken immediately are:

- (1) Build up the break-bulk, and "roll on/roll off" capability of the MSC Nucleus Fleet.
- (2) Obtain floating cranes and lighters for use in discharging non-self-sustaining container ships in undeveloped areas or in ports where installed gantry cranes may have been destroyed by enemy action.
- (3) Devise and improve a system for "heavy-lift" helicopter unloading and movement of containers from containerships. Build several multi-purpose/container ships, with a dedicated helicopter detachment, to become a part of the MSC nucleus fleet.
- (4) Obtain and pre-stow "one-way containers" for immediate shipment in the event of mobilization.
- (5) Subsidize and require the installation of gantry cranes on all future container ships.

CHAPTER #3

PROBLEM #3: THE STATUS OF THE MILITARY SEALIFT COMMAND NUCLEUS FLEET

The mission of the Military Sealift Command includes maintaining an "ability to provide an immediate sealift capability in support of approved contingency or General War plans", and "to plan for and be capable of expansion in time of emergency or war as necessary." (1)

In order to carry out its' mission, MSC controls, operates and administers a nucleus fleet of government owned ships for the purpose of providing ocean transportation service for the movement of personnel, cargo, bulk petroleum and mail. This fleet was originally composed of ships received from the combined fleets of both the Army and Navy Transportation Services, when MSTS was established in 1949.

It was decided to maintain a nucleus fleet after World War II, since MSTS recognized the fact that private shipping services were not geared for immediate military operations without substantial changes to their ships as well as to their type of operations. Since private operators might frequently find themselves unable to meet military demands at the times and for the quantities and types of lift required; the movement of military supplies could be compromised. Thus, retention of a nucleus fleet is based on maintaining a readiness to carry out military commitments and not on an ability to successfully compete with the private shipping industry. As a matter of fact, the Department of Defense has consummated a complex agreement with the Secretary of Commerce concerning methods and priorities for the awarding of DOD

cargoes and, provides for various cargo preference laws, which, in general, protect the rights of the commercial shipowners concerning the carriage of DOD sponsored cargo.

Since the basic task of the nucleus fleet is then to provide an instant sealift capability in time of emergency, it is important that this fleet be composed of the number and type of ships that would be required until mobilization of the commercial fleet might be accomplished, and to be capable of supplementing these commercial vessels with any required capabilities that still might be lacking after the mobilization had been completed. (Note: The MSC nucleus fleet also contains many special purpose ships for oceanography, missile tracking etc. These non-commercial type ships are not included in these comments concerning the nucleus fleet).

The present composition of the MSC nucleus fleet can be determined by referring to the table on the following page. As indicated in the table, the dry cargo ships in the nucleus fleet consist entirely of antiquated World War II type vessels which are quickly approaching block obsolescence. The number of these ships in service is also far below the number required for any significant degree of readiness for a major mobilization. At the beginning of the United States buildup in Viet Nam in 1965, the MSTS dry cargo nucleus fleet consisted of only 57 vessels. (1) The entire MSTS controlled dry cargo fleet in 1965 contained only 75 ships, including the 57 nucleus, 16 time

TABLE I

THE MSC NUCLEUS FLEET (JAN. 1970)

CLASS	TOTAL SHIPS	UNDER 5 YEARS OF AGE	5-15 YEARS OF AGE	15-25 YEARS OF AGE	OVER 25 YEARS OLD
<u>DRY CARGO</u>					
Aircraft Transports	1				1
RO/RO	2	1	1		
General Break-Bulk	19			1	18
Reefer	5				5
LST	38				38
Coastal-General	7		1		6
<u>TANKERS</u>					
Medium	4		4		
Small	21	1	1	5	14
<u>TROOP TRANSPORTS</u>					
TROOP TRANSPORTS	3		3		
TOTAL	100	2	10	6	82

chartered, and 2 General Agency Agreement ships. The increasing requirements of the Viet Nam conflict eventually required expansion of the MSTS controlled fleet to 527 vessels by 1967. (2) The nucleus dry cargo fleet also grew, as a result of this expansion, reaching a maximum of 119 ships in 1967. (2) This growth was accomplished, for the most part, by re-activating older MSC reserve fleet ships, although several new special purpose ships including both "roll on/roll off" and very heavy lift ships were acquired.

The gradual buildup in Viet Nam permitted the MSC nucleus fleet to successfully serve as a "stop-gap" measure until commercial ships could be acquired by either commercial charter or reserve fleet re-activation. In a more rapid mobilization, however, the nucleus fleet would have proven to be vastly inadequate, and the mobilization would have been delayed for lack of shipping capability. The old age and high usage rate of most of these nucleus ships throughout the Viet Nam conflict, however, has further reduced their potential value for any future conflicts.

FUTURE NUCLEUS FLEET COMPOSITION

Container-Ships

As covered in chapter two, the concept of containerships has proven to be economically successful and the prospects are good for eventual replacement of most of our commercial break-bulk ships by container ships. Since there will be a high degree of capability in the area of containerization in our U.S. flag commercial fleet, I do not think that MSC should spend any of its' limited resources in this

area. It appears now that this switch to containers by our commercial operators, however, will create a void in the areas of commercial break-bulk, roll on/roll off, and heavy lift capability. These are the areas that must be concentrated on by MSC in its' nucleus fleet replacement program. As mentioned in the section on containerization, containers are a feasible method of resupplying combat troops with up to 60% of their supplies and equipment. The original influx of cargo, however, including tanks, tractors, chassis, aircraft, artillery, trucks and many other outsize or heavy items are not suitable for containers and will require transport by either break-bulk ships, with heavy lift capability, and/or "roll on/roll off" ships. The other forty to fifty percent of cargo, not suitable for "resupply" by container ships, will also have to be carried by break-bulk and/or roll on/roll off ships.

Tankers

A sufficient number of "Super" or "Jumbo" sized commercial tankers are presently owned by U.S. companies either under U.S. flag or under flags of convenience. These super tankers are available for mobilization in event of war, and duplication of this capability is not required in the MSC nucleus fleet. Very few "handy" size tankers (25000 DWT or less, with drafts of under 32 feet) will be available after 1975, however, and MSC should attempt acquire, by either purchase or long term charter, a sufficient number of these smaller size tankers.

"Very Heavy-Lift" Ships

The need for lighterage, tug boats and harbor craft in any theater

area will require a "very heavy lift" capability in our U.S. flag merchant fleet. The additional need for possible lighterage, gantry cranes, floating cranes etc. to be used in conjunction with the discharge of any non-self-sustained container ship in an undeveloped theater area will also increase the requirement for a "very heavy lift" capability. MSC already has 3 such ships under long term charter and should attempt to acquire several more.

"Roll on/Roll off" Ships

MSC has two Ro/Ro ships in its' nucleus fleet and two more under charter at the present time. These four ships have proven to be invaluable during the Viet Nam conflict and are capable of carrying either aircraft or general cargo when there is insufficient Ro/Ro cargo available. Several more such ships should be acquired for the MSC nucleus fleet.

Troopships

Only three transport type ships are presently included in the active MSC nucleus fleet. All 3 transports are presently being utilized to carry Korean troops between South Korea and Viet Nam. Fifteen MSC transports are presently in reserve and would require considerable funding and time to reactivate.

Since all U.S. forces are presently being transported between Viet Nam and the United States by jet aircraft, limited finances forced de-activation of 15 MSC transports, which were placed in reserve. During this same period, keen competition by foreign passenger liners caused the laying up of all but several of our commercial passenger

ships. Thus, in a ten year period, the United States has lost an extremely high percentage of its' capability to transport combat personnel by sea.

In event of future hostilities in an area where the United States does not possess air superiority, or in an undeveloped area lacking airstrips capable of handling our large jet transports, we will no longer have a capability for either simultaneously landing a large force of troops or evacuating sizeable groups of civilians.

Since the Joint Chiefs of Staff still include a troopship capability in their war plans, Military Sealift Command should continue to maintain the troopships in the reserve fleet, and should be budgeted additional funds to keep these ships in a quickly re-activatable status.

Multi-Purpose Ships

Recently Military Sealift Command designed its' own proposed Multi-Purpose ships with a cargo capacity of 45000 tons. These ships are designed with a capability for roll on/roll off or fly on/fly off operations and for operations over the beach or through underdeveloped or damaged ports. They would also be capable of handling containers or conventional break-bulk cargoes. These ships can take over the missions of just about each of the ageing dry cargo ships presently in the nucleus fleet, that are rapidly approaching obsolesence. They can replace reefer ships through their capability to carry reefer containers. They can also carry both palletized and containerized ammunition, doing away with the need for nucleus ammo ships. They can of course carry general cargo and can even replace the sole, antiquated

aircraft transport remaining in the nucleus fleet. The construction of ten Multi-Purpose ships has already been approved and is being funded for in the current budget. A commercial ship owner will have these ships built in return for a guaranteed 10 year charter. These ten ships, however, will have the capability of transporting only one fully equipped armored division, or two airborne divisions, simultaneously, and many more such ships would be required to handle a major mobilization. It is recommended that if these ships prove successful, MSC should attempt to acquire, on a purchase arrangement, an additional number of these vessels for inclusion in the government owned nucleus fleet.

Lash or Sea-Bee Vessels

Finally, for increased capability in the area of intra-theater transportation, it is recommended that several "Lash" or "Sea-Bee" type barge carrying ships be acquired for the distribution of cargo at ports throughout a war theater area. Several of these ships could have easily replaced the 38 LST's simultaneously employed in the Viet Nam theater, with a far lower manning requirement. These ships could also distribute containers in undeveloped areas. With a special configuration, they could be employed to deliver aircraft and/or roll on/roll off cargo. Their over the beach capability will permit their use in areas where port facilities are non-existent. Inport time, except for upkeep, is virtually eliminated by the ships ability to drop her barges off at or near each port. This will also afford the ship a high degree of protection from shore batteries in unfriendly areas. The ships stern

elevators would also permit the carriage of the largest floating craft including tugs and LCUs.

More will be mentioned on the "Lash" and "Sea-Bee" type vessels in the chapter on "Strategic Mobility". They are, however, a most welcome alternative to replacement of the 38 antiquated LST's in the MSC nucleus fleet.

Summary:

Since an MSC nucleus fleet of ships is required to provide an instant sealift capability in time of emergency, it is important that this fleet be composed of a sufficient number and type of ships to accomplish this task.

The chart on page 26 clearly shows that the present MSC nucleus fleet is antiquated and of insufficient size to render any significant capability in the event of mobilization.

In planning a replacement program for this fleet, the ample capabilities of the U.S. flag commercial container and super tanker fleets should not be duplicated. Resources available should be allocated instead on:

1. Smaller tankers, drawing 32 feet or less.
2. Additional "Very Heavy Lift" ships.
3. Several more roll on/roll off ships.
4. Maintaining a higher state of readiness for our reserve fleet troopships.
5. The long term chartering of 10 multi-purpose ships.
6. The acquisition of 8 to 10 "Lash" or "Sea-Bee" type vessels for the intra - theater distribution of cargo .

CHAPTER IV

PROBLEM #4: THE ROLE OF SEALIFT IN SUPPORT OF THE "STRATEGIC MOBILITY" CONCEPT

"Strategic mobility is defined as the capability to deploy and sustain combat ready forces anywhere in the world in the quantity and as rapidly as the operational requirement dictates. The concept of strategic mobility envisions the rapid transport of troops and associated supplies and equipment to distant areas of crisis using a combination of the strategic movement resources of airlift and sealift, and possibly involving prepositioned material stockpiled afloat or in storage areas ashore in foreign countries." (1)

President Nixon's declaration, in the Nixon Doctrine, that the United States would continue to militarily come to the aid of foreign nations being subjected to either insurgency or invasion, when it was in our national interest to do so, confirms the currency and extreme importance of strategic mobility.

With the recent laying up of a high percentage of MSC nucleus fleet transport ships, as well as most of our U.S. flag commercial passenger liners, future strategic mobility will have to rely heavily on the airlift of troops to areas in which they can be married up with their equipments. This equipment must either be prepositioned in a potential area of conflict or be hastily delivered to the area concerned, by commercial merchant shipping and/or MSC nucleus fleet ships.

As a result of lessons learned from the Suez crisis of 1956, and the Korean conflict in 1950, the need for greater strategic mobility became even more apparent to the Department of Defense in the early 1960's. After considering many possible combinations of airlift,

sealift, and equipment prepositioning, the then Secretary of Defense determined that the force best suited to provide the required capability, consisted of six C-5A squadrons (96 aircraft), 14 C-141 squadrons (224 aircraft), prepositioned equipment in both Europe and the Pacific, 460 commercial general cargo ships, and 30 Fast Deployment Logistic Ships. (1) Since that decision was made, military equipment has been prepositioned in both the European and the Pacific theaters, and the Air Force has acquired most of the programmed aircraft. Congress, however, through budget limitations, has disapproved construction of the Fast Deployment Logistic Ships. The sad state of both our commercial merchant fleet and the MSC nucleus fleet has already been the subject of previous chapters in this paper. Thus, while we have acquired the required capability of strategic mobility in the areas of prepositioned material and airlift, we have neglected a vital link in the chain - Sealift. Not only have we failed to obtain the badly needed Fast Deployment Logistic Ships, but during this same period a large percentage of the remainder of our merchant ships have been allowed to further deteriorate.

Fast Deployment Logistic Ships (FDL)

FDL ships, as planned, were to be capable of: "rapid overseas deployment of a tactical land force's unit equipment and supplies in conjunction with airlift of the force personnel". (2) This mission was to be accomplished by storing embarked land force equipment, including required lighterage and supplies, in a "ready to roll" condition for periods of up to three years. These ships were to have been capable of

high speed transits between any two areas of the world. They were also designed for rapid off-load of embarked equipment and supplies in either established ports or by means of "non-hostile", over the beach operations. All embarked equipment could be rapidly loaded in such a manner as to maintain unit integrity. These ships would have also been able to provide logistical support to the personnel concerned with the "marry-up" operations. In addition, FDL ships were to possess a capability for carrying assembled military helicopters in a ready to fly off condition, as well as possessing a general cargo carrying capability. FDL ships were to be capable of speeds of 25 knots, which would permit their travelling with Navy Task forces, without effecting the groups maximum speed. There were many modes discussed concerning the utilization of FDL ships, including having them fully loaded and deployed to overseas areas, fully loaded and on "stand-by" in U.S. ports, or even partially loaded in U.S. ports, depending on the politico-military situation and economic constraints of the period.

The planned force of 30 FDL's would have provided flexibility in contingency planning that is not available with the present land-based prepositioning or forward floating depot ships. For example, 12 FDL's would have been capable of lifting the equipment of an infantry division along with its initial support equipment and supplies. (1) It presently takes 33 C-5 type cargo ships to accomplish this same lift.

The loss of the FDL ship to budget cuts has therefore severely limited the ability of sealift forces to support the concept of strategic mobility.

Possibilities for the Future

On 22 March 1966, the then Secretary of Defense, Robert S. McNamara, approved and established the office of Special Assistant to the Joint Chiefs of Staff for Strategic Mobility. (SASM). The mission of the SASM included the analysis, evaluation and monitoring of all aspects of strategic movement planning and operations, with the object of attaining an "overview", whereby the identification and solution of strategic movement problems, and the achievement of an effective strategic movement posture, would receive optimum consideration. He was also responsible for joint transportation planning, policy, and guidance, including matters pertaining to joint and international transportation operations. The SASM also headed the Joint Transportation Board. (3) (Since work on this paper commenced, the SASM has been placed under the J-4 on the Joint Staff. The effect of this change in the SASM's "chain of command" remains to be seen.)

Prior to the institution of the office of SASM, the JCS and Secretary of Defense, in developing their strategic mobility programs, had relied on the diverse inputs of the services, the operational commands and the transportation agencies. These inputs were correlated and evaluated by the Joint Staff and the DOD staff as part of the annual planning, programming and budgeting cycle. It is in this correlation and evaluation process that the SASM should now be able to perform an invaluable service. He is capable of providing the expert knowledge, objectivity and continuing interest with respect to a balanced concept of strategic mobility, that has at times been lacking

at the JCS-DOD level. (4)

In seeking to determine how the office of SASM will evaluate and compensate for the loss of the aforementioned Fast Deployment Logistic Ships in its' overall planning for strategic mobility, we must ask ourselves:

- (1) What values should a strategic mobility transportation system seek to maximize?
- (2) What kind of a transportation carrier is strategic?
- (3) What kind in non-strategic?
- (4) What kind is multi-purpose or uncertain?
- (5) What type or category of transportation is most suitable for what category or use? (5)

At present, without the FDL ships, our national strategy for non-nuclear conflict must be limited by the availability of surface transportation. This should not be the case. Strategy should dictate weapons and logistical systems, not vice versa. Having to measure our degree of response to a given situation by the amount of surface sea-lift available is like having the "tail wag the dog". Strategy, however, must of course take into account limitations imposed by available resources. A large gap always results from interplay between strategic aspirations versus logistic capabilities. It is only when we actually strive to improve our capabilities that our strategic realities begin to approach our original aspirations. (6)

Mobile support involves the design and procurement of logistic vessels. Since our capability in any future conflict will depend very much on the assets in our inventory at the commencement of conflict, it is most important that we start an intensive ship-building program for the MSC Nucleus fleet, as well as encourage

government support of some of the programs mentioned in chapter I, that might assist in re-vitalization of our commercial U.S. flag fleet.

Specific Recommendations for the SASM in the Area of Surface Transportation

(1) Strongly support the construction of MSC's new multi-purpose ship as an acceptable, but not equal substitute, for the Fast Deployment Logistics ship. The multi-purpose ship, described in the previous chapter of this paper, will have a cargo carrying capacity of about 45,000 measurement tons. The peacetime operations of these vessels can be controlled so that they will be readily available at the time of an emergency. (7) They will not be pre-stowed and ready to sail, like the FDL ship, but with their roll on/roll off, fly on/fly off capabilities, as well as their ability to carry both general cargo and containers, and with their "over the beach" discharge capability, they will be almost as flexible. If the cargo for a pre-planned strategic operation is earmarked for a particular ship and then prestowed in a warehouse along the ship's peacetime commercial route, not too much time would be lost by withdrawing the ship from service and loading it with its' strategic cargo at the first indication of an impending conflict. Three times the number of 10 multi-purpose ships already approved for charter, however, will be needed to attain the capability of the 30 ships envisioned in the FDL concept. More of these ships should be ordered, as finances permit, if they prove to be a success.

(2) Encourage DOD sponsored subsidies for the installation of gantry cranes on non-self sustained container ships, with an allowance to the operator for any economic disadvantage he incurs due to a loss of cargo

carrying capacity. Since the U.S. flag commercial fleet is being quickly replaced by container ships, it is essential to the concept of strategic mobility, that these ships be self-sustaining.

(3) Insure selectivity in the amount and type of cargo being prestowed, or loaded in containers for a possible future conflict. Non-essential cargo results not only in a requirement for more ships to carry the cargo, but in a bigger organization to handle the cargo at the destination port. Since more personnel are needed, more essential cargo is needed to maintain the additional personnel. This is a primary cause of the resulting "logistics snowball", so well described by RADM Eccles in his book "Military Concepts and Philosophy". (8)

(4) Commence developing tactics for the utilization of the new "Lash" and/or "Sea Bee" type container ships in support of intra-theater operations requiring strategic mobility, and purchase ten of these ships for the MSC nucleus fleet. The capability of these ships to discharge barges containing all sizes and types of cargo, at or near a harbor, without the requirement for piers or a developed port, would yield a fantastic gain in our intra-theater sealift capability. This type ship would require the presence of a tug or LCM pusher boat in the theater area to handle the barges, however. Arrangements should be made now to include a pusher boat as part of the cargo of any Lash or Sea Bee type vessel proceeding to an undeveloped port of the world.

(5) Commence the acquisition and storage of equipment needed for terminal operations in undeveloped areas.

Since port capabilities must be considered before starting an

influx of cargo into an area to prevent intolerable congestion and delayed ship turn-around times, and since many of our newer ships have limited or unique capabilities, it is essential that appropriate cargo handling equipment be in the inventory prior to any future conflict.

These equipments must include:

- (a) Pre-fabricated sections of De Long piers ready for towing to, and installation in, the combat theater.
- (b) An inventory of floating cranes and lighters for handling non-self-sustaining container ships and self-sustaining ships discharged in the stream.
- (c) Roll on/Roll off self beaching lighters to be used in conjunction with the discharge of ships having a Ro/Ro capability.
- (d) Developing a heavy lift helicopter capability for the discharge of containers from container ships, and for the movement of containers about a terminal area.
- (e) Expansion of the MSC nucleus fleet, as outlined in the previous chapter, to include 10 multi-purpose ships, 10 Lash/Sea Bee container ships, and a sufficient number of "handy size" tankers.
- (f) Finally, the SASM should endeavor to have a Presidential Commission formed to investigate the capability of the Merchant Marine to perform its dual mission of carrying U.S. commercial cargoes and serving as an auxiliary to the MSC fleet. Even though SASM has no authority in the area of our commercial fleet, the results of such an investigation may be startling enough for the American public, and the Congress, to instigate some badly needed remedial action.

All of the above recommendations must, of course, be eventually costed to determine their political and/or economic acceptability.

CHAPTER V

PROBLEM #5: ORGANIZATIONAL, ADMINISTRATIVE AND PERSONNEL PROBLEMS AFFECTING THE EFFICIENCY OF DEFENSE SURFACE TRANSPORTATION

The first four chapters of this paper were concerned with shortages of ships and/or hardware in both the commercial U.S. flag and MSC nucleus fleets. This next chapter will deal with the Defense Department transportation organization itself, however, and the administrative and personnel problems that are presently effecting our surface transportation capability.

(A) The Centralization Fad

Ever since Secretary of Defense Wilson assigned the Single Manager functions and responsibilities for all Airlift to the Air Force, Sealift to the Navy, and Traffic Management to the Army in 1956 (1), there have been proponents for the centralization of these three functions under one single manager for transportation.

Major General John J. Lane USA, while serving as Commander of the Military Traffic Management and Terminal Service in 1969, stated that he believed that "total control of a transportation system should be vested at one point, rather than splintered, if maximum effectiveness is to be achieved". (2) General Lane claimed that he didn't advocate that the control be placed only at MTMTS, as opposed to either the Navy or Air Force as the single manager, but only "that the authority should be exercised where it can be most effective".

"Through-movement" of cargo from the point of procurement to a destination point, utilizing various transportation modes and

eliminating the barriers of separate documentation, single factor rates, customs and mode compatibility were the prime advantages cited by General Lane for centralization of the Defense transportation agencies.

Advantages of Centralization

There are both advantages and disadvantages to the centralization of large organizations. The following are the arguments most frequently found in literature, in favor of centralization of the Defense transportation agencies:

1. Elimination of economically unsound transportation practices fostered by individual service rivalry in the running of their individual agencies.
2. Elimination of competition between MAC and commercial airlines in the carriage of Defense cargo. Proponents of centralization claim that a single agency should be assigning the cargo to either commercial or MAC aircraft, in accordance with established policy, and that MAC activity should be confined to flying their aircraft as directed.
3. Elimination of similar conflicts of interests between the Military Sealift Command and commercial operators. MSC is claimed to be interested in keeping its nucleus ships fully employed, to justify their existence, when it might be in the national interest to be assigning more cargo to the economically depressed commercial fleet. (Note: It was discussed earlier that it is not a role of the nucleus fleet to compete with the shipping industry, but to be capable of providing instant mobility in event of war.)

4. More efficient freight and passenger transportation service for the Armed Services from commercial transportation companies due to single managership and control.
5. Elimination of duplication of effort between and among Military departments.
6. Better potential for arranging "through-services". This would allow a single agency to arrange various transportation mode combinations as well as negotiate for direct service between inland points in U.S. and off-shore points in foreign countries, as well as in U.S. territories and possessions.
7. Greater recognition of traffic management as an important and necessary tool of supply management and logistical support. With the present scatter-shot operations, field commanders in overseas areas are improperly orientated as to the necessity of integrating traffic management considerations into their logistics systems.
8. Direct support of world-wide logistics missions of the military services.

Disadvantages of Centralization

Even though most people will agree that increased efficiency and elimination of waste in the Department of Defense are of prime importance, there is no way of knowing that these ends can or would be accomplished by further centralization. There are several major disadvantages to centralization, however, which will now be discussed:

1. Removal of Decision Making Authority From the Level of Expertise

Since 1949, the Navy through its' Military Sealift Command, and

the Air Force through the Military Airlift Command, have been the single managers for sealift and airlift respectively. During this time frame the inherent familiarity of these respective services with the mediums of sea and air, have been added to a great deal of technical knowledge acquired through dealings with their respective commercial counterparts. There has been, in effect, a twenty year learning process which is just now reaching fruition. Both MSC and MAC are currently in possession of the high level of expertise required to deal economically with the commercial industries, with which they are associated, and have finally reached a high level of rapport with their civilian counterparts. To remove decision making authority from these agencies at this time, to place it at a higher level in DOD, would remove the decision making authority from the level where the expertise presently exists, and require the commencement of a new learning process at a much higher level, where the significance of technical details might be overlooked.

2. Larger Organizations are Often the Cause of More, not Less Waste

Many major civilian corporations have learned by experience that centralization often results in significantly more waste than existed prior to centralization. (3) Large organizations are bulky and often unwieldy to manage.

The sheer mass of data which must be collected, processed and evaluated, as well the requirements for additional paper work and reports, actually results in an increase in the number of personnel required for administration of the system, providing an example of the

law of deminishing returns.

3. Decisions Can be Made Quicker in Smaller Organizations

Centralization, with its added layers of bureaucracy, inherently delays the making of decisions. This loss of decision making speed is often financially costly in the business world, but could be far more costly for the nation in areas which effect readiness for war or preparation for mobilization.

4. The "Tunnel Vision" of Larger Organizations

Larger centralized organizations, with their resulting lower level of expertise in any particular area, may tend to make decisions based on economy or efficiency factors alone, and may overlook the side effects of these decisions on readiness. Acquiring a peace time transportation capability at lowest cost is not as important, for example, as the maintenance of a strong and capable commercial transportation system for potential mobilization in event of war. DOD's concept of competitive bidding in the acquisition of surface transportation, for example, had the effect of making shipping rates non-compensatory for some U.S. carriers, and forcing the bankruptcy and loss of some U.S. shipping companies at a time when the condition of our U.S. commercial fleet was already serious. Had MSC not existed, conditions could have become significantly worse.

(B) The Dangers of Peacetime Efficiency in a Defense Transportation System

In the section on the disadvantages of centralization, mention was made of the fact that major decisions, based on economy or efficiency alone, may yield devastating results when dealing in the

area of defense readiness. The U.S. Merchant Marine is presently in such a devastated condition. This situation has been brought about chiefly by economic considerations. "Fiscal restraints" and/or "budgetary limitations" have caused, instead of the higher subsidies recommended in chapter one, a situation in which many government agencies ship their goods in cheaper foreign bottoms, thus subsidizing instead, a more rapid demise of the U.S. Merchant Marine. (5) In addition the Navy, which should be most interested in promoting a healthy merchant marine, has been allocating as much cargo as possible to MSC nucleus vessels vice commercial merchant vessels. MSC, in accordance with DOD directive, is also purchasing sealift space on a "lowest bid" basis, which often results in "non-compensatory" rates. The Army, by means of through government bills of lading is also attempting to drive down sealift rates.

These acts of peacetime efficiency have, in part, been the cause of the present dangerous condition of our merchant fleet, as was described in earlier chapters.

Perusal of a bibliography of defense transportation studies and research papers will reveal hundreds of detailed cost-effectiveness studies, by the Rand corporation and many other agencies, to determine optimum economic mixes of defense cargo for both air and/or sealift. In other words, vast studies, concerned with saving pennies, are being conducted while an essential industry withers before our eyes.

(C) Inter-Service Rivalry and Desire for a Greater Role

During the Author's recent transportation associated tour in

Viet Nam, many examples of inter-service rivalry and desire for a "greater role" were observed. The resultant conflicts between Army terminal authorities and the Navy's MSC personnel almost always resulted in less than optimum performance.

Desire for a Greater Role

Since the Army did not have the personnel or assets to completely fulfill their terminal operation role in Viet Nam, the Navy took over this role in I Corp, and supplemented Army capabilities in II, III, and IV Corps, taking over the shallow draft, intra-theater terminal operations in those areas. The Navy accomplished this shallow draft terminal operation mission by contracting an American civilian firm, Alaska Barge and Transport Corporation, to accomplish this work on terms that proved to be very lucrative for AB&T, and extremely expensive for the U.S. Government. As conditions in Viet Nam stabilized, the Army desired return of their terminal operator role, which would then also be performed for them by civilian contractor personnel. The Navy resisted giving up this mission and even refused to supply cost and capability data to Army authorities. The author was specifically ordered not to supply such data if and when it was requested. The resulting feud caused an era of bad feeling, during which Army and Navy transportation authorities spoke to each other only when necessary. This type of behavior by senior military officers in a war zone appeared to be most peculiar to the author.

Inter-Service Rivalry

In another example, during a period of port congestion, the author

tried in vain to encourage Army port authorities to berth an anchored and expensive time chartered modern cargo liner (charter rate \$8000 per day) in lieu of an antiquated but inexpensive General Agency Agreement ship completely loaded with cement. There was no existing high priority for the cement, and as a matter of fact, it was later allowed to remain out of doors, in the rain, for several days before it was again moved. The reason the cement was discharged first, was that statistics concerned with the port's monthly performance during that morning's MACV briefings in Saigon, indicated that the total tonnage of cargo discharged during the current month was behind that of Danang, a Navy controlled port. The Army port commander, a Colonel, was immediately ordered by his superiors in Saigon to quickly increase his monthly tonnage statistics. The Colonel responded by handling only heavy, and easily dischargeable cargo for the next several days, regardless of cost or priorities.

Finally, as a result of research for a thesis on Defense transportation, two students at the Air Force Institute of Technology commented:

"It was found that there was reluctance to discuss organizational changes and problems pertaining to DOD transportation functions due to fear of losing some historical responsibilities that have traditionally been associated with each of the military services. Because of this problem, the authors used personal interviews in lieu of mail or telephone questionnaires." (6)

The above examples are given not to cast aspersions on any individuals or organizations; but only to demonstrate that inter-service rivalry, and desire for a greater role, can have a detrimental effect in the area of Defense Transportation.

(D) Personnel Problems

The final detrimental problem effecting our nation's Defense surface transportation capability, to be addressed in this paper, is the problem of personnel manning of transportation billets. No references have been utilized for this final section, and the comments of the author are based on years of experience in the transportation industry both as a Merchant Marine officer and as a Naval officer with both a management and an MSC background. These remarks are based on both experience and intuition, however, many of them are capable of scientific analysis and verification should the reader care to do so.

The Stigma of a Transportation Billet for Line Officers

Regardless of the reason, and not attempting to ascertain if it is indeed justified, there is a stigma for "up-and-coming" line officers in being assigned to a transportation billet. The best of our young Naval officers will do their best to prevent from being assigned to such a billet, and regretfully are oftentimes successful. The result of this "stigma" is that organizations like MSC are manned, for the most part, with mediocre or less than mediocre officers. Whether it is because they are actually less than average performers, or because selection boards believe that this is the case, I don't know, but a visit to any large MSC office or headquarters will reveal

a far higher than average number of "passed-over" officers attached to the staff.

Whether the reason for this situation rests with the Bureau of Naval Personnel, for assigning low achievers to these billets, or whether the officers themselves become low achievers after having been assigned to such billets, I again don't know. But the fact remains, that MSC will not be able to do an outstanding job until it is assigned its' fair share of outstanding officers, who are proud to be serving with the command.

Flag Officers

Most flag officers, serving in MSC billets, are serving their first tour in a transportation billet. Because of the stigma, mentioned earlier, these fine officers have spent their fruitful careers avoiding such billets. Because of this situation, flag officers usually spend a good part of their initial MSC tour learning pertinent facts concerning the complicated shipping industry. Then, as they become proficient in the field, they are transferred to other billets where they will perhaps never have a chance to utilize their newly acquired knowledge again.

Transportation Thought of as a Supply Function

Transportation management in the Navy is for the most part a Supply Corps function, and as such is largely avoided or ignored by line officers. The fact remains, however, that the Military Sealift Command is commanded by, and predominantly manned by, officers of the line. Since sealift is so vitally, important to the well-being of

the Navy itself, we can not afford to let the Military Sealift Command become a step-child organization, staffed with resentful non-volunteers and/or less than mediocre "last tour" officers.

Summary

In the preceding sections, the problems of increasing demands for centralization of defense transportation agencies, the dangers of utilizing peacetime efficiency standards in a defense transportation system, inter-service rivalry, and personnel problems in manning the Military Sealift Command, were all discussed at length. Some comments and conclusions of the author concerning these problem areas will now be presented.

A Suggested Solution to the Centralization Problem

The author does not claim to have an instant solution to the "centralization" problem, however, it does appear that:

1. MSC should be maintained as the single manager for sealift. This organization should continue to operate and administer the nucleus fleet and to purchase space aboard commercial vessels for DOD cargoes as requirements dictate. When such space is not available aboard commercial liners, cargo should be shipped aboard nucleus fleet vessels. If nucleus fleet vessels are inadequate for the task at hand, bottoms should be either "voyage" or "time" chartered from commercial operators. As a last resort, the Maritime Administration should be requested to re-activate reserve fleet ships under General Agency Agreement with shipping companies.
2. MAC should be maintained as the single manager for Airlift with a

slightly adjusted role. MAC should continue to operate its nucleus cargo aircraft and to purchase commercial airlift for the movement of defense cargo as requirements dictate. I believe, however, that operation of the MAC terminals at Air Force bases should be placed under the control of MTMTS.

3. Finally, I think that the role of MTMTS should be expanded to include terminal operations for sealift and airlift both in CONUS and in overseas areas. At the present time sealift terminals in CONUS are being supervised by MTMTS, but the overseas commander takes over this function when the cargo arrives overseas. MAC, on the other hand, is in charge of terminal operations both in CONUS and overseas. (4)

A larger jointly staffed MTMTS organization, in charge of a world-wide terminal complex, would provide most of the benefits listed in the section of this paper listing the advantages of centralization, while still retaining actual sealift in the hands of the Navy, and airlift in the hands of the Air Force.

By acquiring control of all military terminal operations, MTMTS could control the "through movement" of all cargo, and could therefore eliminate duplication of effort. They would also be in a position to direct the support of world-wide logistics missions of the military services.

The sections of this chapter on the dangers of peacetime efficiency in a defense transportation system, and on inter-service rivalry, although equally as important as the centralization problem, are considered to be complete in themselves and require no further con-

clusions on the part of the author.

In regard to the officer manning problem of the Military Sealift Command, however, it is the opinion of the author that the Management/MSC post-graduate program was a good first step in the right direction. Most graduates of this program, however, will continue to resist any more than their one "pay-back" tour to MSC. A guaranteed equal promotion opportunity for officers with a transportation management sub-speciality, is required to attract fine officers to these actually challenging billets.

Since the area of surface transportation is vitally important to the Navy, an effort should be made to vocationally educate all officers filling MSC billets. A transportation-management school should be established for line officers, or the Supply Corps Transportation Management school at Oakland should be expanded to include, as students, all line officers being assigned to MSC. These officers should then be given a transportation management sub-speciality code, and should re-toured in transportation billets throughout their careers. The Army has a separate transportation corps, in which many of its officers and men devote a lifetime of service to mastering all the technical aspects of transportation. Six months of schooling for the Navys' potential transportation management sub-specialists does not therefore appear to be unrealistic.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Admiral Moorer, the nation's ranking military officer recently told the Lennon panel some extremely grim facts of life about the Navy's own rapidly diminishing sealift capability: "In the 10 year period from 1965 to 1975, our tankers will have been reduced from 25 to 10. Our cargo ships from 38 to 29. Our landing and coastal ships from 27 to 2, while our national defense reserve fleet will be reduced from 182 to 100."

"It is plain", Admiral Moorer said,....."we are going to have to depend upon our Merchant Marine in the event of a large scale national emergency calling for large movements of forces and supplies in defense of our security....."

"Unfortunately, however," he added "the current status of our Merchant Marine does not measure up..... to our present national maritime needs which are so clear."

The distressing facts, quoted above, indicate that the U.S. Navy, with its' current limited shipbuilding budget, is now relying on the assets of the U.S. Merchant Marine to provide an even greater percentage of the United States sealift capability in the event of a major conflict, as well as to augment present normal peacetime requirements. (MSC chartered commercial tankers are presently being utilized, on an experimental basis, to refuel various Navy underway groups.)

This, in fact, amounts to an increase in requirements for our

merchant marine, at a time when the industry itself is facing several major problems. The successful solution of these problems may well determine the actual survival of our merchant marine.

In this paper, the author has striven to explore the major problem areas currently confronting our nation's merchant marine, and to present his rudimentary solutions to these problems.

In chapter one, the problem of the current decay and shrinkage of our merchant fleet was discussed. Historical data was presented which revealed that our merchant marine has been subjected to similar problems throughout its' history. The quickly approaching block obsolescence of our World War II vintage break-bulk fleet, however, makes this crisis as serious as any previously encountered.

Several factors contributing to the present day shrinkage and decay of our fleet were discussed:

High Labor Costs

Merchant Marine personnel labor costs, although extremely high when compared with foreign merchant marines, were not believed to be a major cause of the fleet's present condition, since operating differential subsidies are available to shipowners, to defray the additional costs of American labor. The seaman's monthly wage of \$534 per month was not considered to be exorbitant, when compared with the wage of other American laborers. (Significant overtime pay is accrued, however, by a seaman whose ship is at sea over a weekend and, to an even greater extent, when underway on each of several weekends during a month.)

The diversion of cargo to foreign bottoms during long labor strikes

has seriously injured our fleet, however, since shippers oftentimes continue to ship their goods by means of foreign ships, after the strike has ended.

Flags of Convenience

Since most American owned ships that fly "flags of convenience" are either old and obsolete, or have been constructed and purchased in foreign countries, it is not considered that the availability of these "flags of convenience" is a major cause of the present poor condition of our fleet. This economic practice is, however, actually believed to be a result of one of the greatest factors contributing to these conditions, i.e. ill-advised and/or poorly executed government policy.

Increased Competition from Foreign Countries

The competition of many new maritime nations, as well as the rebuilt fleets of Western Europe that had been largely destroyed during World War II, is definitely a most significant factor in the decrease of cargo being made available to our merchant marine, and thus to the shrinkage of our fleet.

U.S. Government Policy

The greatest factor contributing to the present state of the merchant marine is believed to be government policy. Updated and liberalized operating differential subsidy laws were proposed as a partial solution to the problem. An expansion of the MSC nucleus fleet, and the passage of changes to the cargo preference act were also recommended as possible solutions to the problem. The author also suggested an up to now heretical idea,---the termination of construction

differential subsidies. It was proposed that less expensive foreign built ships be procured from friendly foreign countries, and that these ships be registered and operationally subsidized under the American flag. The gold outflow due to their foreign construction would be more than offset by the gold influx resulting from additional cargo freight rate revenue. It was pointed out that ample shipping assets on hand at the commencement of any future conflict will far outweigh the advantages to be gained by continued expensive nursing of our sick commercial shipbuilding industry.

Less reliance on the NATO shipping pool, in mobilization planning by our congressional and military leaders, was also proposed as a partial remedy for our merchant fleet's problems.

Lastly, the encouragement of innovation and improvisation by our naval architects and shipowners was offered as another possible solution to the fleets current problems. The recent advent of the container ship, by U.S. shipping companies, has resulted in vast savings in stevedoring man hours and ship turn around times and has revolutionized the industry. Further developments in the areas of fully automated engine rooms, submarine tankers, air-cushioned vehicles, hydrofoils, catamarans and inexpensive nuclear power, were all suggested as possible future break-throughs in the industry. Government encouragement and subsidy of research and development in these areas was recommended.

In chapter two, the container revolution in surface transportation and its' associated problems were discussed. The fact that many newly-constructed container ships are not self-sustaining was presented, as

well as the economic factors that have brought about this development. Since over half the container fleet will be non-self sustaining by as early as 1973, and since our break-bulk fleet is being rapidly replaced by these container ships, our national capability to discharge cargo in undeveloped areas of the world is quickly being lost. Department of Defense construction and/or procurement of floating gantry cranes, as well as the subsidy of installed shipboard cranes, were proposed as possible solutions to this problem.

The greater significance of a container ship loss, due to war action, was also commented on. The greater productivity of container ships is resulting in a smaller fleet. In a smaller fleet the loss of each ship becomes significantly greater.

The requirement for adequate pre-positioned drayage in a theater area was also presented as a requirement for container ship operations.

Lack of standardization in container size and hardware was also put forth as one of the greatest problems arising as a result of the container revolution. It was revealed that seven different container sizes, and 37 different lifting and tie-down devices are currently being utilized by the major U.S. container operators. Future advantages in the area of strategic mobility, that could be gained by the prior loading of mobilization equipments in containers, will be lost unless a standard size container can be specified and procured, well in advance of any future conflict.

The mis-use of containers was the next problem area dealt with. The author gave examples of poor container stuffing and utilization

procedures observed during his recent Viet Nam tour. These included the shipment of absurd commodities in containers, as well as poor cost-effective container utilization.

In the same vein, over-reliance on containers was the next problem area pursued. It was pointed out that 40 to 50 percent of all DOD sponsored cargo is not suitable for shipment in a container. Such items as aircraft, tanks, tractors, trucks, cranes, ammunition, cement, etc. are not so suitable, and will require shipment by other means. It is therefore most important that the U.S. Merchant Marine maintain an adequate capability for transporting roll on/roll off, heavy lift and break-bulk cargoes, as well as containers.

The status of the Military Sealift Command nucleus fleet was the subject of chapter three. It was explained that the decision to maintain such a fleet was based on the mission of the Military Sealift Command to "provide an immediate sealift capability in support of approved contingency or General War plans" and "to plan for and be capable of expansion in time of emergency or war as necessary". Nucleus fleet retention is therefore based on maintaining a readiness to carry out military commitments, and not on an ability to successfully compete with the private shipping industry. It should therefore follow that this fleet be composed of a number and type of ships that would be required in a time of emergency, until the commercial fleet could be effectively mobilized.

A table listing the MSC nucleus fleet by number of ships of each type, and their ages, indicated that the present nucleus fleet

composition does not meet these criteria. The dry cargo ships of the nucleus fleet consist almost entirely of antiquated World War II vintage ships that are quickly approaching block obsolescence. The number of these ships is also far below the number required for any significant degree of readiness for a major mobilization.

The remainder of chapter three dealt with the need for a vigorous nucleus fleet ship replacement program. Data on each ship type required, and the suggested numbers of each type ship considered desirable, were discussed. The author's recommended conclusions, in brief, included:

1. A ship replacement program that does not attempt to duplicate the already ample capabilities of the U.S. flag commercial container and super-tanker fleets. The limited resources available should be concentrated instead on:

2. Smaller tankers drawing less than 32 feet.
3. Additional "very heavy lift" ships.
4. Several more roll on/roll off ships.
5. Maintaining a higher state of readiness of our reserve fleet troopships.
6. The long-time chartering of an adequate number of MSC designed multi-purpose ships.
7. The acquisition of from eight to ten "Lash" or "Sea Bee" type vessels for the intra-theater distribution of cargo.

Chapter four of this thesis considered the role of our merchant marine in support of a "Strategic Mobility" concept. President Nixon's declaration, in the Nixon Doctrine, that the United States would continue

to militarily come to the aid of foreign nations being subjected to either insurgency and/or invasion, when it was in our national interest to do so, was interpreted to indicate that the concept of strategic mobility is still both current and extremely important.

The laying up of fifteen of our eighteen MSC troop transport ships, as well as the vast majority of our commercial passenger liners in the last ten years, will require that we depend on airlift for the movement of troops during any future conflicts. These airlifted troops must then be married up with their equipments, in the theater area, before actual combat operations can begin. This will require, that the equipments be either pre-positioned in potential areas of crisis, or that the material be delivered, by ship, soon after an indication of possible future hostilities is deemed to exist.

It was pointed out that as a result of lessons learned during the Suez Crisis and the Korean War, DOD determined that proper support of a strategic mobility concept would require a mix of C-5A aircraft, C-141 aircraft, prepositioned material in both the European and Pacific theaters, and 30 Fast Deployment Logistic Ships. Since that decision was made, the programmed aircraft have been procured by the Air Force, and some military material has been prepositioned in both theater areas; but the required Fast Deployment Logistic Ships have been cut from the budget by congress. With the present decay and shrinkage of our merchant marine, discussed in chapter one, and as a result of the container revolution, the subject of chapter two, the United States today would be hard pressed to speedily deliver the amount and type of

cargo needed for any major mobilization.

The mission and capabilities of the proposed FDL ships were next discussed, as well as the void in our potential sealift capability, that the scratching of these ships has created.

The chapter concluded with the author's recommendations to the Special Assistant to the Joint Chiefs of Staff for Strategic Mobility (SASM) on what actions might be taken to improve our sealift posture in a potential "Strategic Mobility" role. These recommendations included:

- (1) Support the construction and procurement of an adequate number of MSC's newly designed multi-purpose ship, as an integral part of a new and improved MSC nucleus fleet.
- (2) Encourage DOD sponsored subsidies for the installation of gantry cranes on non-self sustaining container ships.
- (3) The acquisition and advanced stuffing of one-way containers with required mobilization materials. These selectively loaded vans should be stored in port areas, ready for rapid loading aboard ship, should an international crisis become imminent.
- (4) The development of tactics for the utilization of the new Lash and/or Sea Bee type vessels in an intra-theater cargo delivery role.
- (5) Commence the acquisition and storage of equipment needed for terminal operations in undeveloped areas of the world. Such equipments would include: prefabricated sections of De Long piers, an inventory of floating cranes, roll on/roll off self beaching lighters and miscellaneous harbor craft.
- (6) Recommend the formation of a Presidential commission to investigate

the present capability of the merchant marine to perform its dual mission of carrying U.S. commercial cargo, and serving as an auxiliary to the MSC fleet.

The final problems surveyed concerning our nation's sealift capability, were contained in chapter five. This chapter lumped together many of the organizational, administrative and personnel problems affecting the efficiency of the Defense transportation agencies themselves, and unlike the previous chapters, was not concerned with either ships or hardware.

The first such problem to be discussed was "The Centralization Fad". In this section, the arguments of the proponents for a centralized transportation agency, with overall control of Airlift, Sealift and Terminal Operations, were considered. Both the advantages and disadvantages of centralization were fully examined, and the authors recommendations and conclusions listed. These recommendations included:

- (1) Retention of single manager control for Sealift by MSC.
- (2) Retention of single manager control for Airlift by MAC. This recommendation included deletion of air terminal control from the responsibilities of MAC, and would assign this function to MTMTS.
- (3) The author's final recommendation in this area was concerned with expansion of MTMTS's role to include control of world-wide military terminal facilities for both airlift and sealift. This mission would be accomplished by a larger jointly-staffed organization.

Adoption of these recommendations would retain sealift control by the Navy, airlift control by the Air Force, and by means of world-wide

terminal complex, would provide most of the advantages of a centralized transportation agency. By acquiring control of all military terminal operations, MTMTS could control the "through-movement" of all cargo, and could therefore eliminate much of the duplication of effort that presently exists.

The next organizational problem, to be aired, dealt with the utilization of peacetime efficiency standards as the sole valuation in administering Defense transportation organizations. Examples were used to demonstrate that present government regulations and statutes, concerned with economy, were strangling an already sick merchant marine, at a time when it is in our national interest to promote the health and growth of this critical industry.

Inter-service rivalry and, desire for a greater role by the individual services, were the next problem areas covered. Again examples from the authors experience in Viet-Nam were utilized to show how such rivalry and desire for role expansion, actually were the cause of a lesser level of performance and, at times, gross inefficiency.

The manning of surface transportation billets, in the Navy's Military Sealift Command, was the final problem approached in this paper. It was pointed out that, regardless of the reason, there is a "stigma" for an "up-and-coming" line officer, in being assigned to a transportation oriented billet. The best of our young naval officers will therefore do their best to prevent from being assigned to such a billet. Regretfully they are oftentimes successful. The result of this "stigma" is that organizations, like MSC, are manned for the mostpart,

with mediocre or less than mediocre officers. In most MSC offices, a far higher than average number of "passed-over officers" can be found assigned to the staff. MSC can not be expected to do an outstanding job until it receives its fair share of outstanding officers, who are proud to be serving with the command.

It was also pointed out that the flag officers assigned to command various MSC organizations have usually, because of their normal career patterns, never previously served in a transportation billet. By the time they became familiar with the intricate workings of this complicated industry, they are usually transferred to another billet, with little likelihood of ever being associated with the transportation industry again.

As a possible solution to this officer-manning quality problem, the author regards the Management/MSC post-graduate study program as a good first step in the right direction. Most graduates of this program, however, will continue to resist any more than their one "pay-back" tour to MSC, unless a guaranteed equal promotion opportunity for officers with a transportation management sub-specialty code can be provided. Since surface transportation is so vitally important to the Navy itself, an effort must be made to vocationally train all line officers being assigned to MSC billets. This could be presently accomplished at the Navy's Transportation Management School in Oakland. Line graduates of this six month program should be given Transportation Management sub-specialty codes, and immediately assigned to an MSC billet. These officers should also be repeatedly

retoured in transportation billets during their normal shore rotation assignments. Guaranteed equal promotion opportunity, with their non sub-specialist contemporaries, would attract a number of high quality volunteer officers to this program.

The author has a keen appreciation for the fact, that the problems investigated in the previous five chapters, in no way comprise a total airing of the problems currently facing the merchant marine industry. Such matters as shipboard personnel manning problems, longshoreman wages and work rules, freight rates, and a host of other economic problems continuously occupy a shipping company president's mind. As a former merchant marine officer and steamship company employee, I am very familiar with the fact that money, profit, and pleasing the stockholders are the matters of prime importance to the industry's management personnel. Strategic mobility, defense readiness, the impact of the container revolution on mobilization planning, and even the overall state of the merchant marine, are vague concepts to these managers, of little practical importance.

The five problem areas probed in this paper are those that are seriously challenging our defense readiness at the present time. We can not count on civilian industry, with their strictly profit motive, to solve them for us. These are problems that require immediate and thorough consideration by our high command!

NOTES

Preface

1. John I. Frederick, "Military Sealift Versus Airlift" Unpublished Thesis, U.S. Naval War College, Newport, R.I.: 1965, p. 10.
2. Major General Gilbert L. Curtis USAF, "Missions and Functions of the Military Airlift Command," Lecture, U.S. Naval War College, Newport, R.I.: 9 December 1971.

Chapter I

1. U.S. Department of Commerce, Maritime Administration, Background Facts Concerning the U.S. Merchant Marine, (Washington: U.S. Government Print. Off, 1968), p. 2.
2. Lane C. Kendall, "Capable of Serving as a Naval and Military Auxiliary...." U.S. Naval Institute Proceedings, May 1971, p. 210-228.
3. Richard D. Heenan, "An Analysis of American Sealift Capability for National Defense," Unpublished Thesis, U.S. Naval War College, Newport, R.I.: 1966.
4. Interview with Mr. Robert Sullivan, Vice President, Boston Local, National Maritime Union, Boston: 19 January 1972.
5. Claudio Escarpenti, The Economics of Ocean Transport (Madison: Univ. of Wisconsin Press, 1965), p. 32.
6. Richard D. Heenan, "An Analysis of American Sealift Capability for National Defense," Unpublished Thesis, U.S. Naval War College, Newport, R.I.: 1966.
7. Harbridge House, "The Balance of Payments and the Merchant Marine," Published Study (Boston, Mass.: Harbridge House, June 1968).
8. U.S. Laws, Statutes etc., Public Law 83-664, 83rd Congress, 2d sess. (Washington: U.S. Govt. Print. Off, 1968).
9. Richard D. Heenan, "An Analysis of American Sealift Capability for National Defense," Unpublished Thesis, U.S. Naval War College, Newport, R.I.: 1966.

Chapter II

1. James H. Gallaher, "An Analysis of the Effect of the Containership Revolution on Military Logistics" Unpublished Thesis, U.S. Naval War College, Newport, R.I.: 1970.
2. U.S. Dept. of Defense, Joint Logistic Review Board, Joint Logistic Review Board Report, Monograph: Summaries and Recommendations, Volume III, (Washington: U.S. Govt. Print. Off, 1970), p. 7-3.
3. Kenneth C. Lee, "An Analysis on Containerization During the Viet Nam Era and Its Effect on Military Logistics." Unpublished Thesis, U.S. Naval War College, Newport, R.I.: 1971.
4. Richard D. Heenan, "An Analysis of American Sealift Capability for National Defense," Unpublished Thesis, U.S. Naval War College, Newport, R.I.: 1966.
5. Earl C. Hedlund, "Outlook on Transportation -- A Shipper's Point of View." Sealift, June 1971.

Chapter III

1. U.S. Bureau of Naval Personnel. Military Sea Transportation Service. NAVPERS 10829-C. (Washington: 1967), p. 9.
2. U.S. Dept. of Defense, Joint Logistic Review Board, Joint Logistic Review Board Report, Monograph: Transportation and Movement Control, Volume 18, (Washington: U.S. Govt. Print. Off, 1970).

Chapter IV

1. Arthur C. Beverly, "Strategic Mobility -- An Analysis of the Concept and Its Effect on Combat Readiness and Effectiveness." Unpublished Thesis, U.S. Naval War College, Newport, R.I.: 1968.
2. U.S. Dept. of Defense, Fast Deployment Logistic Ship Project, Circular of Requirements for Fast Deployment Logistic Ships Dated 1 April 1966, as Ammended 27 May, 3 June and 12 July 1966. (Washington: U.S. Govt. Print. Off, 1966).
3. U.S. Dept. of Defense, Joint Chiefs of Staff, A Plan for the Special Assistant to the Joint Chiefs of Staff for Strategic Mobility, (Washington: U.S. Govt. Print. Off, 1966).
4. George D. Eggers Jr., "Strategic Mobility: 1967-1980." Military Review, July 1967.

5. Henry E. Eccles, Notes on Command and Control of Transportation. (Newport, R.I.: U.S. Naval War College, 21 February 1968).
6. Interview with Henry E. Eccles, Director of Logistics Studies, U.S. Naval War College, Newport; 15 March 1972.
7. Paul H. Riley, "Future of Defense Transportation in the 70s", Sealift, January 1971.
8. Henry E. Eccles, Military Concepts and Philosophy (New Brunswick: Rutgers Univ. Press, 1965), p. 83.

Chapter V

1. George C. Dyer, Naval Logistics (Annapolis: U.S. Naval Institute, 1967), p. 197.
2. John C. Lane, "Does DOD Need One Single Manager for Transportation?" Armed Forces Management, March 1969.
3. Henry E. Eccles, Logistics in the National Defense (Harrisburg: The Stackpole Co., 1959), p. 202.
4. Harold D. Gallagher, "Defense Transportation Systems for the Seventies." Unpublished Staff Study, U.S. Naval War College, Newport, R.I.: 1971.
5. James Hessman, "The Sick Whale and the Avaricious Minnow." Seapower, November 1971.
6. Jack C. Ingle and Dan B. Burden Jr., "Department of Defense Transportation: Evolution, Status and Problems" Unpublished Thesis, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio: 1968.

BIBLIOGRAPHY

- Beverly, Arthur C. "Strategic Mobility - An Analysis of the Concept and Its Effect on Combat Readiness and Effectiveness" Unpublished Thesis, U.S. Naval War College, Newport, R.I.: 1968.
- Brown, Neville. Strategic Mobility. New York: Praeger, 1964.
- Curtis, Gilbert L. "Missions and Functions of the Military Airlift Command." Lecture. U.S. Naval War College, Newport, R.I.: 9 December 1971.
- Dyer, George C. Naval Logistics. Annapolis: U.S. Naval Institute, 1967.
- Eccles, Henry E. Logistics in the National Defense. Harrisburg: Stackpole, 1959.
- _____. Military Concepts and Philosophy. New Brunswick: Rutgers University Press, 1965.
- _____. "Notes on Command and Control of Transportation." Newport, R.I.: Naval War College, February 1968.
- Eggers, George D. Jr. "Strategic Mobility: 1967-1980." Military Review, July 1967.
- Escarpenti, Claudio. The Economics of Ocean Transport. Madison: Univ. of Wisconsin Press, 1965.
- Frederick, John L. "Military Sealift Versus Airlift." Unpublished Thesis. U.S. Naval War College, Newport, R.I.: 1965.
- Gallagher, Harold D. "Defense Transportation Systems for the Seventies." Unpublished Staff Study. U.S. Naval War College, Newport, R.I.: 1971.
- Gallaher, James H. "An Analysis of the Effect of the Containership Revolution on Military Logistics." Unpublished Thesis. U.S. Naval War College, Newport, R.I.: 1970.
- Harbridge House. The Balance of Payments and the Merchant Marine. Boston: 1968.
- Harman, George M., ed. Transportation: The Nations Lifelines. New York: ICAF, 1968.

- Heenan, Richard D. "An Analysis of American Sealift Capability for National Defense." Unpublished Thesis. U.S. Naval War College, Newport, R.I.: 1966.
- Hedlund, Earl C. "Outlook on Transportation - A Shipper's Point of View." Sealift, June 1971.
- Hessmen, James. "The Sick Whale and the Avaricious Minnow." Seapower, November 1971.
- Ingle, Jack C. and Burden, Dan B. "Department of Defense Transportation: Evolution, Status and Problems." Unpublished Thesis. Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio: 1968.
- Interview with RADM. Henry E. Eccles, Logistics Consultant, U.S. Naval War College. Newport, R.I.: 15 March 1972.
- Interview with Mr. Robert Sullivan, Vice President, Boston Local, National Maritime Union. Boston: 19 January 1972.
- Kendall, Lane C. "Capable of Serving as a Naval and Military Auxiliary....." U.S. Naval Institute Proceedings, May 1971, p. 210-228.
- Lane, John C. "Does DOD Need One Single Manager for Transportation?" Armed Forces Management, March 1969.
- Lee, Kenneth C. "An Analysis on Containerization During the Viet Nam Era and Its Effect on Military Logistics." Unpublished Thesis. U.S. Naval War College, Newport, R.I.: 1971.
- Lewis, James. "Needed: A Single Manager." Armed Forces Management, September 1961.
- Research Analysis Corp. Economic Use of Military Aircraft and Sealift for Overseas Shipment in Peacetime. Washington: 1969.
- Richards, Darrie H. "Need for a National Transportation Policy." Unpublished Thesis. Industrial College of the Armed Forces, Washington, D.C.: 1962.
- Riley, Paul H. "Future of Defense Transportation in the 70s." Sealift, January 1971.
- U.S. Congress. Armed Services Committee. Adequacy of Transportation Systems in Support of the National Defense Effort in Event of Mobilization. Washington: U.S. Govt. Print. Off., 1959.

U.S. Dept. of Commerce. Maritime Administration. Background Facts Concerning the U.S. Merchant Marine. Washington: U.S. Govt. Print. Off., 1968.

U.S. Dept. of Defense. Joint Logistic Review Board. Joint Logistic Review Board Report, Monograph: Summaries and Recommendations, Volume 3. Washington: U.S. Govt. Print. Off., 1970.

_____. Joint Logistic Review Board Report, Monograph: Transportation and Movement Control, Volume 18. Washington: U.S. Govt. Print. Off., 1970.

_____. Fast Deployment Logistic Ship Project. Circular of Requirements for Fast Deployment Logistic Ships. Washington: U.S. Govt. Print. Off., 1966.

_____. Joint Chiefs of Staff. A Plan for the Special Assistant to the Joint Chiefs of Staff for Strategic Mobility. Washington: U.S. Govt. Print. Off., 1966.

U.S. Navy Department. Bureau of Naval Personnel. Military Sea Transportation Service, NAVPERS 10829-C. Washington: 1967.

U.S. Laws, Statutes, etc. United States Statutes at Large. Public Law 83-664, 83rd Congress, 2d sess., Washington: U.S. Govt. Print. Off., 1968.