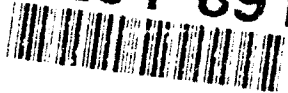
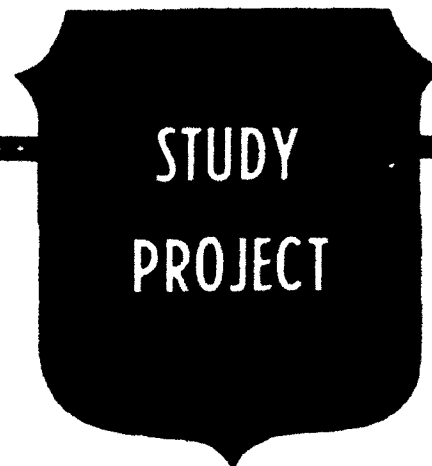


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STRATEGIC SEALIFT, A NEW ERA

BY

COMMANDER BILLIE E. CRAWFORD
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STRATEGIC SEALIFT, A NEW ERA

AN INDIVIDUAL STUDY PROJECT

by

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STRATEGIC SEALIFT, A NEW ERA

INTRODUCTION

Sealift is the greatest vulnerability in our new military strategy. Sufficient sealift must be acquired now. We have the opportunity to provide sealift at not only a reasonable cost, but we can concurrently positively impact the economy. The administration must lead all the national agencies involved in the maritime industry to work together to establish a comprehensive, affordable military sealift capability to ensure national security.

With the demise of the USSR and the new U.S. national strategy of "less forward deployed forces with the ability to respond to crisis quickly and decisively"¹, strategic sealift is critical to our military strategy. The credibility of our strategy is vital. It must assure our allies we have the ability to apply our largely continental U.S.-based force to serve our national interests, and to support our allies. It appears that the new world order will be based on economics. Our diminished economic security thus diminishes our world influence. Hence, our military capability may be even more important to our national security than before; it may well be the cornerstone of our world influence. It may well be our only influence to deter the new economic superpowers from building militaries or taking actions that could set the stage for frictions.² Future smaller military forces will meet the challenge through increased flexibility in planning, training, and employment, provided they have the capability to deploy to an area of potential crisis in sufficient time.³ Regardless of the

capabilities of our force, they would be ineffective without adequate sealift. Insufficient sealift would be a devastating vulnerability.

The administration and Congress feared insufficient sealift as our military strategy changed in 1989-90 and has discussed the problem at length. The Gulf War provided a unique and timely testing ground and reinforced warnings that sealift is deficient. The Department of Defense (DOD) conducted a Mobility Requirements Study (MRS) to define the amount of sealift required. Early in 1992, the last two U.S. flag lines threatened they would reflag in 1995 unless government reforms are implemented to help U.S.-flag operators compete in the world markets.⁴ Subsequently, the administration prepared reform legislation. In a financial battle, DOD argued that the U.S. would not need U.S.-flagships for "surge shipping" and sealift requirements, even "in the most demanding scenario", and called the reflagging issue "primarily an economic issue, rather than a national security issue." The administration testified to Congress that its proposal did nothing to strengthen the Merchant Marine because no consensus had been reached among the shipbuilders and ship operators. The legislation failed to be passed by Congress.

We must recognize that the required sealift capability must include a strong Merchant Marine, and commit ourselves to an aggressive, comprehensive strategic sealift program to support national strategy. A sufficient sealift plan must be developed through deliberate and innovative coordination among industry,

civilian government, and the Department of Defense (DOD).

This paper will review the current status of our strategic sealift capability, analyze what we need, and suggest innovative actions which should be considered to provide our required strategic sealift affordably.

BACKGROUND

The Merchant Marine

In 1936, the Maritime Act codified the importance of sealift to national security; it envisioned the United States being able to stand alone, relying on no other country to carry our war material and necessary commerce and that sealift should be provided primarily by a strong Merchant Marine. Government support of this policy languished since World War II as the priority for sealift diminished with the growing national security concept of a short warning time threat and large forward-deployed military forces. The lack of national attention to the evolution of the maritime industry has resulted in the current deficiency in a comprehensive sealift plan and capability. The industry diminished as its ability to compete in the world market diminished. There is now a great disparity in the types and numbers of U.S.-flag ships required and available, a shortage of seamen to man them, and a lack of an industrial base to build and maintain them.

There evolved a disparity in the types of U.S.-flag ships required by the military, and those available in the Merchant Marine. In a crisis, the strategic sealift mission divides easily

into two categories: (1) surge shipping during initial mobilization; and (2) resupply or sustainment shipping. Surge shipping must be capable of handling outsized, heavy, and bulky military vehicles and unit equipment, such as tanks, trucks, and helicopters. Most resupply/sustainment shipping is containerized cargo needed to meet daily consumption requirements and build reserve stocks. Competitive forces forced U.S. merchant marine carriers to abandon older self-supporting, bulk-loaded vessels with newer fast-load, -discharge container vessels that require massive pier-side gantry cranes to load and unload the standard sized cargo containers. These newer vessels are useful for sustainment shipping, but hardly useful to the DOD surge requirement.⁵

The harsh realities of the market place have also reduced our Merchant Marine to the point we have too few U.S.-flag ships to provide for strategic sealift. Less than 4% of U.S. national trade is transported on U.S.-flag ships. In 1947, there were over 2,100 U.S.-flag ships⁶, in 1955, nearly 1000. From 1980 to 1990, the fleet has declined from approximately 600 ships to 370 ships (168 militarily useful). In early 1992, the last two U.S.-flag lines threatened they would reflag in 1995 unless government reforms are implemented to help U.S.-flag operators compete in the world markets.⁷ If they do reflag, the new projection for the year 2000 is 117 ships⁸ (35 militarily useful); and this figure is good only if the Jones Act remains in effect. The Jones Act requires that only U.S.-flag vessels move cargo in and between U.S. territories. Almost none of these will be liner vessels serving America's

foreign trades.⁹ The lack of U.S.-flags reduces U.S. manpower and ships available for national security, reduces the shipbuilding and repair industrial base, and reduces the U.S. share of the world shipping market.

As the number of ships in the U.S.-flag fleet declines, so does the number of civilian merchant seafarers in the active workforce. Merchant seaman man commercial vessels and government owned (organic) or leased sealift vessels, thus, the national pool of seaman must be sufficient to man both. Some government sealift vessels are operational, many are reserve. Reserve ships are activated only in a crisis. In 1960, the U.S.-flag fleet supported slightly over 100,000 active seafarers. By 1990, these numbers had dropped to about 27,000.¹⁰ By analyzing the number of mariners available, and the number required in time of crisis, we can easily see that there is a very large and growing shortfall; we do not have enough seaman to provide sealift during a crisis.

The accepted formula for determining the availability of manning and the number required to man vessels in a crisis was developed by the Commission on Merchant Marine and Defense (COMMAD). COMMAD was established by public law in October, 1984 "to determine whether the nation has access to sufficient sealift resources to carry out the defense strategy, should the need arise." Based on industry trends, they formulated that the number of active, qualified merchant seaman available is a function of operational billets available. The average number of billets for the each ship projected to be sailing in the year 2000 is 27.¹¹

COMMAD used a ratio of 2 mariners per billet to determine the total U.S. mariner pool, and assumed that 90% of them will be available.¹² More recent studies show that only 60% were available for Gulf War.¹³ The World War II Manning ratio used by COMMAD and other studies shows that 1.5 Mariners will be required per shipboard billet during the sustainment phase of a crisis.¹⁴ Many of the government sealift vessels during peacetime are on inactive (mothballs) status with no crews, or reduced availability status having either no, or small skeleton crews. Therefore, when the government reserve ships are activated, there is a great manning requirement surge. Previous major manning studies completed before Sealand and American President Lines announced the disposal of their U.S.-flag fleets projected great shortfalls in manning availability versus requirements. Based on a previous study projecting 217 merchant ships in the year 2000, 11,880 mariners would be available to man both the commercial and government reserve ships.¹⁵ After taking out the commercial manning requirements, 5,940 mariners remain. If 90% were available to sail, 5,346 would have been available for the government reserve vessels. If only 60% were available to sail, as in the Gulf War, only 3,564 would have been available to man government reserve vessels. 4,408 seamen would be required to man government reserve surge ships in the surge phase of a crisis; a total of 6,684 would be required to man the reserve surge and reserve sustainment ships in the sustainment phase.¹⁶ Now the projected shortfall is even greater. The new 117 ships projection for the year 2000, generates

a 6,318 mariner pool. 3,159 would be required to man the commercial fleet, leaving 3,159 available to man government reserve vessels. Manning shortfalls for government reserve sealift run 1,249 for surge and 3,525 for sustainment before considering the 60% to 90% availability constraint of the manpower pool. When 60 percent to 90 percent availability is considered, the shortfall rises to 1263-2512 for surge, and 3840-4788 for sustainment. This analysis demonstrates that the future decline of the merchant fleet will create a great shortage of seaman required to provide strategic sealift.

Very few ships sail under the U.S.-flag today due to the historical and ever increasing high costs of building and operating U.S.-flag ships. The Merchant Marine Act of 1936 provided for a viable U.S.-flag merchant marine and shipbuilding industry through interlocking subsidy programs. A construction differential subsidy (CDS) was provided to U.S.-flag shipowners to buy ships from U.S. shipyards. This subsidy made up for higher U.S. construction costs. Shipowners were also paid an Operating Differential Subsidy (ODS) which was designed to level the competitive impact of wages paid to crews of U.S. ships in competition with underpaid foreign flag sailors. As recently as 1980, the industry was healthy with a mix of commercial and Navy construction. There were 22 yards around the nation building seagoing ships of 10,000 tons or more. The total shipyard employment was 187,00 workers with hundreds of thousands more employed in the supplier base, the naval architect and design community, and in supporting jobs. From 1955 through

1985 the U.S. industry delivered an annual average of 20 commercial ships and 17 Navy ships to its customers. However, in 1981 the Reagan Administration unilaterally terminated funding for the CDS and began a withdrawal from ODS contracts without demanding equivalent behavior overseas. As a result, commercial shipbuilding in this country entered a decline from which we are yet to recover. Even though the ships built for the domestic (Jones Act) trades never received CDS funds and were not affected by cessation of CDS, those operators believed that they were next on the Office of Management and Budget "hit list" so the domestic market dried up as well. Foreign governments took advantage of this unilateral U.S. Government decision to end subsidies by increasing their rate of subsidy in order to capture an additional market share. As a result, no commercial orders were placed in the U.S. from 1984 to 1991. The total number of shipyards declined from 110 in 1980 to 69 today, resulting in the loss of more than 57,000 production workers (25% of the work force) who cannot easily be replaced. It takes eight to ten years to fully train a journeyman in the shipyards. According to the Congressional Budget Office, for every one shipyard worker laid-off, the jobs of three other workers in the U.S. are also terminated. As of October 1992 there are 15 shipyards which can construct ships over 1000 tons and 400 feet in length or more, one less than 1991. A total of five commercial shipyards can still produce large ocean going commercial ships.

As the commercial market dried up, the industry almost totally relied on U.S. Navy construction, conversion, and repair.¹⁷

However the Navy's proposed FY 1993-97 shipbuilding program will be reduced to 7 ships per year, compared with an average of 19 ships annually in the 1980's. The projected downturn in naval construction activity will threaten the viability of the few remaining large U.S. shipyards. The Shipbuilders Council believes that a six-a-year Navy construction program (including the program proposed by the MRS) will sustain only one or two major shipyards and one or two smaller yards. Without question, if no government action is taken, and the U.S. shipbuilding industry is unable to successfully re-enter an unsubsidized worldwide commercial marketplace, the industry will cease to exist as an industry which can be reconstituted in the event of a national emergency.¹⁸ The U. S. Merchant Marine, the Maritime Administration, and the U.S. Navy rely heavily upon the existence of shipyards that are fully capable of performing any construction repair or activation work needed in time of emergency. Qualified workers in shipyards are becoming fewer and fewer, just as qualified seamen are becoming more and more difficult to find.¹⁹

While the U.S. shipbuilding industry has continued to decline dramatically in the past ten years, the worldwide market has been robust. Mid 1992, the world orderbook for merchant ships 100 gross tons and over consisted of 2,410 ships. Shipbuilding forecasts, in general, indicate that the demand for commercial ships will increase significantly in the 90's. The primary reason is the need for new ships to replace the world's aging merchant fleet, expansion of the world fleet by the year 2000, and increase in

world trade.²⁰ In 1992, Japan accounted for thirty five percent of all merchant vessels under construction, South Korea produced about 20 percent, and Germany produced 4 percent. The U.S share of the market was two tenths of one percent. One ship will be built in U.S. shipyards in 1993.²¹ Most of the cost difference between U.S. yards and those in Korea, Japan and Germany is due to higher U.S. wage costs. Korea's wages are lower (but rising fast). Japan's wages are about the same but productivity is higher than that of U.S. shipyards. German labor rates are 70 percent higher, but German yards use 35 percent fewer man-hours of labor. Greater productivity in Germany and Japan is due to different industrial procedures. Japan uses more modern machinery such as robotics, and standardization techniques in ship design (such as building several ships in a series) which produces economies of scale. Building customized ships as historically requested by American ship owners adds 13 to 24 percent to construction costs. U.S. flag construction safety standards inflate construction costs 7 to 11 percent over the world standard. By the late 1970s, because of the then great cost differences between the U.S. and foreign builders, even subsidizing a cost differential to a limit of 50 percent of total building cost was not enough to keep business from going to foreign builders. However, today, many costs have equalized among the great shipbuilding competitors. With very little capital investment, U.S. shipyards could build a ship (in a series) at a 15 to 20 percent higher cost than Japan and Korea. This assumes the ship is built to international versus U.S. standards and is the

eighth built in a series.²² As the gap in construction costs is closing, U.S. government subsidies could jumpstart the industry to capitalize and develop procedures to further lower costs and regain a share of the world market. Foreign governments' planned government and private industrial programs diminish our competitive ability. Japan has a deliberate maritime plan which provides more attractive financing and subsidy packages on ships that reflect Japanese industrial priorities and specific goals for the maritime sector. The yards in other countries receive indirect subsidies; Japan, Korea and Germany have averaged \$1 billion per year compared to the U.S. annual \$1 million 1987-1990. Japan and Korea rely heavily on subsidized loans for builders, investment and plant restructuring aid, and research and development loans.

Very few ships sail under the U.S.-flag due to high operating costs. Actual operation costs are higher primarily due to the technology of our vessels and the lack of U.S. government intervention. Our U.S.-flag fleet does not have the newer crew-minimizing technology that has been built into the newer foreign built vessels. Foreign countries also reduce costs by cargo reservation laws which require that a certain percent of export cargo be carried on nation-flag vessels. These laws are normally used as a bargaining chip during bilateral trade agreements. The major maritime nations (Korea, Japan) provide construction and operation subsidies to increase their competitiveness.²³

The maritime industrial base has declined commensurately and with low volume, costs have risen. The effect on suppliers has

been predictable - if you order a bottom blow valve for a marine boiler today, you will be told it requires a special production run and may be available in six to twelve months at a cost 15 times its comparable cost in 1960.²⁴ Due to low order volume, the vendors' time to respond is longer, thereby adding to cost.

The Government Sealift Fleet

The government has filled in the voids in type and numbers of sealift vessels required for the evolving national strategy by buying and maintaining ships no longer available in the merchant marine. Thus, a government strategic sealift fleet has not been deliberately planned, rather it has grown in response to the failing and changing maritime industry. (It is important to note that as the government has acquired organic vessels to solve the capacity problem, the manpower shortage has grown.)

After WW II the National Defense Reserve Fleet (NDRF) was established to provide the extra tonnage capability required during full mobilization. This fleet would augment the Merchant Marine. This fleet has dwindled from 1,400 to 200. In 1976 the Maritime Administration (MARAD) concluded that NDRF ships would not meet the required 5- to 10- day reactivation time; they would take a minimum of 30 to 40 days.²⁵ None were used during the Gulf War.

During the 1980's, analysis of sealift requirements for contingencies involving conflict against Soviet and Soviet-allied forces identified a need for fast sealift ships and prepositioned ships. The requirement was based on the scenario of a short-

warning NATO-Warsaw Pact conflict and the need to lift six-odd U.S. divisions to Europe quickly so they could join the four-odd U.S. divisions forward-deployed in Europe and meet the U.S. commitment to NATO to have a total of 10 U.S. divisions in their assigned positions and ready to fight within 10 days of a mobilization decision.²⁶ The Navy declared sealift as its third major mission and invested \$7 billion on sealift. Eight foreign built Fast Sealift (FSS) container ships (SL-7's) were purchased from Sealand Corporation and converted to roll on, roll off (RORO) ships capable of transporting military unit equipment. They have a capacity for cargo containers, and are equipped with 50- and 35- ton-capacity cranes to assist in offloading non-rolling equipment. Because of rising fuel costs Sealand had determined they were too expensive to operate commercially. They, together, could carry an entire Army armor or mechanized division including combat service support equipment, or the majority of unit equipment for two divisions at 30 knots.²⁷ According to the Shipbuilders Council of America, the combined capacity of the 8 fast sealift ships is equal to 2,100 C-5 and C-141 sorties. A single fast sealift ship can transport the equivalent of 200 C-17 sorties.²⁸ They are owned by the Navy and maintained on a four day readiness status (ROS), and manned with reduced civilian crews. Today, 2 SL-7 type fast sealift ships could be bought for the price of a single C-17 cargo plane.

Concurrently, the Navy established the Ready Reserve Force (RRF) of 96 ships including 10 crane ships, 2 aviation logistics support ships, 2 hospital ships, 17 RORO, and other former dry

Concurrently, the Navy established the Ready Reserve Force (RRF) of 96 ships including 10 crane ships, 2 aviation logistics support ships, 2 hospital ships, 17 RORO, and other former dry cargo ships and tankers no longer economically suitable for commercial operations.²⁹ They are owned by the government and maintained by MARAD on a reduced readiness status, manned by skeleton civilian contract crews and can be activated in 5, 10, or 20 days.

In response to operational concepts of flexible forward deployment to the Gulf region, 25 Maritime Preposition Ships (MPS) and Afloat Preposition Ships (APS) were established in the 1980's to support the Marine Corps and Army/Air Force respectively. There are 13 specialized cargo ships organized into three MPS squadrons; each carries all equipment and supplies, including fuel and water to support a U.S. Marine Expeditionary Brigade (MEB) of 16,500 people for 30 days. Under the concept, Marines are flown to the region of operation, where they join the equipment and supplies delivered by the MPS ships. The MPS concept calls for the MEB to be ready for operations 10 days after the MPS ships arrive and begin unloading their cargo.³⁰

Twelve prepositioning (PREPO) ships are based mostly at Diego Garcia, alongside the MPS squadron. They contain equipment and petroleum products for the Army and Airforce, as well as a deployable Navy fleet hospital. The primary purpose of these ships is to deliver initial supplies to sustain Army and Air Force units deploying to the Persian Gulf until a continuing supply becomes

available through either host country support or establishment of a continuous train of regular sealift ships from the U.S. The MPS and PREPO are long term commercial chartered ships manned by contract civilian crews.

The Gulf War

The Gulf War provided a testing ground for our sealift assets and program. On one hand, the operation was potentially as lift-stressful a scenario as one can devise for the U.S. in the post-Cold War era. In conducting the operation, the U.S. confronted one of the largest and most heavily armored ground forces in the world in an area that is about as far away from the U.S. as one can get. The United States had vital interests at stake. The region had no forward deployed ground forces and limited in-country prepositioned stocks. Circumstances required a very rapid defensive force buildup.³¹ In total, 3.2 million short tons of dry cargo and over 6 million tons of petroleum product were delivered from August 1990, through March 19, 1991. Ninety-five percent of the total cargo went by sea, 80 percent of dry cargo sealift was carried on U.S.-flag ships.

On the other hand, the unusually favorable sealift environment is the first and most important factor to consider when analyzing sealift performance in the Gulf War.³² More sealift, and specifically, more U.S.-flag sealift and manpower would have been required had any of the following been less favorable: 1. The coalition forces controlled the air and shipping lanes. The Iraqis

were not attacking sealift ships either at sea or while they were in port; there was no ship attrition. 2. There were six months to build up the inventory of equipment and supplies to launch offensive operations. 3. Access to modern port facilities in the Persian Gulf expedited the offloading of cargo, and there was no battle damage to ports. 4. The United States had near unanimous support overseas for what was a relatively popular effort, which meant that foreign flag ships and crews were readily available. 5. There were no other conflicts in the world which competed for world shipping. 6. Shipyards with large drydocks were available in-theater. 7. Ample supplies of ship fuel were available in the Gulf. Only 41 tankers, 14 of them foreign-flag ships were active on 25 February. Otherwise, many more tankers would have been required. The standard planning rule of thumb used by logisticians is that to support a war of moderate intensity, it takes twice as much fuel (expressed in tons) as the total weight of the combat and combat support equipment needed. 8. Most water support was provided in-theater. Otherwise, it would have been necessary to obtain 40 to 60 clean product tankers to support the deployed forces.³³ 9. The shipping required to support the U.S. economy was not interrupted. As General Hansford T. Johnson, CINCTRANSCOM testified before Congress in February 1991, "it is crucial to understand that there were many favorable circumstances that contributed to our success (in the Gulf War)...if any of the factors had not been in our favor (as discussed above), our challenge would have been much greater."³⁴

A review of the mix of ships used in the Gulf War and their performance illustrates the effectiveness of our current assets. As of 13 September, 38 days after the President's order to deploy forces to the Middle East, the Navy's strategic sealift force had grown to 132 dry cargo ships, 27 tankers, and two hospital ships, an increase of 168 percent.³⁵ Three days after the President's 7 August deployment order, MARAD began activating RRF ships. Eight days after the President's deployment order, the first MPS and APS ships were offloading in Saudi Arabia. Thirteen MPS were used and they delivered 5.2 percent of all dry cargo; the twelve APS delivered 3.7 percent. All 8 FSS ships were ready to sail within 96 hours; one broke down and was offloaded and not used again during the conflict. The FSS delivered over 10.2 percent of all the dry cargo. Forty four RRF ships were activated in Phase I (7 August-6 November 1990), only about 25 percent were on time, and about half of the ships were more than five days late. In Phase II (7 November -18 February 1991), only 4 of 26 ships activated were on time and more than half were at least ten days late. RRF ships lifted 22 percent of all the dry cargo, including a third of all the unit equipment. Additionally, U.S.-flag commercial charters, mostly short term, delivered 15.2 percent, and foreign flag charters lifted 22.6 percent of all dry cargo.³⁶ In total, 70 of the 96 RRF ships were activated.³⁷ A (barely) adequate merchant marine manpower pool existed to man the ships of the RRF, the 8 FSS, and other activated shipping. All maritime training schools accelerated activity to both train and recertify seafarers for

Desert Storm. Subsequently, many schools were nearly emptied when both students and instructors served in the war.

Chartered ships were readily available and cost effective in the Gulf War. Most of them were of foreign flag. Of the 191 ships chartered to carry unit equipment and related support, only 29 were U.S. owned (10 U.S.-flag). Foreign-flag ships were about 70 percent of the charters used in phase I, and about 85 percent of those used in Phase II (mostly from foreign companies that possessed the militarily useful vessels (mainly RORO) that U.S. firms lacked³⁸). (It is significant to note that one of these ships with a foreign crew refused to sail into hostile waters.) The U.S.-controlled charters (U.S. owned, not U.S.-flag) accounted for less than 30 percent of the total. Charters were used instead of activating more RRF ships for several reasons. 1. They were more responsive than RRF ships. In Phase I, when ships usually were needed as soon as possible to accommodate cargo that was ready to load, 24 of 49 ships chartered arrived at their SPOE within 10 days of being chartered. Only 14 of 44 RRF ships arrived at their SPOE within 10 days of receiving an activation order. If RRF ships had activated on time, 26 of 44 would have been at their SPOE within 10 days. 2. ROROs were preferred, and there were only 17 in the RRF. 3. There was some worry that crews would be increasingly hard to obtain as more and more RRF ships were activated. 4. Charters are much cheaper. The per-diem charter cost for RO/ROs was averaging about \$23,000. Breakbulk ships cost about \$10,000 per day. RRF ships daily operating cost was

\$40,000. RRF ships cost an average of \$1.6 million per ship to activate, \$2 million to deactivate. In addition, charters are usually made only for a one-way trip. They are less expensive to employ than the RRF.³⁹

Mobility Requirements Study

In an effort to establish the necessary mobility requirements, in 1991 Congress requested the Department of Defense (DOD) to conduct a Mobility Requirements Study (MRS) of which Volume I, (mobility asset requirements), was completed January 1992. After review of requirements, an inventory of current assets, and analysis of performance in the Gulf War, the MRS concluded that to support national interests, deployment capability must increase through expanded investment in sealift, pre-positioning, U.S. transportation infrastructure and airlift.

The MRS identified the shortfall between our current capability and that needed to support "accepting no more than moderate risk" in a Middle East or Persian Gulf crisis. "The capability to handle the Middle East or Persian Gulf scenario with moderate risk will be adequate for any other major regional contingency." It stated "the moderate risk requirement yields a strategically prudent force that is fiscally responsible". In addition to scenario-based analyses, the study closely examined the experience gained in the Gulf War. As stated in the MRS, while the recommendations are based on moderate risk, "the force recommended by the unified commands normally are based on a low risk

requirement and can require significantly more mobility assets than are on hand or programmed". More importantly, "the moderate-risk capability cannot handle a second, concurrent major regional contingency beginning sequentially (and continuing concurrently). Substantial coercive requisitioning of commercial shipping reduces risk in the second theater."

In short, the MRS stated that the Army must be able to employ 3 divisions, 1 light or airborne division by air and 2 heavy divisions by sea into a theater of operations by C+30. An afloat heavy combat brigade with support must be ready to fight by C+15. By C+75, the remainder of a 5 division contingency force and its associated support equipment must be in the theater of operations. To end the shortfall in fast strategic shipping for this scenario, 20 new ships, Large, Medium Speed, Ro/Ros (LMSRs) must be built. 11 will be used for surge sealift capable of deploying heavy forces 8700nm in no more than 15 days port-to-port. The equivalent of a battalion-sized task force can be transported on each surge sealift vessel.

The Army's APS program will expand from 4 to 15 ships. The focus is on prepositioning supplies and equipment useful to a force of any mix, regardless of the force deployment sequence. Contract shipping and ship conversions will be used until the new construction prepo ships are available. Nine of the 20 new LMSRs will be used as part of the APS fleet.

The approximate delivery schedule for the LMSRs is 4 APS ships each year for 1994 and 1996, and 1 in 1997; 2 surge vessels in

1996, 5 in 1997 and 4 in 1998. Two additional container vessels will be acquired for APS in 1994 for the interim until the total 9 are built. The study further recommended enlarging the RRF by 46 ships to 142 ships by FY 97.

While the MRS defines the military sealift required in some scenarios, it falls short of defining the national strategic sealift requirement. There are four major flaws with the MRS: 1. It admittedly defines requirements in terms of affordability. Only solutions, never requirements, should be constrained by affordability. Therefore, the requirements defined fall short of providing sealift sufficient for our military strategy or national security. 2. The sealift recommended could not support the scenario described in the study; there is still inadequate manning to activate the proposed RRF. 3. By focusing on reduced requirements, it fails to realistically recognize the full sealift requirement which would be required for other very possible contingency scenarios. It does not recognize the necessity of providing sealift to support concurrent or unpopular contingencies, or the U.S. strategic commercial market during a crisis. Sufficient sealift can only be provided affordably by a combination merchant marine and organic fleet. 4. It does nothing to save the shipbuilding/repair industry.

Now that sealift is so critical to our military strategy and national security, it is necessary to look at our potential threats realistically to determine requirements. The MRS does not consider the possibilities of more than one U.S. conflict, an unpopular

unilateral conflict, a boycott against the United States, or other conflicts in the world competing for world shipping. It does not solve the problem of the critical manning shortage projected for the year 2000. The organic fleet defined cannot provide sufficient sealift for our national security. A soley organic fleet to provide enough sealift is unaffordable. The solution must include both the U.S. merchant marine and our organic assets, as it has in the past.

DOD stated that in a worst-case military scenario, defense planners foresee a possible need for 18 to 25 commercial ships beyond those available from the proposed RRF and from short-term charters. This estimate allowed for the possibility that American President Lines LTD. and Sea-Land Service, Inc, the two largest U.S. flag operators might leave the American flag. Both positions are critically shortsighted. It is imprudent to skimp on our most vulnerable military capability.

RECOMMENDATIONS

Foremost to solving the total maritime problem is the need to obtain a national consensus that: 1. agrees on the importance of solving the problem and 2. concurs on the methods of solving it. Today, with our reduced forward deployed forces and military defense strategy to "project power in response to crises"⁴⁰ sealift requirements have grown immensely. We must face the fact as a nation that sealift is of primary importance since we have few forces deployed forward, since we are dependent on sealift to apply

our military capability, and since we are dependent on the ability to import and export to support our strategic capability as well as our national economy. The requirements defined by the MRS are incomplete. DOD, in coordination with other government agencies, must now define a comprehensive sealift requirement to support our national security strategy and obtain it quickly and affordably.

The largely government-owned strategic sealift ship program of the 1980-s cannot be a substitute for a strong commercial U.S. flag merchant marine, capable in the words of the Merchant Marine Act of 1936 "of serving as a naval and military auxiliary in time of war or national emergency." We must achieve a balance between the commercial merchant marine and the sealift assets of the DOD by coordinating with civilian departments of the U.S. government, and particularly the Departments of State, Commerce, and Transportation.⁴¹

We have seen that we cannot man the primarily organic fleet proposed by the MRS. Since the merchant marine continues to dissipate, DOD's stated requirements for ships in the RRF have grown from 77 ships in 1982 to the present goal of 142 ships. Since the manning of only 72 ships activated in Desert Storm was difficult, how can we expect to man more? An organic fleet on reduced operating status cannot support the manpower base nor the shipbuilding and repair base required for activation.

The administration must recognize that the strategic sealift problem cannot be solved by DOD alone. It must be done with the combined effort of government and industry.

We must look at innovative ways to revitalize the industry. The maritime industry has gone the way of much industry in our nation, which has resulted in the reduction of U.S. productivity (and standard of living), relative to that of other advanced nations. In the period 1978-1985, industrial productivity rose by about 3 percent per year in West Germany and by about 4 percent per year in Japan. But it rose less than 1 percent annually in the U.S. During 1985, productivity fell by .2 percent. Low relative productivity persists. One of the primary reasons for our sag is the failure of American industry to invest in enough modern capital equipment to stay abreast of its Western partners. Profit-making U.S. managers have been unwilling to sacrifice profit today to invest in high future growth. Our competitors were more willing to make the long term decision because capital in Japan and Europe was much more readily available than in the U.S. People save more in those countries (making more investment money available), and many foreign industrialized nations use the power of government to support and finance their big, internationally oriented businesses. The governments work closely with banks and industrial leaders, secure large bank credits for certain firms, thus, paving the way for massive entry into the international arena, equipped with the latest technology.⁴² Thus, the U.S. has not been competing on even terms. A public-private structure can serve to lift sights higher and provide the wherewithal to attempt ambitious programs. U.S. government and industry must learn to organize its effort in a new setting that is global in scope and where the traditional division

between government and business is blurring. Therefore, given its strategic importance, the maritime industry should be the first test ground for government to practice the methods used by other nations to gain a place in the competitive market.

In order to provide for sufficient sealift, we must solve the larger U.S. maritime problem. In summary, U.S. maritime resources have been declining for a number of years. Ships of the U.S.-flag fleet are decreasing in number, civilian shipyards have closed and are now constructing no U.S. merchant ships, and the number of active seafarers capable of manning merchant ships quickly has also dwindled. The basic problem is the lack of competitive cargo transported on U.S.-flag ships. If U.S. carriers could attract more cargo, more U.S. ships would be sailing, there would be some additional repair and construction business for our shipyards, and these ships would be actively employing more seagoing manpower. This solution to the nations's maritime problems--the lack of competitive shipping--must be resolved. The lack of competitiveness results from a complex combination of: 1. foreign subsidy of National flags, 2. lower operating costs with lesser crew requirements and third world crews, and 3. international cargo preference schemes.⁴³ The administrations of the last twelve years have generally opposed cargo preference initiatives and have failed to stop foreign subsidies in trade agreements. Negotiations within the Organization for Economic Cooperation and Development, aimed at eliminating all subsidies to

the shipbuilding and ship repair industry, have collapsed after nearly three years.⁴

In order to gain cargo, cargo reservation laws to guarantee cargo, combined with operational subsidies to compete for world cargo should be implemented. Indirect subsidies and government sealift ship orders should be used to encourage competitive shipbuilding methods and capitalization. DOD requirements should be built for dual commercial lease and charter wherever possible.

It is time to consider government regulation as other nations do to assist the maritime industry to catch up with the world competitors. Currently, our nation has approximately 370 privately-owned U.S. flag ships carrying about four percent of our maritime trade. The balance is carried on foreign-flag ships. Total shipping costs for exports (only export figures are documented) from the U. S. exceeded \$10 billion in 1990. Imports exceed exports. The economic policy of our nation aspires to increase these figures dramatically in order to improve the economy. The amount of money exported to foreign ship owners and foreign treasuries for shipping U.S. imports and exports exceeded \$20 billion in 1990 alone. Enactment of a cargo reservation policy similar to other nations, for example, that would mandate 15 percent of all exports and imports be carried in U. S. flag ships would more than triple the number of US flag ships and, thus, increase national sealift assets. The manpower pool, revenue to ship operators, taxes paid to the U.S. treasury by operators and seafarers, the shipbuilding and mobilization base would triple, and

our status as a maritime power with strong commercial fleet would be restored.⁴⁵

We must find a way to build cheaply to keep our costs down and compete with the rest of the world. Such a method is by building ships in a series as we did with the Liberty ships of WW II and as the Japanese and Koreans do today. Series ship designs can range from identical hull with different interior designs, to 100% identical designs. Such mass producible ships reduce the cost to builders, commercial operators and DOD. Using this method to order our planned military surge sealift ships will jump start our lagging industry in the use of our competitors methods. Such ships can also ease the transition of mariners going from one ship to another, and greatly reduce training costs. We would also save on volume construction costs.⁴⁶

To make sealift as affordable as possible, we must try to build military sealift ships which may be used by commercial industry during peacetime. For example, the Navy's Strategic Sealift Implementation Plan for the expenditure of funds authorized and appropriated for sealift in fiscal years 1990 and 91 found that a build-and-charter program is the most cost-efficient solution to meeting military surge shipping requirements. Under such a concept, the government would build ships possessing both commercial utility and military capability to be leased to industry. The Gulf War proved commercial ships were available faster than ships on reduced operating status. Increasing the number of operating vessels would increase the manpower

availability base. Commercial industry would benefit by avoiding massive capital investment in obtaining urgently needed replacement tonnage. The government would benefit with a continuous flow of cash return during the 25-year life of the ships. If leased to industry, such a ship would return \$137 million to the government during its 25 year working life.⁴⁷ These are in addition to the other benefits of increasing the U.S. flag fleet and corporate entities, and employing merchant seamen, all of whom would pay income taxes. It would stimulate the ship industrial base and reduce the cost of naval and commercial ship construction and repair.

All sealift ships should be built with the most modern crew-saving technology used by foreign flags. This will reduce the ultimate number of seamen required in surge and mobilization and, again, assist industry and government in catching up to our competitors.

Money continues to be spent on mothballing the NDRF. We learned during the Gulf War that the 116 ships have outlived their usefulness. Scrap sales at current market levels would bring roughly \$59 million at \$85 per ton to the National Defense Sealift fund, and eliminate associated maintainance costs.⁴⁸

It is also time to reconsider civilianization of Navy auxiliary ships. The 1977 Civilian Manpower Study concluded that the cost of civilian manning of such ships ascended in the following order: Naval Civil Service manning, Merchant Marine manning, and naval manning; and that manning of the 95 ships

considered in the study would transfer 11,873 jobs to the civilian sector while reducing Navy personnel requirements by 27,000. A later Booz Allen Report suggested 60 Navy fleet auxiliaries and 61 MSC nucleus fleet vessels could be operated by private enterprise under the control of the government. Experience in contract manning of many fleet support and strategic sealift ships proved very effective in the Gulf War, and their performance and response was outstanding. Since completion of those studies, maritime unions have shown their willingness to reduce manning and to work under modified work rules and reduced wages. Current maritime labor wage levels equal 1983 levels, while civil service mariners wages have increased during the past decade. Both studies mentioned the higher utilization rate of ships crewed with civilian merchant mariners. Commercial ships rotate crews and keep ships at sea. Thus fewer ships need to be kept in an active status to meet day-to-day requirements for sealift and fleet support. Also, use of contractor employees would reduce the major expenses in accrual of retirement liability which accompanies civilian employment.⁴⁹

In summary, the new national strategy which emphasizes strategic mobility, combined with an austere economic policy, sets the stage for innovative coordination among private industry, the civilian government and DOD to accomplish a coordinated, cost effective strategic sealift capability.

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