Maritime Administration

1991 Annual Report

April 1992

U.S. Department of Transportation
Andrew H. Card, Jr.
Secretary

Maritime Administration
Captain Warren G. Leback
Maritime Administrator

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Washington, DC 20590

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THE SECRETARY OF TRANSPORTATION

WASHINGTON, D.C. 20590

April 14, 1992

The Honorable Dan Quayle
President of the Senate
Washington, DC 20510

The Honorable Thomas S. Foley
Speaker of the House of
Representatives
Washington, DC 20515

Dear Sirs:

I have the pleasure of forwarding to you the annual report of the Maritime Administration for fiscal year 1991 as required by the Merchant Marine Act, 1936, as amended.

Sincerely,

Andrew H. Card, Jr.

Enclosure

U.S. Department
of Transportation

**Maritime
Administration**

Introduction

The Annual Report of the Maritime Administration (MARAD) for the fiscal year which ended on September 30, 1991, is submitted to the Congress in accordance with Section 208 of the Merchant Marine Act, 1936, as amended.

It incorporates reports required by the Congress on acquisition of obsolete vessels in exchange for vessel trade-in credit; war-risk insurance activities; scrapping or removal of obsolete vessels owned by the United States; and U.S flag carriage of Government-sponsored cargoes.

In fiscal year 1991, MARAD played a key role in transporting support supplies for Operation Desert Storm. The Agency's principal focus was activation of a total of 79 of the 96 Ready Reserve Force (RRF) ships that were officially activated or participated in Desert Shield/Desert Storm/Desert Sortie operations. (The auxiliary crane ships FLICKERTAIL STATE and GOPHER STATE were activated for the Department of Defense's (DOD) Operation Steel Box, but also later participated in the Persian Gulf conflict.)

The activations began on August 10, 1990, eight days after Iraq invaded Kuwait. Of the total cargo transported to support Allied Forces in the Persian Gulf, 95 percent went by sea. Very significantly, almost 80 percent of the sealift required for Desert Storm was carried on U.S.-flag ships. The Agency's Office of Ship Operations was presented the Department of Transportation's highest award, the Secretary's Gold Medal, early in fiscal year 1992, for the successful activation of RRF vessels to transport urgently needed supplies and materials to the Persian Gulf during Operations Desert Shield/Desert Storm.

MARAD, in conjunction with DOD, completed a task force report on the RRF and made joint recommendations to assure reliable future activations.

Following the cessation of hostilities, the RRF participated in the return of military equipment to the United States and overseas facilities. As of September 30, 1991, 58 RRF vessels remained under military control.

In other significant activities during the fiscal year, the Maritime Administrator led negotiations which culminated in the signing of two maritime agreements. A U.S./U.S.S.R. Maritime Agreement established a basis for the development of trade and shipping relations. This agreement will be reviewed to maintain the strengthened maritime relationship with Russia, given the demise of the Soviet Union. A new equal access agreement with Brazil, signed in July 1991, confirmed Brazil's commitment to further reduce government control of bilateral liner cargo while ensuring equal access for U.S. carriers to Brazilian Government-mandated liner cargo in the United States/Brazil trade.

Agreed Minutes with the Republic of Korea, also signed in July 1991, committed the Korean Government to allow U.S.-flag carriers to contract directly for rail services in Korea and operate trucking services beginning in the south, with eventual extension to the whole country.

In support of the Department's National Transportation Policy, MARAD completed Phase I of the *Landside Impediments to Port Access Study* which found that landside impediments substantially interfere with port operations. Several Department of Transportation agencies and State, local and industry groups participated in this intermodal effort. Phase I focused on container cargoes. Phase II, now underway, focuses on breakbulk and, particularly, bulk cargoes.

No new commercial vessels of 1,000 gross tons or larger were delivered by U.S. shipyards in FY 1991, but three oceangoing commercial vessels, all for the Jones Act trade, were under construction on September 30, 1991. U.S. commercial shipyards continued to be awarded all of the U.S. Navy's new construction contracts.

Warren G. Leback

CAPTAIN WARREN G. LEBACK
Maritime Administrator

THE MARITIME ADMINISTRATION, THE MERCHANT MARINE, AND SEALIFT IN OPERATIONS DESERT SHIELD/DESERT STORM

Operations Desert Shield/Desert Storm was the largest military lift operation in more than 20 years and the most concentrated lift operation since the Second World War. The vulnerability of airlifted troops in Saudi Arabia necessitated rapid and massive deliveries of equipment and supplies. In total, 3.2 million short tons of dry cargo and over 6 million tons of petroleum product were delivered through March 10, 1991, when the "resupply" effort officially ended.

The coalition victory reconfirmed the importance of the American merchant marine to maintaining an adequate and reliable sealift lifeline to support deployed forces. Although the speed and essential role of airlift should not be underestimated, nothing can match sealift in terms of lift capacity. The first Fast Sealift Ship to arrive in the Middle East, one of the SL-7s maintained by the Military Sealift Command (MSC), delivered over 15,000 tons of cargo. It would take 200 C-5 transport planes to match that level of carriage.

Of the total cargo needed to support Allied Forces in the Persian Gulf, 95 percent went by sea. This figure is consistent with historical experiences. Very significantly, almost 80 percent of the dry cargo sealift required for Operations Desert Shield/Desert Storm was carried on U.S.-flag ships. Chart 1 shows the sources of vessels which carried dry cargo as well as the tonnage and percentage of cargo transported. Chart 2 shows the vessels that participated in Operations Desert Shield/Desert Storm.

The principal focus of the Maritime Administration (MARAD) in Operations Desert Shield/Desert Storm/Desert Sortie was activation of 79 of the 96 Ready Reserve Force (RRF) ships. MARAD began activating RRF ships on August 10, l990, eight days after Iraq invaded Kuwait. The Agency also played a major role by providing War Risk Insurance to almost 400 vessels and in interacting with commercial operators.

MSC is responsible for obtaining sealift resources and directing the operation of ships for equipment and supplies for U.S. military forces. From the beginning of Operations Desert Shield/Desert Storm, MARAD maintained close contact with MSC and several other components of the Department of Defense (DOD), as well as with the Coast Guard and numerous elements of the civilian commercial transportation industries. Operations Desert Shield/Desert Storm reinforced the strong ties between the commercial transportation industry and America's military establishment.

To procure sealift, there are several ways the U.S. Government can gain access to the commercial fleet: through commercial operations in the market, activation of the Sealift Readiness Program (SRP), or requisitioning. The response of commercial ship operators alleviated the need to resort to the call up of ships under the SRP or requisitioning.

The first ships to arrive in Saudi Arabia, the Maritime Prepositioning Ships (MPS), delivered 5.2 percent of all the dry cargo. These 13 vessels are deployed in three independent squadrons. Each squadron carries the equipment and 30 days of supplies for a marine expeditionary brigade. Hence, airlifted troops marry up with their sealifted combat equipment.

Another group of 12 vessels, the Afloat Prepositioning Ships (APS), provide prepositioning of ordnance, supplies, and fuel for the rapid deployment requirements of the Army and Air Force, and carry a field hospital. The APS carry the heavy equipment and sustaining support which require sea transportation. In total, these ships lifted 3.7 percent of all the dry cargo. Both groupsof prepositioned ships, the MPS and the APS, are privately owned, U.S.-flag vessels under long-term charter to MSC. The successful performance of these ships strongly validated the concept of maritime prepositioning.

Additional dry cargo was carried by seven Fast Sealift Ships and by RRF ships. The Fast Sealift Ships, maintained by the MSC on a 4-day readiness status, delivered over 10.2 percent of all the dry cargo. The RRF ships, which are maintained by MARAD on a 5, 10, or 20-day readiness status, 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.

To move additional sealift, MSC entered into a space agreement, called the Special Middle East Sealift Agreement (SMESA), with seven U.S.-flag ocean carriers. Under SMESA, the carriers moved up to 2,700 FEUS, 40-foot equivalent units, per week, as a modification to their normal commercial service. By mid-March 1991, 21.2 percent of all the dry cargo delivered to the Persian Gulf region had moved under the SMESA arrangement.

Despite its massive logistics nature, Operations Desert Shield/Desert Storm did not represent a worst case scenario. Many favorable factors contributed to the success of the sealift operation:

- The coalition forces controlled the air and shipping lanes.
- There were six months to build up the inventory of equipment and supplies to launch offensive operations.
- Access to modern port facilities in the Persian Gulf expedited the offloading of cargo, and there was no battle damage to ports nor attrition of shipping at sea.
- 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.
- Shipyards with large drydocks were available in-theater.
- Ample supplies of ship fuel were available in the Gulf.

Although RRF ships achieved a very high 93 percent reliability level after being tendered, and the phased activation of RRF vessels mitigated difficulties in repairing and activating vessels and lining up crews, problems were encountered. Of the 79 ships eventually activated, only 21 had ever been "test activated" since entering the RRF. Some ships had not been operated in 14 years.

It is clear that, had the Persian Gulf conflict required the simultaneous activation of all 96 RRF ships, substantial delays would have resulted due to shipyard limitations and crew shortages. Vessel activation requires intensive shipyard work, about 1,100 man-days per ship before sea trial. Some ships could not be activated on time because they were laid up far from activation facilities. Activation delays were also experienced as a result of crewing problems, including delays due to crew error.

The cooperation received from the unions in crewing was outstanding. Most of the RRF ships were crewed within 4 or 5 days. A slower response rate was experienced on some ships for some shipboard jobs. Key activation actions were delayed when senior and experienced engineering personnel were delayed in getting to their ships.

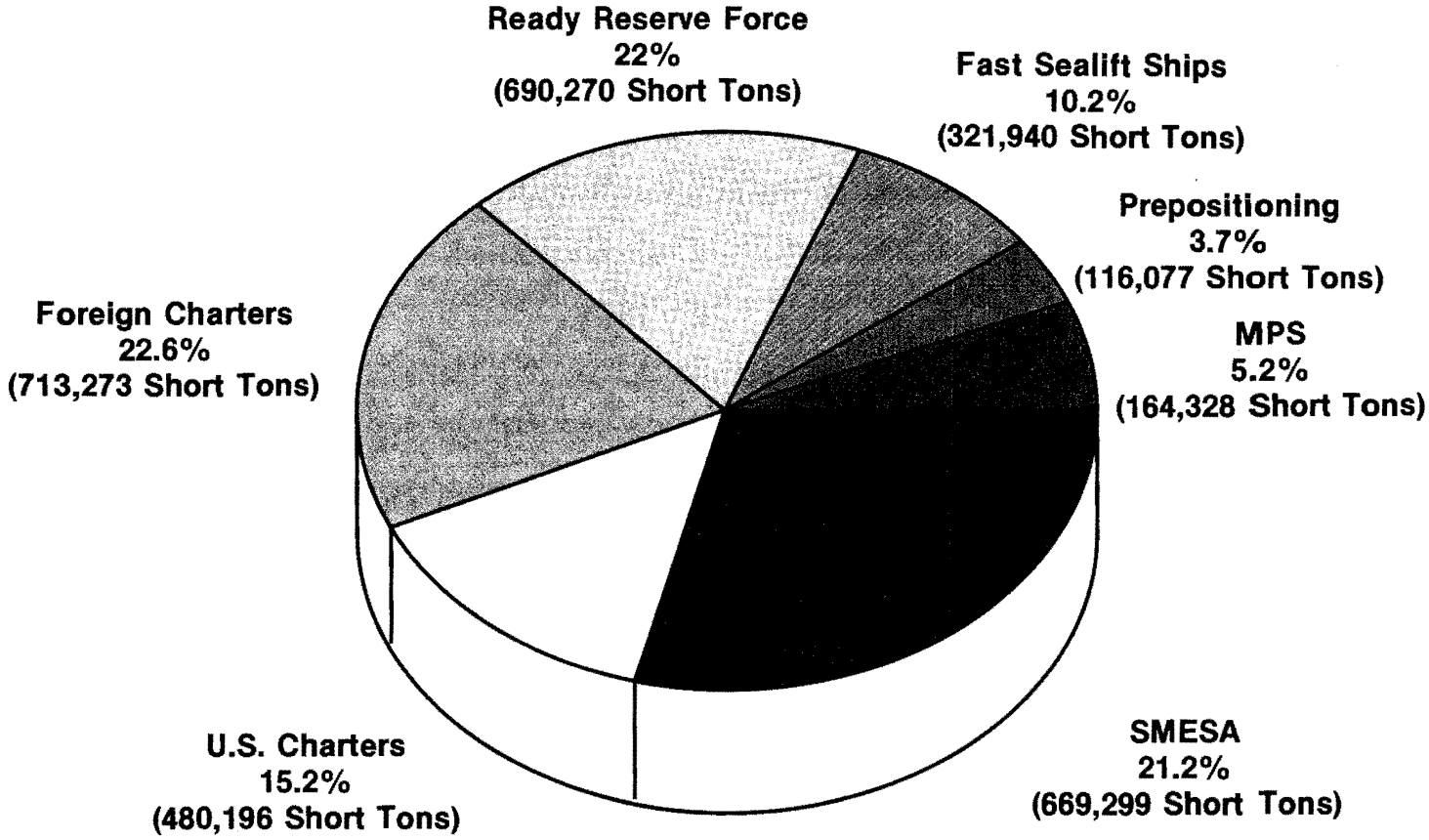
Operations Desert Shield/Desert Storm created about 3,000 seagoing jobs for the RRF virtually overnight. The peacetime labor market has fewer than 11,000 oceangoing billets. The Persian Gulf conflict strained this market severely, given the compressed time requirements and the fact that the initial call for seafarers came during the summer vacation time period.

In addition, many former mariners who wanted to assist in crewing RRF ships were deterred from leaving their shoreside employment because they did not have the reemployment rights accorded to military reservists. The pending Uniformed Services Employment Rights Act would provide reemployment rights for merchant mariners who respond to a request by the Secretary of Transportation to crew merchant ships in a national emergency. Enactment of reemployment rights legislation for merchant mariners would greatly enhance the ability to obtain additional civilian manpower for the merchant marine to meet emergency requirements.

Review of Operations Desert Shield/Desert Storm holds many lessons for future planning. However, from the maritime perspective, the primary, underlying lesson is confirmation that adequate sealift is absolutely essential to project our Nation's interests overseas. The operation was a success in part because the United States still possesses a significant maritime capability. Keeping that capability available and responsive is an essential MARAD objective.

Operations DESERT SHIELD/ DESERT STORM

Strategic Sealift of Dry Cargo
As of March 10, 1991



Source: Military Sealift Command

Chart 2: PERSIAN GULF SEALIFT PARTICIPANTS as of SEPTEMBER 30, 1991

Vessel	Status	Type
1. CAPE INSCRIPTION	MSC OPCON	RO/RO
2. CAPE FAREWELL	MSC OPCON	LASH
3. CAPE FLATTERY	MSC OPCON	LASH
4. CAPE HENRY	MSC OPCON	RO/RO
5. CAPE HUDSON	MSC OPCON	RO/RO
6. CAPE DOMINGO	MSC OPCON	RO/RO
7. CAPE LOBOS	MSC OPCON	RO/RO
8. CAPE HORN	MARAD OPCON	RO/RO
9. JUPITER	MSC OPCON	RO/RO
10. CAPE MOHICAN	MSC OPCON	SEABEE
11. CAPE ISABEL	MSC OPCON	RO/RO
12. CAPE MAY	MSC OPCON	SEABEE
13. CAPE DOUGLAS	MSC OPCON	RO/RO
14. CAPE EDMONT	MSC OPCON	RO/RO
15. CAPE DUCATO	MSC OPCON	RO/RO
16. CAPE CLEAR	MARAD OPCON/DEACTIVATING	BB
17. METEOR	MSC OPCON	RO/RO
18. COMET	MSC OPCON	RO/RO
19. CAPE BRETON	MSC OPCON	BB
20. GULF BANKER	MSC OPCON, APF ROTA	BB
21. ADM CALLAGHAN	MSC OPCON	RO/RO
22. CAPE BORDA	MSC OPCON	BB
23. CAPE JUBY	MSC OPCON	BB
24. CAPE DECISION	MSC OPCON	RO/RO
25. WASHINGTON	DOWNGRADED TO NDRF, JRRF	BB
26. CAPE CATOCHE	MSC OPCON	BB
27. CAPE ALEXANDER	DEACTIVATING	BB
28. EQUALITY STATE	MSC OPCON	T-ACS
29. GULF TRADER	MSC OPCON	BB
30. CAPE ARCHWAY	MSC OPCON	BB
31. CAPE MENDOCINO	MSC OPCON	SEABEE
32. CORNHUSKER STATE	MSC OPCON	T-ACS
33. AMERICAN OSPREY	MSC OPCON, DEPLOYED WITH APF	OPDS
34. CAPE JOHNSON	MARAD OPCON, DEACTIVATING	BB
35. MAINE	DOWNGRADED TO NDRF, BRF	BB
36. CAPE NOME	MARAD OPCON	BB
37. DEL VALLE	MSC OPCON	BB
38. CAPE GIRARDEAU	MSC OPCON	BB
39. AUSTRAL LIGHTNING	MSC OPCON	LASH
40. CAPE GIBSON	MSC OPCON	BB
41. CAPE LAMBERT	MSC OPCON	RO/RO
42. CAPE FLORIDA	MSC OPCON	LASH
43. CAPE ANN	MSC OPCON	BB
44. DEL MONTE	MSC OPCON	BB
45. GOPHER STATE	MSC OPCON	T-ACS
46. FLICKERTAIL STATE	MSC OPCON	T-ACS
47. CAPE BOVER	MSC OPCON	BB
48. CAPE BLANCO	MSC OPCON	BB
49. CAPE BON	MSC OPCON	BB
50. CALIFORNIA	MARAD OPCON, PREPARING FOR LAY UP	BB
51. NORTHERN LIGHT	MSC OPCON	BB
52. CAPE CHARLES	MSC OPCON	BB
53. DIAMOND STATE	MSC OPCON	T-ACS

54. CAPE CARTHAGE	MSC OPCON	BB
55. CAPE DIAMOND	MSC OPCON	RO/RO
56. LAKE	MSC OPCON	BB
57. PRIDE	MARAD OPCON, PREPARING FOR LAY UP	BB
58. SCAN	MSC OPCON	BB
59. BANNER	MARAD OPCON, PREPARING FOR LAY UP	BB
60. COURIER	MARAD OPCON, PREPARING FOR LAY UP	BB
61. CAPE CANSO	MSC OPCON	BB
62. CAPE CATAWBA	MSC OPCON, DEPLOYED WITH APF	BB
63. CAPE COD	MSC OPCON	BB
64. SANTA ANA	MSC OPCON	BB
65. AGENT	MSC OPCON	BB
66. CAPE ALAVA	MSC OPCON	BB
67. POTOMAC	MSC OPCON, DEPLOYED WITH APF	TANKER/OPDS
68. CAPE AVINOF	MARAD OPCON, PREPARING FOR LAY UP	BB
69. AMBASSADOR	MARAD OPCON, PREPARING FOR LAY UP	BB
70. BUYER	MSC OPCON, APF ROTA	BB
71. CAPE CANAVERAL	DEACTIVATING	BB
72. AIDE	MSC OPCON	BB
73. MISSION BUENAVENTURA	DEACTIVATING	TANKER
74. MISSION CAPISTRANO	DEACTIVATED, BRF	TANKER
75. AMERICAN EXPLORER	DEACTIVATED, BRF	TANKER
76. SHOSHONE	PREPARING FOR LAY UP	TANKER
77. GULF MERCHANT	DEACTIVATED, BRF	BB
78. GULF SHIPPER	DEACTIVATED, BRF	BB
79. GEM STATE	MARAD OPCON/ACTIVATING	T-ACS
80. CURTISS*	MSC OPCON	T-AVB
81. WRIGHT*	MSC OPCON	T-AVB

Key:

APF ROTA	Afloat Preposition Force, Rota, Spain
BB	Breakbulk
LASH	Lighter Aboard Ship Barge Carrier
MSC OPCON	MSC Operational Control
OPDS	Offshore Petroleum Delivery System Tanker
RO/RO	Roll-On/Roll-Off
SEABEE	Heavylift Barge Carrier
T-ACS	Auxillary Craneship
T-AVB	Aviation Logistics Support Ship

* The CURTISS and WRIGHT are U.S. Navy ships maintained similarly to RRF vessels.

Chapter 1

Shipbuilding and Ship Conversion

Shipyard Activity

U.S. Navy ship construction projects continued to dominate the workload in U.S. shipyards during fiscal year (FY) 1991. Commercial shipyards were awarded all of the Navy's new construction contracts. Nine new vessels of 1,000 light displacement tons (LDT) and larger were ordered and fifteen new Navy vessels were delivered by private U.S. shipyards during this reporting period.

Navy vessels of 1,000 LDT and over, under construction, being converted, or on order as of September 30, 1991, included 83 new ships and 4 vessels undergoing major conversion in 10 privately owned U.S. shipyards.

In addition, three U.S. Coast Guard high endurance cutters were being modernized at two shipyards.

A significant portion of the Navy's ship construction and conversion program is devoted to "T" ships. The "T" designates civilian-manned ships, both Government-owned and privately owned, operated by or under charter to the Military Sealift Command (MSC). As of September 30, 1991, 19 new T-ships were on order or under construction in four privately owned U.S. shipyards; one T-ship was undergoing a major conversion at a naval shipyard. Two new T-ships were completed and orders for three new T-ships were placed with U.S. shipyards in FY 1991.

Rep. Gerry Studds (D-MA) and MARAD's Joe Seelinger, far right, reviewing the ship repair activities at former Bethlehem Steel-Quincy (MA) shipyard, reopened in FY 1991 by A.K. Engineering, with two shipyard workers..

The T-ship procurement program includes maritime prepositioning ships, fast sealift ships, fleet oilers, auxiliary crane ships, ocean surveillance ships, survey ships, and hospital ships. Vessels in this program are noncombat, mission-oriented and designed to perform a specific primary service such as underway refueling or offloading other ships which do not possess self-unloading capability.

Two auxiliary crane ships (T-ACS), the GOPHER STATE (T-ACS 4) and FLICKERTAIL STATE (T-ACS 5), were loaded with containers and flatracks and placed in sealift service for the Persian Gulf conflict. Upon completion of cargo discharge overseas, they were positioned as port assistance platforms. The FLICKERTAIL STATE also participated in preparatory amphibious assault exercises off the coast of Saudi Arabia.

By the middle of fiscal year 1991, five T-ACS vessels were deployed to support Operations Desert Shield/Desert Storm. In addition to T-ACS 4 and T-ACS 5, the CORNHUSKER STATE (T-ACS 6), DIAMOND STATE (T-ACS 7), and EQUALITY STATE (T-ACS 8) were activated.

The Maritime Administration's (MARAD) T-ACS ships also have participated successfully in numerous military Logistics Over The Shore (LOTS) amphibious exercises.

One commercial shipbuilding order for vessels larger than 1,000 gross tons was placed with a U.S. shipyard in fiscal year 1991. In October 1990, Eastern Shipyards, Inc., of Panama City, FL, received an order to build two 398-foot sulphur carriers for Freeport-McMoran Resource Partners. They are scheduled for completion in January and May 1992.

In addition to the two sulphur carriers, the U.S. merchant shipbuilding orderbook as of October 1, 1991, included one containership under construction at National Steel and Shipbuilding Co. of San Diego, CA. The containership is being built for Matson Navigation Co. and is scheduled to be delivered in June 1992.

Under another contract, Edison Chouest Offshore, Inc., of Galliano, LA, is building an icebreaking research and support vessel to serve the National Science Foundation operations in Antarctica. Edison Chouest will construct, charter, and operate the vessel, which is scheduled for completion in February 1992.

Two reconstructed Great Lakes ore carriers were redelivered and returned to active service in fiscal year 1991. One, which had not operated since 1981, was converted to a cement carrier. The second, out of service since 1979, was converted to a self-unloading tug/barge vessel. No new commercial vessels of 1,000 gross tons or larger were delivered by U.S. shipyards during FY 1991.

Worldwide ship deliveries for calendar year 1990 are shown on Table 4.

Auxiliary Crane Ship (T-ACS) Program

The Auxiliary Crane Ships Program provides a means of off-loading military cargo from non-self-sustaining containerships at anchor, offshore, or in damaged or undeveloped ports. Existing commercial containerships are converted to crane ships by installing large, heavy-duty, marine deck cranes to self unload their cargo, and more importantly, cargo from ships positioned alongside. The crane ships provide an important adjunct to our national strategic sealift capability by supporting sealift operations on a worldwide basis.

By Memorandum of Understanding (MOU) between the Department of the Navy and MARAD dated September 13, 1982, MARAD manages the reactivation and conversion of these vessels. The program has achieved excellent results to date with T-ACS 1 through 9 having been redelivered to MARAD. The T-ACS 10 contract awarded in January 1989 was terminated for the convenience of the Government, due to a lack of funds. If funding becomes available, a new contract for T-ACS 10 is expected to be awarded next fiscal year. A schedule of ship deliveries is shown in Table 1.

MARAD currently maintains T-ACS 1 through 9 in the Ready Reserve Force (RRF) Program in 5-day activation status. The vessels are located in several East, Gulf, and West Coast ports to facilitate rapid activations. Several of the T-ACS vessels have small retention crews aboard to provide a cadre of civilian merchant mariners with the expertise to troubleshoot and maintain the vessels' complex crane systems.

Offshore Petroleum Discharge System Program

The Offshore Petroleum Discharge System (OPDS) Conversion Program is a part of a project utilizing modified tankers to supply fuel to Marine Corps and Army beach units from an offshore mooring. The system is designed to deploy up to 4 miles of conduit from ship to shore and begin delivering petroleum products within 48 hours. Other tankers can come alongside the OPDS, tie up, and transfer their cargo to shore. These operations will be accomplished by civilian tanker personnel, with assistance from Navy tugs and diving units.

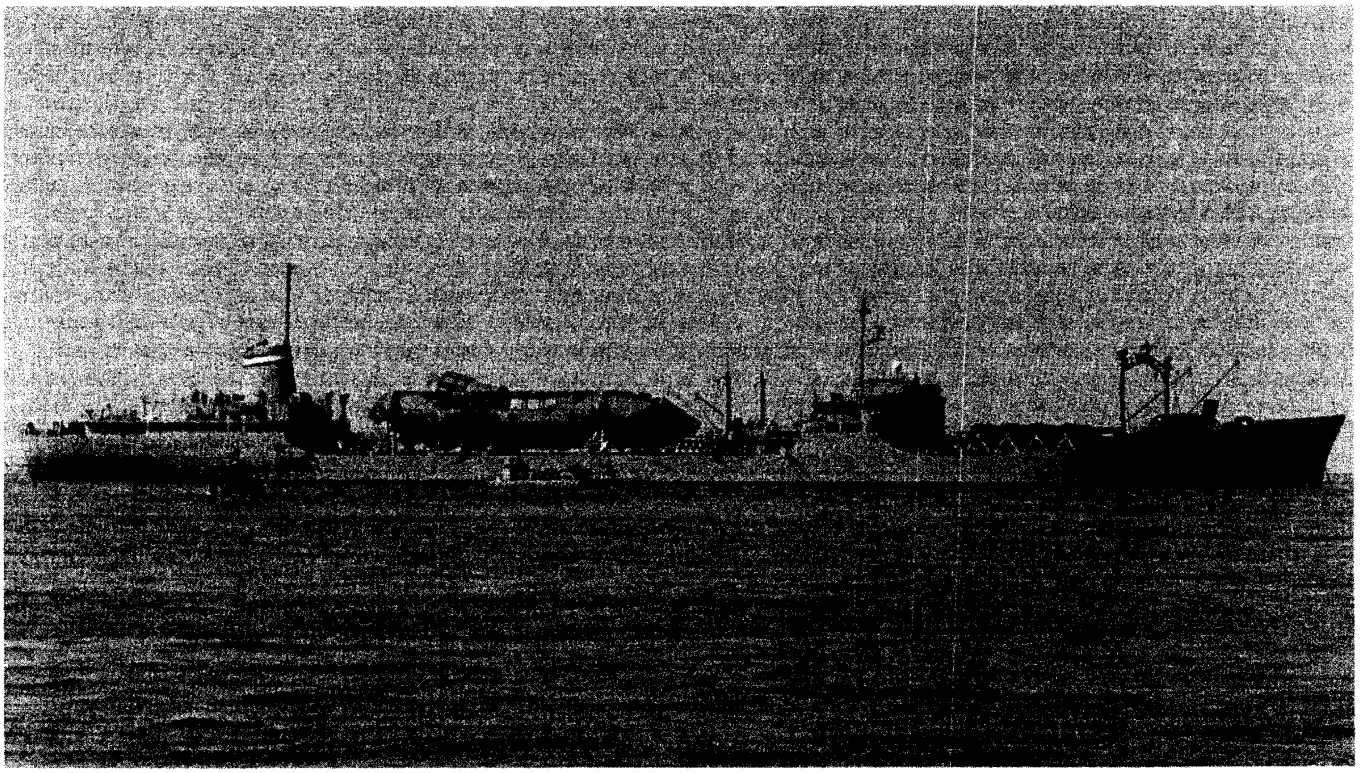
At the request of the Navy, MARAD has designed and contracted for the conversion of OPDS vessels. The OPDS Program began in 1984 with the conversion of the SS POTOMAC to OPDS-1, followed by conversion of the SS AMERICAN OSPREY to OPDS-2. Conversion of the third, the SS CHESAPEAKE, was completed during FY 1991. Upon redelivery, it joined MARAD's Ready Reserve Force. Bids will be requested for conversion of a fourth vessel, the SS PETERSBURG, when funds become available. (See Chart 3.)

Title XI Guarantees

The Federal Ship Financing Guarantee Program was established under Title XI of the Merchant Marine Act, 1936, as amended. As originally enacted, Title XI authorized the Federal Government to insure private sector loans or mortgages made to finance or refinance the construction or reconstruction of American-flag vessels.

Title XI was amended in 1972 to provide direct Government guarantees of the underlying debt obligations, with the Government holding a mortgage on the equipment financed.

The U.S. Government insures or guarantees full payment to the lender of the unpaid principal and interest of the mortgage obligation in the event of default by the vessel owners.



The OPDS Conversion Program uses modified tankers to supply fuel to Marine Corps and Army beach units from an offshore mooring. Conversion of the third, the SS CHESAPEAKE shown here, was completed during FY 1991.

As of September 30, 1991, Title XI guarantees in force aggregated approximately $2.7 billion, covering approximately 2,520 vessels, including barges, and 163 individual vessel owners. (See Table 3.)

During FY 1991, congressional authority for the Title XI program had a cap of $12 billion, with $9.5 billion allocated to MARAD, $1.65 billion reserved for ocean thermal energy conversion vessels and facilities, and $850 million authorized to guarantee the financing of fishing vessels by the National Oceanic and Atmospheric Administration.

The insurance premiums and guarantee fees paid by users are retained in the Federal Ship Financing Fund, a revolving fund that is used for payment of all program expenses, including defaults. During this reporting period, there were four defaults on Title XI guaranteed contracts.

Thirteen Title XI applications were received in fiscal year 1991, one was withdrawn, six were approved and five were pending at year's end. (See Table 2.)

As of September 30, 1991, the Federal Ship Financing Fund had $701 million in cash and investments (principal amount). The fund incurred and paid out $11.7 million in defaults during FY 1991; no borrowing from the U.S. Treasury was necessary to cover these defaults.

Capital Construction Fund

The Merchant Marine Act of 1970 established the Capital Construction Fund (CCF) Program. It assists operators in accumulating capital to build, acquire, and reconstruct vessels through the deferral of Federal income taxes on certain deposits, as defined in Section 607 of the Merchant Marine Act, 1936, as amended.

The CCF Program enables operators to build vessels for the U.S. foreign trade, Great Lakes, noncontiguous domestic trade (e.g., between the West Coast and Hawaii), and the fisheries of the United States. It aids in the construction, reconstruction, or acquisition of a wide variety of vessels, including containerships, tankers, bulk carriers, tugs, barges, supply vessels, ferries, and passenger vessels.

During calendar year 1990, $158 million was deposited into these accounts. Since the program was initiated in 1971, fundholders have deposited $5.3 billion in CCF accounts and withdrawn $4.1 billion for the modernization and expansion of the U.S. merchant marine. At year's end, $1.2 billion remained in the fund. As of December 31, 1990, a total of 92 companies (shown in Table 5) were parties to CCF agreements.

Construction Reserve Fund

The Construction Reserve Fund (CRF), like the Capital Construction Fund, encourages upgrading of the American-flag fleet. This program allows eligible parties to defer taxation of capital gains on the sale or other disposition of a vessel if net proceeds are placed in a CRF and reinvested in a new vessel within 3 years.

The CRF is used predominately by owners of vessels operated in coastwise trades, the inland waterways, and other trades not eligible for the CCF Program. Its benefits are not as broad as those of the CCF.

The number of companies with CRF balances decreased to five during the 1991 fiscal year. (See Table 6). The total monies on deposit increased from $.5 million to $5 million.

Shipyard Improvements

The U.S. ship construction and ship repair industry invested more than $228 million in FY 1991 to upgrade and expand facilities. Much of this investment went to improve efficiency and competitiveness for future participation in the Navy's construction, repair, and overhaul projects.

Erie Marine Shipyard in Erie, PA, formerly owned by Litton Industries, and closed in 1974, reopened under new owners. The new yard is operated by Jonathan Corp., and is one of only two shipyards on the Great Lakes capable of drydocking the Great Lakes 1,000-foot vessels.

Information received by MARAD indicates that U.S. shipyards plan to spend about $129 million for improvements in FY 1992. The industry's capital investments since 1970 have totaled $4.8 billion.

Table 1: AUXILIARY CRANE SHIP PROGRAM STATUS

Vessels	Shipyard	Redelivery[1]
T-ACS 1 KEYSTONE STATE	Bay Shipbuilding	05/07/84
T-ACS 2 GEM STATE	Continental Maritime	10/31/85
T-ACS 3 GRAND CANYON STATE	Dillingham	10/27/86
T-ACS 4 GOPHER STATE	NORSHIPCO	10/27/87
T-ACS 5 FLICKERTAIL STATE	NORSHIPCO	02/08/88
T-ACS 6 CORNHUSKER STATE	NORSHIPCO	04/12/88
T-ACS 7 DIAMOND STATE	Tampa Shipyards	02/22/89
T-ACS 8 EQUALITY STATE	Tampa Shipyards	05/23/89
T-ACS 9 GREEN MOUNTAIN STATE	NORSHIPCO	09/24/90
T-ACS 10 BEAVER STATE[2]	(To Be Determined)	(1993)

[1] Dates in parenthesis indicate planned dates, others are actual dates.

[2] T-ACS 10 was partially terminated while at NORSHIPCO.

Table 2: TITLE XI APPROVED GUARANTEES IN FISCAL YEAR 1991[1]

Company	Vessels	Maximum Guarantee Amount Approved
American Commercial Lines, Inc.	58 barges	$ 11,176,000
Central Gulf Lines, Inc.	500 LASH barges	15,000,000
Chilbar Shipping Co.	1 chemical carrier	8,535,000
Ingram Barge Company	59 barges	12,246,000
Parker Towing Co., Inc.	25 barges	3,926,000
TOTAL		**$81,758,000**

[1] In fiscal year 1991, 13 applications were submitted, 6 were approved, 1 was withdrawn during the review process, and 5 were pending at year's end.

[2] Refinancing by reduction in interest rate.

Table 3: FEDERAL SHIP FINANCING GUARANTEE (TITLE XI) PROGRAM SUMMARY
Principal Liability (Statutory Limit $9.5 Billion) on September 30, 1990

	Contracts in Force	
	Vessels Covered	**Outstanding Amount (Millions)**
Coastal	169	$ 213
Bulk	81	1,642
Drill Rig	11	77
Drill Supply	43	37
Inland	1,483	174
Barges	1,395	
Tugs	88	
Liner	715[1]	340
Other	18	203
Totals[2]	**2,520**	**$2,686**

[1] Includes 682 LASH barges.
[2] Includes cruise vessels, dredging vessels, crane barges, pipe-laying barges.

Chart 3: OFFSHORE PETROLEUM DISCHARGE SYSTEM PROGRAM SCHEDULE

NAME	SHIPYARD	REDELIVERY
OPDS-1 SS POTOMAC	Alabama SB & DD	03/03/86
OPDS-2 SS AMERICAN OSPREY	Alabama SB & DD	08/08/88
OPDS-3 SS CHESAPEAKE	Houston Ship Repair	(07/19/91)
OPDS-4 SS PETERSBURG	(To Be Determined)	(To Be Determined)
OPDS-5 (Unknown)	(To Be Determined)	(To Be Determined)
OPDS-6 (Unknown)	(To Be Determined)	(To Be Determined)

[1] Dates in parenthesis indicate planned dates, others are actual dates.

Table 4: WORLDWIDE SHIP DELIVERIES - CALENDAR YEAR 1990 (TONNAGE IN THOUSANDS)

Country of Construction	**Total** All Types Deadweight		Combination Pass. & Cargo Deadweight		Freighters Deadweight		Bulk Deadweight		Tankers Deadweight	
	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons
Total	**478**	**19,382**	**14**	**59**	**218**	**2,735**	**115**	**8,799**	**131**	**7,789**
United States	–	–	–	–	–	–	–	–	–	–
Australia	1	3	–	–	1	3	–	–	–	–
Belgium	1	29	–	–	1	29	–	–	–	–
Brazil	6	391	–	–	–	–	2	241	4	150
Bulgaria	7	98	–	–	1	17	1	38	5	43
China	20	424	–	–	10	94	8	323	2	7
Denmark	17	403	–	–	12	240	–	–	5	163
Finland	10	40	4	17	2	12	–	–	4	11
France	1	4	1	4	–	–	–	–	–	–
Germany, Federal Rep	39	572	2	11	34	528	–	–	3	33
Greece	3	18	–	–	2	10	–	–	1	8
India	1	27	–	–	–	–	1	27	–	–
Indonesia	5	15	–	–	5	15	–	–	–	–
Italy	11	451	3	6	3	37	2	395	3	13
Japan	203	8,509	3	18	77	981	61	3,304	62	4,206
Korea (South)	58	5,149	–	–	19	340	26	3,037	13	1,772
Malaysia	4	22	–	–	–	–	–	–	4	22
Netherlands	25	164	–	–	23	156	–	–	2	8
Norway	2	12	–	–	2	12	–	–	–	–
Poland	5	47	–	–	4	35	1	12	–	–
Portugal	2	92	–	–	1	3	–	–	1	89
Romania	6	247	–	–	4	35	1	172	1	40
Singapore	4	27	–	–	–	–	–	–	4	27
Spain	12	339	–	–	8	69	–	–	4	270
Taiwan	10	1,239	–	–	2	40	7	1,046	1	153
Turkey	2	10	–	–	2	10	–	–	–	–
United Kingdom	3	52	1	3	1	46	1	3	–	–
U.S.S.R.	8	332	–	–	1	5	2	105	5	222
Yugoslavia	12	666	–	–	3	18	2	96	7	552

Table 5: CAPITAL CONSTRUCTION FUND HOLDERS -- December 31, 1990

Alaska Riverways, Inc.
Amak Towing Co., Inc.
A.M.C. Boats, Inc.
American President Lines, Ltd.
American Shipping, Inc.
Anderson Tug & Barge Co.
Aquarius Marine Co.
Atlantic Richfield Co.
Atlas Marine Company
Bankers Trust New York Corp.
Bethlehem Steel Corp.
Binkley Co., The
Blue Lines, Inc.
Brice, Inc.
C & E Boat Rentals Inc.
Campbell Towing Co.
Cement Transit Co.
Central Gulf Lines, Inc.
Citimarlease (Burmah I), Inc.
Citimarlease (Burmah LNG Carrier), Inc.
Citimarlease (Burmah Liquegas), Inc.
Citimarlease (Fulton), Inc.
Citimarlease (Whitney), Inc.
Cowan Towing & Salvage Co.
Crowley Maritime Corp.
Danos & Curole Marine Contractors, Inc.
Durocher Dock & Dredge
Edison Chouest Offshore, Inc.
Edward E. Gillen Co.
Eserman Offshore Service, Inc.
Exxon Shipping Corp.
Falcon Alpha Shipping, Inc.
Falcon Capital, Inc.
Farrell Lines, Inc.
Foss Maritime Co.
Fred Devine Diving & Salvage, Inc.
G&B Marine Transportation, Inc.
GATX Corp.
General Electric Credit and Leasing Corp.
General Electric Credit Corp. of Delaware
General Electric Credit Corp. of Georgia
Gilco Supply Boats, Inc.
Great Lakes Towing Co.
Hannah Brothers
Hannah Marine Corp.
Hawaiian Electric Indus.
Hvide Shipping, Inc.
Inland Steel Co.
Inter-Cities Navigation Corp.
Interstate Towing Co.
John E. Graham & Sons
Kenai Fjord Tours, Inc.
Kinsman Lines, Inc.
L&L Marine Services, Inc.
Leppaluoto Offshore Marine, Inc.
Lykes Bros. Steamship Co.
Madeline Island Ferry Line, Inc.
Marine Investment Company of Delaware (Sun Co.)
Matson Navigation Company, Inc.
Middle Rock, Inc.
Miller Boat Line, Inc.
Montco Offshore, Inc.
National Steel and Shipbuilding Co.
Neuman Boat Line, Inc.
Nicor, Inc.
North American Boat Rentals, Inc.
Ocean Shipholdings, Inc.
Oceanic Research Services, Inc.
O.L. Schmidt Barge Lines, Inc.
Oglebay Norton Co.
OMI Corp.
Overseas Shipholding Group, Inc.
Pacific Hawaiian Line, Inc.
Rainbow Tours
Ritchie Transportation Co.
Sause Bros. Inc.
Seabulk Tankers, Ltd.
Sea-Land Corp.
Sea-Mar Operators, Inc.
Sheplers, Inc.
Silver Bay Logging Construction Co.
Stan Stephens Charters, Inc.
State Boat Corporation
Steel Style Marine
Tobias, Inc.
Totem Resources Corp.
Union Oil Co. of California
Waterman Steamship Corp.
Waveland Marine Service, Inc.
Western Pioneer, Inc.
Windjammer Cruises, Inc.
Y & S Marine, Inc.

Table 6: CONSTRUCTION RESERVE FUND HOLDERS -- September 30, 1991

Cargill Marine and Terminal, Inc.
Central Gulf Steamship Corp.
Ingram Industries, Inc.
Mobil Oil Corp.
Serodino, Inc.

Chapter 2

Ship Operations

U.S.-Flag Fleet Profile

The U.S.-flag, privately owned, deep-draft merchant fleet (including the Great Lakes fleet shown in Table 15) totaled 472 vessels with an aggregate carrying capacity of about 22 million deadweight tons (dwt.) on September 30, 1991.

The oceangoing segment of the privately owned fleet comprised 393 vessels of 19.7 million dwt., of which 366 ships of 17.5 million dwt. were active. The latter included 35 breakbulk cargo ships, 127 intermodal vessels (containerships, barge-carrying vessels, and roll-on/roll-off vanships known as RO/ROs), 2 combination passenger-cargo ships, 180 tankers (including liquefied natural gas carriers), and 22 bulk carriers. (See Table 7.) The remaining 27 vessels were inactive and laid up.

Employment of the U.S.-flag oceangoing fleet (including Government-owned ships) at the end of the fiscal year (FY) is shown in Table 8.

The privately owned American-flag merchant fleet ranked 10th in the world on a dwt. basis and 16th in the total number of ships on January 1, 1991. (See Table 9.)

Commercial cargoes carried by ships of all flags in the U.S. oceanborne foreign trade totaled 822.6 million tons in calendar year 1990. U.S.-flag foreign trade tonnage increased from 36.4 million tons in 1989 to 39.8 million tons in 1990 and the U.S.-flag share of total tonnage increased from 4.4 percent in 1989 to 4.8 percent in 1990.

Commercial cargoes transported in U.S. oceanborne foreign trade from 1981 through calendar year 1990 are shown in Table 10. The table shows the total trade by tonnage and value, and the portion carried by U.S.-flag vessels.

Operating-Differential Subsidy

U.S.-flag vessels that operate in essential foreign trade are eligible for operating-differential subsidy (ODS) which is administered by the Maritime Administration (MARAD). ODS is designed to offset certain lower ship operating costs of foreign-flag competitors. Net subsidy outlays during FY 1991 amounted to $217.6 million.

ODS accruals and expenditures from January 1, 1937, through September 30, 1991, are summarized in Table 11. Accruals and outlays by shipping lines for the same period are shown in Table 12. ODS contracts in force are shown in Table 13.

Section 614 Activities

Section 614 of the Merchant Marine Act, 1936, as amended, permits a company receiving ODS funds to elect to suspend its ODS agreement for all or a portion of its vessels, subject to certain conditions. Suspension of the ODS agreement includes suspending all attendant statutory and contractual restrictions in the ODS agreement, except those pertaining to operation in the domestic trade.

No vessels operated under suspended ODS agreements in FY 1991.

Subsidy Rates

The Subsidy Index System established by the Merchant Marine Act of 1970 provides for payment of seafaring wage subsidies in per diem amounts. The rate of change in the index is computed annually by the Bureau of Labor Statistics and is used as the measure of change in seafaring employment costs. ODS rates also are calculated for maintenance and repairs, hull and machinery insurance, and protection and indemnity insurance for both premiums and deductibles.

MARAD has completed all 1991 subsidy rates applicable to liner vessel operations and has substantially completed the 1991 subsidy rates applicable to bulk vessel operations.

Passenger/Cruise Service

During FY 1991, U.S.-flag oceangoing passenger service was provided by the cruise ships INDEPENDENCE and CONSTITUTION, each with a 750-passenger capacity. The vessels were operated by American Hawaii Cruises, Inc., in the Hawaiian interisland trade. They were built in 1950 and 1951 and refurbished in 1988.

In addition, two operators provided local coastwise cruises with U.S.-flag vessels with capacity for fewer than 200 passengers. American Canadian Caribbean Line served the New England Coast, Hudson River, Erie Canal, St. Lawrence Seaway and Saguenay River. Clipper Cruise Line served the U.S. Atlantic Coast and Pacific (Alaskan) Coasts. During the 1991 winter season these lines offered cruises to the Bahamas and/or Caribbean Islands.

On the inland waterways, two traditionally styled steamboats, the 267-passenger DELTA QUEEN and the 635-passenger MISSISSIPPI QUEEN, operated by Delta Queen Steamboat Co., continued to provide a variety of cruises on the Mississippi and Ohio Rivers.

Corporate/Service Changes

On October 9, 1990, the Maritime Subsidy Board (Board) approved changes in ownership of Northstar Shipping, Inc. under terms of the previously approved transfer of Prudential Lines, Inc.'s ODS Agreement, Contract MA/MSB-421, to this company.

On September 27, 1991, the Board approved American President Lines, Ltd.'s (APL) application, under section 605(c) of the Merchant Marine Act, 1936, as amended, to generally conform its subsidized Line A and Line B ocean cargo service to the full scope of the description of Trade Route 2, United States/Far East.

Section 804 Activities

Section 804 of the Merchant Marine Act, 1936, as amended, prohibits any contractor receiving ODS or any holding company, subsidiary, affiliate, or associate of such contractor, directly or indirectly, to own, charter, act as agent or broker for, or operate any foreign-flag vessel which competes with an essential U.S.-flag service, without prior approval of the Secretary of Transportation. The prohibition also applies to any officers, directors, agents, or executives of such an organization.

During the period of material build up for Operations Desert Shield/Desert Storm, MARAD granted APL two temporary section 804 waivers. On January 15, it approved a 90-day waiver for increased Bay of Bengal feeder service and increased Persian Gulf feeder capacity. On January 25, MARAD approved a 210-day waiver for APL to increase feeder service to the Persian Gulf to add an Indian subcontinent service and a Red Sea feeder and to coordinate all APL feeder services through the Arabian Sea. Subsequently, MARAD granted two 30-day extensions of this waiver.

On September 27, 1991, APL was granted a waiver for certain services it identified in the 210-day temporary waiver including doubling the Persian Gulf feeder service, continuance of the Red Sea feeder, and an Indian subcontinent service.

Also during the year, the Board approved waivers for APL:

- to provide alternative feeder service of two vessels fortnightly to Manila and Thailand, rather than four ships half the size of the two fortnightly vessels (March 28, 1991).
- for *ad hoc* foreign-flag space charters pursuant to its participation in the eastbound amended Transpacific Stabilization Agreement and in the westbound Transpacific Space Utilization Agreement (August 16, 1991).
- to allow its participation in a Reciprocal Slot Exchange and Coordinated Sailing Agreement and in the supplemental Master Charter

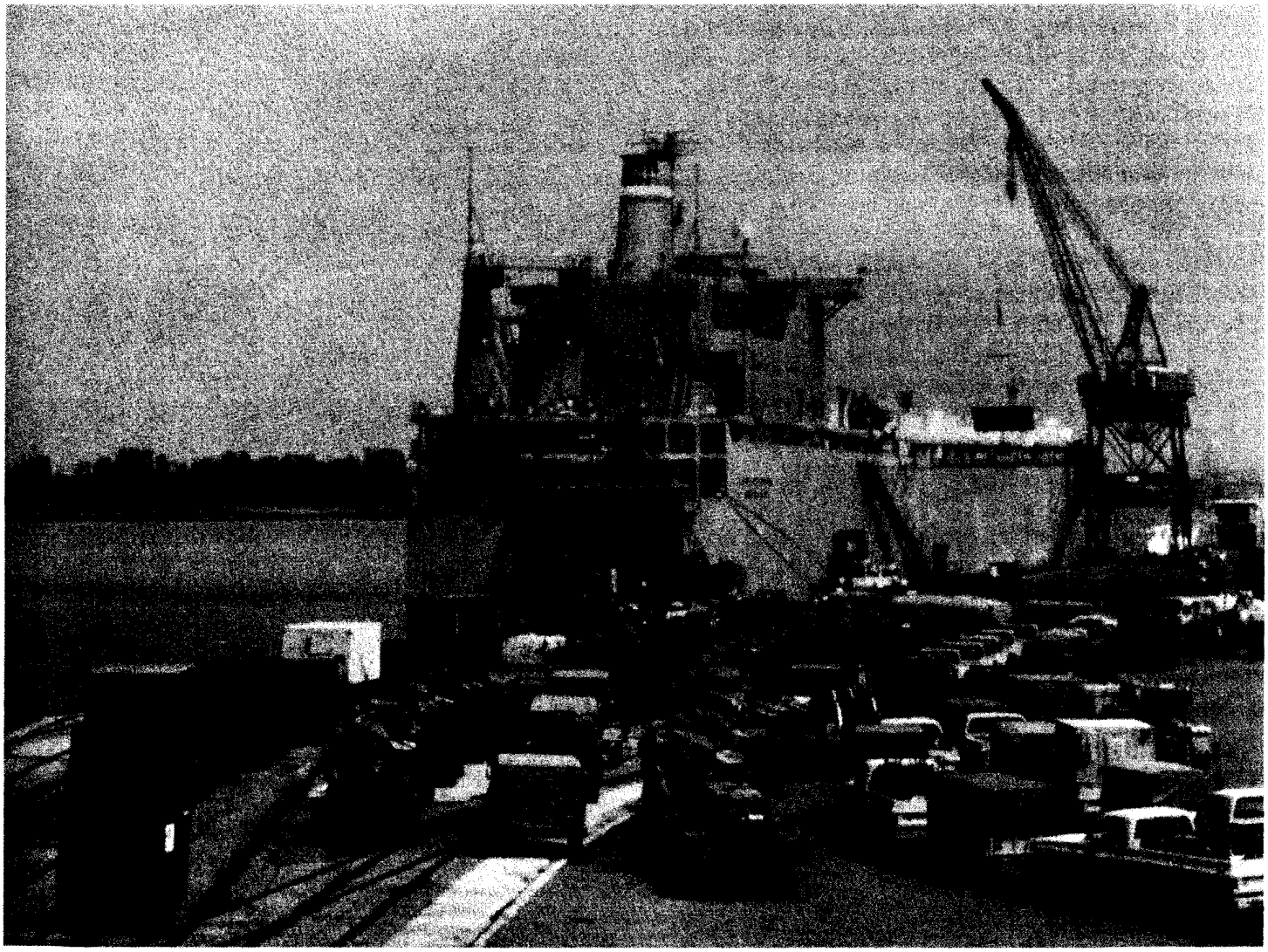
Agreement, both with Orient Overseas Container Line Inc. (September 27, 1991).

In addition, one minor amendment was made to the 5-year section 804 waiver granted to APL on June 3, 1988. That waiver permits the company to own or charter and operate 10 foreign-flag vessels on 6 feeder services in southern and southwestern Asia.

In action involving other operations, on April 24, 1991, the Board approved an amendment to a previously granted Lykes Bros. Steamship Co., Inc. (Lykes) waiver allowing Lykes to participate in a Reciprocal Space Charter and Coordinated Sailing Agreement with Deppe Linie GmBH & Co. The original waiver covered the northern Europe trade; the amendment adds the Mediterranean to the trade area.

In addition, a Lykes waiver for participation in a space charter arrangement with Constellation Line, was rescinded on April 24, 1991, because Constellation terminated its business operations.

On May 2, 1991, Waterman Steamship Corp. (Waterman) was granted an amendment to a previous waiver covering its operation of the foreign-flag LASH vessel ACADIA FOREST. The amendment permitted the vessel's use as a feeder in Southeast Asia. On September 3, 1991, the waiver was further amended to permit Waterman to use Madras as the relay port of the ACADIA FOREST and to permit the vessel to carry interport cargo between the relay port and Southeast Asian ports.



Military equipment being loaded at the Port of Savannah, (GA) Garden City Terminal bound for the Persian Gulf.

of the Shipping Act of
proved the transfer of 77
over, to foreign ownership
wned vessels were sold

the foreign transfer of 34
ss tons during the fiscal
nercial and 5 pleasure

wned ships of over 1,000
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ls were either amended or
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ng Public Law (P.L.)
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ges held for the benefit of
as a preferred
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tizens, of preferred
ssels and allows any
mortgage on vessels

documented as fishing, fish processing, fish tender, or pleasure vessels.

During FY 1991, the Agency approved the retention of 35 banks on the Roster of Approved Trustees and Mortgagees. Two new banks were approved as trustees and one new bank as mortgagee.

During the fiscal year there were 30 foreign transfer violations reported involving privately owned ships, all of which were mitigated or settled.

MARAD's approval of the transfers of vessels of 3,000 gross tons and over to foreign ownership or registry, or both (whether for operation or scrapping) are subject to the terms and conditions of the Agency's current Foreign Transfer Policy (46 CFR Part 221). As of September 30, 1991, there were 113 vessels subject to these terms and conditions, which accompany titles to the ships and remain in effect for the period of their remaining economic lives. During the fiscal year, 37 approvals were granted for the transfer of ownership and/or registry of vessels under such terms and conditions.

User charges for processing applications for foreign transfers and similar actions totaled $86,791 in this reporting period. This total includes fees filed pursuant to MARAD contracts reflecting prior domestic and foreign sales.

Activities under Section 9 of the Shipping Act, 1916, are summarized in Table 14.

Table 7: U.S. OCEANGOING MERCHANT MARINE--SEPTEMBER 30, 1991[1]

	Privately Owned		MARAD Owned		Total	
	Number Ships	Deadweight Tons (000)	Number Ships	Deadweight Tons (000)	Number Ships	Deadweight Tons (000)
Active Fleet:						
Passenger/Pass. Cargo	2	14	5	45	7	59
General Cargo	35	581	29	394	64	975
Intermodal	127	3,825	28	619	155	4,444
Bulk Carriers (Inc. TB)	22	972	-	-	22	972
Tankers (Inc. TKB & LNG)	180	12,118	1	17	181	12,135
Total Active Fleet	**366**	**17,510**	**63**	**1,075**	**429**	**18,585**
Inactive Fleet:						
Passenger/Pass. Cargo	1	16	3	26	4	42
General Cargo	3	31	126	1,471	129	1,502
Intermodal	2	36	11	230	13	266
Bulk Carriers (Incl. TB)	1	17	1	25	2	42
Tankers (Incl. TKB & LNG)	20	2,083	24	766	44	2,849
Total Inactive Fleet	**27**	**2,183**	**165**	**2,518**	**192**	**4,701**
Total Active and Inactive:						
Passenger/Pass. Cargo	3	30	8	71	11	101
General Cargo	38	612	155	1,865	193	2,477
Intermodal	129	3,861	39	849	168	4,710
Bulk Carriers (Incl. TB)	23	989	1	25	24	1,014
Tankers (Incl. TKB & LNG)	200	14,201	25	783	225	14,984
Total American Flag	**393**	**19,693**	**228** [2]	**3,593**	**621**	**23,286**

[1] Vessels of 1,000 gross tons and over, excluding privately owned tugs, barges, etc.
[2] Includes 112 NDRF and 96 RRF Vessels.
NOTE: Tonnage figures may not add due to rounding.

Table 8: EMPLOYMENT OF U.S.-FLAG OCEANGOING MERCHANT FLEET--SEPTEMBER 30, 1991 [1]

Status and Area of Employment	Total		Vessel Type (tonnage in thousands)									
			Passenger/ Pass. & Cargo		General Cargo		Intermodal		Bulk Carriers [2]		Tankers [3]	
	No.	Deadweight Tons	No.	Deadweight Tons	No.	Deadweight Tons	No.	Deadweight Tons	No.	Deadweight Tons	No.	Deadweight Tons
Grand Total	**621**	**23,286**	**11**	**101**	**193**	**2,477**	**168**	**4,710**	**26**	**1,014**	**225**	**14,984**
Active Vessels	**429**	**18,585**	**7**	**59**	**64**	**975**	**155**	**4,444**	**22**	**972**	**181**	**12,135**
Privately Owned	**366**	**17,510**	**2**	**14**	**35**	**581**	**127**	**3,825**	**22**	**972**	**180**	**12,118**
U.S. Foreign Trade	**116**	**5,065**	-	-	**11**	**173**	**67**	**2,365**	**15**	**763**	**23**	**1,764**
Foreign-to-Foreign	**23**	**2,181**	-	-	-	-	**9**	**252**	-	-	**14**	**1,929**
Domestic Trade	**153**	**8,386**	**2**	**14**	**3**	**54**	**23**	**510**	**7**	**209**	**118**	**7,599**
Coastal	79	2,806	-	-	3	54	1	59	6	183	69	2,710
Noncontiguous	74	5,580	2	14	-	-	22	451	1	26	49	5,089
M.S.C. Charter	**74**	**1,878**	-	-	**21**	**354**	**28**	**698**	-	-	**25**	**826**
Government Owned	**63**	**1,075**	**5**	**45**	**29**	**394**	**28**	**619**	-	-	**1**	**17**
Ready Reserve Force (RRF)	53	965	2	23	25	342	26	600	-	-	-	-
Special Programs [4]	-	-	-	-	-	-	-	-	-	-	-	-
Other Reserve	7	66	3	22	3	41	1	3	-	-	-	-
Other Custody	1	16	-	-	-	-	1	16	-	-	-	-
							-	-				
Nonretention	2	28	-	-	1	11	-	-	-	-	1	17
Inactive Vessels	**192**	**4,701**	**4**	**42**	**129**	**1,502**	**13**	**266**	**2**	**42**	**44**	**2,849**
Privately-Owned	**27**	**2,183**	**1**	**16**	**3**	**31**	**2**	**36**	**1**	**17**	**20**	**2,083**
Temporarily Inactive	-	-	-	-	-	-	-	-	-	-	-	-
Laid up	25	2,116	1	16	3	31	2	36	1	17	18	2,016
Laid up (MARAD Custody)	2	67	-	-	-	-	-	-	-	-	2	67
Government-Owned (MARAD Custody)	**165**	**2,518**	**3**	**26**	**126**	**1,471**	**11**	**230**	**1**	**25**	**24**	**766**
National Defense Reserve Fleet	**148**	**2,176**	-	-	**117**	**1,356**	**10**	**200**	-	-	**23**	**686**
Ready Reserve Force (RRF) [5]	43	883	-	-	23	325	7	163	-	-	13	395
Other Reserve	105	1,293	-	-	94	1,031	3	37	-	-	8	225
Nonretention [6]	12	181	2	16	8	99	-	-	-	-	2	66
Special Program	1	10	1	10	-	-	-	-	-	-	-	-
Other Government-Owned	**4**	**151**	-	-	**1**	**16**	**1**	**30**	**1**	**25**	**1**	**80**

[1] Excludes vessels operating exclusively on the Great Lakes, inland waterways, and those owned by the United States Army and Navy and special types such as cable ships, tugs. etc.

[2] Includes Tug Barges.

[3] Includes Tanker Barges and LNG vessels.

[4] Vessels unavailable for activation due to special status.

[5] Excludes vessels under active Government-owned.

[6] Vessels not actively maintained.

Table 9: MAJOR MERCHANT FLEETS OF THE WORLD--JANUARY 1, 1991

Country	No. of Ships[1]	Rank by No. of Ships	Deadweight Tons	Rank by Deadweight Tonnage
Liberia	1,542	3	92,057,000	1
Panama	2,953	1	67,938,000	2
Greece	911	7	40,653,000	3
Norway (NIS)	781	8	39,157,000	4
Japan	960	6	35,232,000	5
Cyprus	1,149	5	34,171,000	6
Bahamas	627	9	25,011,000	7
U.S.S.R.	2,373	2	24,646,000	8
British Dependent Territories	568	10	22,619,000	9
United States (Private)	408	16	20,771,000	10
China	1,366	4	20,665,000	11
Philippines	531	11	13,583,000	12
Singapore	427	15	13,084,000	13
Korea (South)	438	14	11,875,000	14
Italy	512	12	11,444,000	15
All Others[2]	8,050		164,587,000	
Total	**23,596**		**637,493,000**	

[1] Oceangoing merchant ships of 1,000 gross tons and over.
[2] Includes 248 United States Government-Owned ships of 3,978,000 dwt.

Table 10: U.S. OCEANBORNE FOREIGN TRADE/COMMERCIAL CARGO CARRIED [1]

Tonnage (Millions)

Calendar Year	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990*
Total Tons	760.0	675.5	630.4	676.8	640.9	674.8	718.7	786.0	836.3	882.6
U.S.-Flag Tons	34.2	31.1	36.7	29.4	27.3	28.5	28.8	30.7	36.4	39.8
U.S. Percent of Total	4.5	4.6	5.8	4.3	4.3	4.2	4.0	3.9	4.4	4.8
Liner Total Tons	60.0	54.5	56.8	63.5	66.7	71.8	79.4	83.3	91.6	85.4
Liner U.S.-Flag Tons	16.5	14.3	14.0	13.8	14.0	14.3	11.9	14.0	17.5	15.9
Liner U.S. Percent	27.6	26.2	24.6	21.7	21.0	19.9	14.9	16.9	19.1	18.6
Non-Liner Total Tons	365.6	335.8	317.7	346.3	327.5	309.0	327.1	361.1	366.6	370.8
Non-Liner U.S.-Flag Tons	4.5	3.3	4.8	5.1	5.1	4.9	6.3	6.2	6.2	7.7
Non-Liner U.S. Percent	1.2	1.0	1.5	1.5	1.5	1.6	1.9	1.7	1.7	2.1
Tanker Total Tons	334.4	285.6	256.0	266.9	246.7	294.0	312.2	341.6	378.1	366.4
Tanker U.S.-Flag Tons	13.2	13.2	17.9	10.5	8.2	9.3	10.6	10.5	12.7	16.2
Tanker U.S. Percent	3.9	4.7	7.0	3.9	3.3	3.2	3.4	3.1	3.4	4.4

Value ($ Billions)

Total Value	315.4	281.2	267.4	302.7	311.0	320.5	359.4	397.7	437.0	445.2
U.S.-Flag Value	47.0	43.5	43.0	44.6	46.4	49.0	44.8	57.7	71.3	68.0
U.S. Percent of Total	14.9	15.5	16.1	14.7	14.9	15.3	12.5	14.5	16.3	15.3
Liner Total Value	148.0	140.6	139.6	164.0	181.2	199.9	221.9	253.4	279.7	286.3
Liner U.S.-Flag Value	41.7	39.1	37.9	41.2	43.4	46.5	41.7	53.1	65.0	61.6
Liner U.S. Percent	28.1	27.8	27.2	25.1	24.0	23.3	18.8	21.0	23.3	21.5
Non-Liner Total Value	81.0	72.0	69.8	78.6	77.2	83.2	92.1	98.9	100.7	96.3
Non-Liner U.S.-Flag Value	1.9	1.2	1.2	1.1	1.4	1.3	1.6	3.2	4.4	3.8
Non-Liner U.S. Percent	2.3	1.7	1.7	1.5	1.8	1.6	1.8	3.2	4.3	4.0
Tanker Total Value	86.4	68.5	58.0	60.1	52.6	37.4	45.4	45.4	56.6	62.6
Tanker U.S.-Flag Value	3.4	3.2	4.0	2.2	1.6	1.2	1.5	1.4	1.9	2.6
Tanker U.S. Percent	3.9	4.7	6.8	3.7	3.1	3.2	3.2	3.1	3.3	4.1

[1] Table includes Government-sponsored cargo; excludes U.S./Canada translakes cargoes and certain Department of Defense cargoes.

* Preliminary data.

Table 11: ODS ACCRUALS AND OUTLAYS--JANUARY 1, 1937, TO SEPTEMBER 30, 1991

Calendar Year of Operation	Accruals			Outlays	
	Subsidies	Recapture	Subsidy Accrual	Paid in FY 1990	Total Amount of Net Accrued Paid
1937-1955	$682,457,954	$157,632,946	$524,825,008	$-0-	$524,825,008
1956-1960	751,430,098	63,755,409	687,674,689	-0-	687,674,689
1961	170,884,261	2,042,748	168,841,513	-0-	168,841,513
1962	179,396,797	4,929,404	174,467,393	-0-	174,467,393
1963	189,119,876	(1,415,917)	190,535,793	-0-	190,535,793
1964	220,334,818	674,506	219,660,312	-0-	219,660,312
1965	183,913,236	1,014,005	182,899,231	-0-	182,899,231
1966	202,734,069	3,229,471	199,504,598	-0-	199,504,598
1967	220,579,702	5,162,831	215,416,871	-0-	215,416,871
1968	222,862,970	3,673,790	219,189,180	-0-	219,189,180
1969	230,256,091	2,217,144	228,038,947	-0-	228,038,947
1970	232,541,169	(1,908,643)	234,449,812	-0-	234,449,812
1971	202,440,101	(2,821,259)	205,261,360	-0-	205,261,360
1972	190,732,158	-0-	190,732,158	-0-	190,732,158
1973	219,475,963	-0-	219,475,963	-0-	219,475,963
1974	219,297,428	-0-	219,297,428	-0-	219,297,428
1975	260,676,152	-0-	260,676,152	-0-	260,676,152
1976	275,267,465	-0-	275,267,465	-0-	275,267,465
1977	294,779,691	-0-	294,779,691	-0-	294,779,691
1978	285,075,424	-0-	285,075,424	-0-	285,075,424
1979	279,347,897	-0-	279,347,897	-0-	279,347,897
1980	386,309,467	-0-	386,309,467	-0-	386,309,467
1981	352,060,560	-0-	352,060,560	-0-	352,060,560
1982	366,654,502	-0-	366,654,502	-0-	366,654,502
1983	278,716,168	-0-	278,716,168	-0-	278,716,168
1984	342,756,506	-0-	342,756,506	-0-	342,756,628
1985	367,368,710	-0-	367,368,710	-0-	367,368,710
1986	317,963,824	-0-	317,963,824	-331,195	317,963,824
1987	180,843,953	-0-	180,843,953	68,324	180,843,953
1988	218,865,609	-0-	218,865,609	374,350	218,865,609
1989	220,409,000	-0-	220,409,000	1,768,647	218,745,960
1990	225,870,000	-0-	225,870,000	28,119,702	227,505,564
1991	231,220,358	-0-	231,220,358	187,574,210	187,754,210
Total Regular ODS	$9,210,245,120	$238,186,435	$8,972,058,685	$217,574,038	$8,922,832,946
Soviet Grain Program [1]	$147,132,626	$-0-	$147,132,626	$-0-	$147,132,626
Total ODS	**$9,357,377,746**	**$238,186,435**	**$9,119,191,311**	**$217,574,038**	**$9,069,965,572**

[1] No longer operative.

Table 12: OPERATING-DIFFERENTIAL SUBSIDY ACCRUALS AND OUTLAYS BY LINES--JANUARY 1, 1937, TO SEPTEMBER 30, 1991

LINES	Accruals			ODS Paid	Net Accrued Liability
	ODS	Recapture	Net Accrual		
Aeron Marine Shipping	$26,079,663	$0	$26,079,663	$26,079,663	$0
American Banner Lines [1]	2,626,512	0	2,626,512	2,626,512	0
American Diamond Lines [1]	185,802	28,492	157,310	157,310	0
American Export Lines [2]	693,821,868	10,700,587	683,121,281	683,121,281	0
American Mail Lines [3]	158,340,739	7,424,902	150,915,837	150,915,837	0
American Maritime Transport	15,823,707	0	15,823,707	9,504,101	6,319,606
American President Lines [3]	1,433,360,922	17,676,493	1,415,684,429	1,407,201,707	8,482,722
American Shipping	21,213,639	0	21,213,639	21,213,639	0
American Steamship	76,462	0	76,462	76,462	0
Aquarius Marine Co.	41,432,698	0	41,432,698	41,117,089	315,609
Aries Marine Shipping	25,291,415	0	25,291,415	25,291,415	0
Asco-Falcon II	626,993	0	626,993	587,268	39,725
Atlantic & Caribbean S/N [1]	63,209	45,496	17,713	17,713	0
Atlas Marine Co.	42,519,882	0	42,519,882	41,656,594	863,288
Baltimore Steamship [1]	416,269	0	416,269	416,269	0
Bloomfield Steamship [1]	15,588,085	2,613,688	12,974,397	12,974,397	0
Brookville	2,610,877	0	2,610,877	1,475,487	1,135,390
Chestnut Shipping Co.	66,354,531	0	66,354,531	63,739,017	2,615,514
Delta Steamship Lines	575,053,817	8,185,313	566,868,504	566,868,504	0
Ecological Shipping Co.	4,968,943	0	4,968,943	4,968,943	0
Equity	1,555,610	0	1,555,610	1,497,110	58,500
Farrell Lines	660,188,312	1,855,375	658,332,937	656,514,860	1,818,077
First American Carriers	4,587,207	0	4,587,207	4,125,999	461,208
Gulf & South American Steamship	34,471,780	5,226,214	29,245,566	29,245,566	0
Lykes Bros. Steamship	1,884,486,139	52,050,598	1,832,435,541	1,815,095,911	17,339,630
Margate Shipping	113,651,668	0	113,651,668	111,464,316	2,187,292
Moore-McCormack Bulk Transport	100,064,773	0	100,064,773	97,269,766	2,795,007
Moore-McCormack Lines [8]	734,212,876	17,762,445	716,450,431	716,450,431	0
N.Y. & Cuba Mail Steamship	8,090,108	1,207,331	6,882,777	6,882,777	0
Ocean Carriers	39,961,171	0	39,961,171	39,865,256	255,473
Oceanic Steamship [5]	113,947,681	1,171,756	112,775,925	112,775,925	0
Pacific Argentina Brazil Line [1]	44,561,192	0	44,561,192	44,305,719	0
Pacific Far East Line [6]	283,693,959	23,479,204	260,214,755	260,214,755	0
Pacific Shipping Inc.	18,840,400	0	18,840,400	18,840,400	0
Prudential Lines [4]	641,647,708	24,223,564	617,424,144	617,424,144	0
Prudential Steamship [1]	26,352,954	1,680,796	24,672,158	24,672,158	0
Sea Shipping	25,819,800	2,429,102	23,390,698	23,390,698	0
Seabulk Transmarine I & II, Inc.	37,092,376	0	37,092,376	35,845,320	1,247,056
South Atlantic Steamship [1]	96,374	84,692	11,682	11,682	0
States Steamship	231,997,100	5,110,997	226,886,103	226,886,103	0
United States Lines [7]	750,518,013	54,958,689	695,559,324	695,559,324	0
Waterman Steamship	341,661,830	0	341,661,830	338,423,380	3,238,450
Worth Oil Transport	17,428,314	0	17,428,314	17,428,314	0
Vulcan Carriers	858,977	0	858,977	805,785	53,192
Total Regular ODS	$9,210,245,120	$238,186,435	$8,972,058,685	$ 8,922,832,946	$49,225,739
Soviet Grain Programs [9]	$147,132,626		$147,132,626	$147,132,626	$0
Total ODS	**$9,357,377,746**	**$238,186,435**	**$9,119,191,311**	**$9,069,965,572**	**$49,225,739**

[1] No longer subsidized or combined with other subsidized lines.
[2] AEL was acquired by Farrell Lines, March 29, 1978.
[3] APL merged its operations with AML's October 10, 1973.
[4] Changed from Prudential-Grace Lines, Inc., August 1, 1974.
[5] Purchased by Lykes Bros. Steamship Co., Inc.
[6] Went into receivership August 2, 1978.
[7] Ceased to be subsidized line in November 1970 but returned as a subsidized carrier in January 1981.
[8] Purchased by United States Lines October 1983.
[9] No longer operative.

Table 13 : ODS CONTRACTS IN FORCE--SEPTEMBER 30, 1991

A. Liner Trades

Operator and Contract No.	Contract Duration	Number Subsidized Ships	Service (Trade Route/Area)	Annual Sailings Minimum	Annual Sailings Maximum
American President Lines, Ltd. MA/MSB-417	1-01-78 to 12-31-97	23	Transpacific Services: [1] California/Far East Line A (TR 29)	72	108
			California/Far East Line A Extension (TRs 17, 28, 29) [2, 3]	18	28
			Washington-Oregon/Far East Line B (TR 29)	54	80
			Washington-Oregon/Far East Line B Extension (TRs 17, 28, 29) [4]	6	-
Farrell Lines Incorporated MA/MSB-352	1-01-76 to 12-31-95	0	U.S. Atlantic/West Africa (TR 14-1) [5, 6]	20	38
Farrell Lines Incorporated MA/MSB-482	1-01-81 to 12-31-2000	4	U.S. Atlantic/Mediterranean Service (TRs 10, 13) [6]	44	66
First American Bulk Carrier Corporation MA/MSB-451(a)*	8/29/90 to 12/31/98	2	U.S. Gulf/U.K. Continent (TR 21)	-	20
Lykes Bros. Steamship Co., Inc. MA/MSB-451	1-01-79 to 12-31-98	25	U.S. Gulf/U.K. Continent (TR 21)	24	40
			U.S. Gulf & S. Atlantic/ Mediterranean (TR 13) [7, 12]	42	48
			U.S. Gulf/Far East (TR 22) [7, 9, 10, 12, 15]	36	60 Overall
			U.S. Gulf/South & East Africa (TR 15-B) [7, 9, 11, 12, 15]	18	maximum 24 not to exceed 330
			U.S. Atlantic & Gulf/West Coast South America (TR 31/2) [13]	24	48
			Great Lakes/Mediterranean-India (Trade Area 4) [7, 12]	3	10
			U.S. Pacific/Far East, North (TR 29) [14]	20	80
			U.S. Pacific/Far East, South (TR 17/29) [14]	20	
Northstar Shipping, Inc. MA/MSB-421	1-01-78 to 12-31-97	0	U.S. North Atlantic/Mediterranean (TR 10) [16]	24	36
United States Lines, Inc. [17] MA/MSB-483					
Addendum No. 4 to amended and restated MA/MSB-483	7-08-83 to 12-31-95	0	U.S. Atlantic & Gulf/Australia, New Zealand (TR 16)	16	21

*The Maritime Subsidy Board approved the transfer from Lykes to First American Bulk Carriers Corp. of the ODS rights to 20 annual sailings on Trade Route 21 (U.S. Gulf/North Europe) and the obligation to replace two vessels. As part of the action, the MSB approved the time charter by Lykes of two C6-M-F146a ships owned by FABC, for 36 months with subsequent charter extensions of 36 months (through December 31, 1998).

	Number Subsidized Ships	Service (Trade Route/Area)	Annual Sailings	
			Minimum	Maximum
	0	U.S. Atlantic/East Coast South America (TR 1)	40	70
	0	U.S. Atlantic/South & East Africa (TR 15-A)	22	36
	0	U.S. Gulf/East Coast South America (TR 20)	26	53
	0	U.S. Atlantic/Caribbean (TR 4)	22	33
	4 [18]	U.S. Atlantic-Gulf/India, Persian Gulf & Red Sea, Indonesia, Malaysia, Singapore, Brunei (TRs 18, 17)	8	-
	58			

containerships may call at both California and Washington-Oregon, with voyages originating in California being in Washington-Oregon being Line B sailings; however, both types of such voyages shall be counted toward B, with the outbound and inbound portions of the sailings being counted and applied separately.

n a privilege basis with a maximum of 28 sailings.

Malaysia (except Sarawak and Sabah), and Singapore. Numbers of required sailings are a portion of the require

Malaysia, and Singapore. Numbers of required sailings are a portion of the required sailings on Line B.

ailings annually from the U.S. Gulf to West Africa.

RAL RAINBOW, which is eligible to operate with subsidy on TR 10/13 or 14-1.

annually between U.S. North Atlantic and Mediterranean ports on a privilege basis in conjunction with required Lykes is permitted to make 48 sailings annually between U.S. Pacific and Mediterranean ports on a privilege bas TR 13.

annually between U.S. Atlantic and South and East Africa on a privilege basis in conjunction with required servi

ional sailings on TRs 22 and 15B over maximum sailings if the minimum sailings are made on all other services: TR 15B, five additional sailings. The overall maximum must not exceed 330 annual sailings.

of 12 and a maximum of 30 sailings per annum shall include ports in Indonesia and Malaysia (including

ilings annually from the U.S. Gulf to West Africa on a privilege basis in conjunction with required service on

annually between U.S. Atlantic and Gulf ports and Southwest Asian ports (Suez to Burma) in conjunction with R 22 and TA 4.

24 sailings per annum may provide limited TR 19 service exclusively between U.S. Gulf ports and ports on the ama, the former Panama Canal Zone, and the north coast of Colombia.

TR 17/29 in July 1986.

he U.S. Atlantic to the Far East in conjunction with required service on TR 22.

thstar Shipping, Inc. on January 9, 1990, from Prudential Lines, Inc.

es no service under the subsidy contract; contracts have been authorized by MSB to be assigned to Midlantic

EEN VALLEY from Central Gulf January 5, 1989, through September 30, 1991.

B. **Bulk Trades:**

Operator and Contract No.	ODS Agreements: Contract Effective Date	ODS Agreements: Contract Termination Date	Number of Subsidized Ships 9/30/90	Service	Annual Sailings: Minimum No. of Days
American Maritime Transport, Inc. MA/MSB-129	8-09-73	8-08-93	2	Worldwide Bulk Trade	335
American Maritime Transport, Inc. MA/MSB-166	10-10-74	10-09-94	1	Worldwide Bulk Trade	335
Aquarius Marine Co. MA/MSB-309	10-15-75	10-14-95	1	Worldwide Bulk Trade	335
Asco-Falcon II Shipping Co. MA/MSB-439	5-24-81	5-23-2001	1	Worldwide Bulk Trade	335
Atlas Marine Co. MA/MSB-274	12-30-76	12-29-96	1	Worldwide Bulk Trade	335
Brookville Shipping, Inc. MA/MSB-166(a)	10-10-74	10-09-94	5 [1]	Worldwide Bulk Trade	335
Brookville Shipping, Inc. MA/MSB-272	4-14-76	4-13-96	1	Worldwide Bulk Trade	335
Chestnut Shipping Co. MA/MSB-299	12-01-76	11-30-96	5 [2]	Worldwide Bulk Trade	335
Equity Carriers I, Inc. MA/MSB-439	5-24-81	5-23-2001	1	Worldwide Bulk Trade	335
Equity Carriers III, Inc. MA/MSB-439	5-24-81	5-23-2001	1	Worldwide Bulk Trade	335
Margate Shipping Co. MA/MSB-134	12-28-73	12-27-93	3	Worldwide Bulk Trade	335
Moore Marine Transport, Inc. MA/MSB-295	12-10-75	12-09-95	3	Worldwide Bulk Trade	335
Ocean Chemical Carriers, Inc. MA/MSB-442	9-20-81	9-19-2001	1	Worldwide Bulk Trade	335
Ocean Chemical Transport, Inc. MA/MSB-440	3-25-81	3-26-2001	1	Worldwide Bulk Trade	335
Vulcan Carriers, Ltd. MA/MSB-167	4-03-76	4-02-96	6 [3]	Worldwide Bulk Trade	335
Total Bulk Trades			**34**		

[1] Four 63,700 DWT dry bulk vessels (LIBERTY SEA, LIBERTY SPIRIT, LIBERTY STAR, and LIBERTY SUN) are eligible to share ODS under Brookville's two ODS contracts, not to exceed two ship years of subsidy annually.

[2] Four vessels (CHILBAR, ENERGY INDEPENDENCE, FREDERICKSBURG, and GOLDEN GATE) are eligible to share ODS under Chestnut and Margate's two ODS contracts, not to exceed five ship years of subsidy annually.

[3] Two 45,500 dry bulk vessels (OMI MISSOURI and OMI SACRAMENTO) are eligible to share ODS under Vulcan's ODS contract, not to exceed four ship years of subsidy annually.

Table 14: FOREIGN TRANSFERS AND OTHER SECTION 9 APPROVALS--FY 1991[1]

A. Program Summary	Number	Gross Tons
U.S. PRIVATELY OWNED VESSELS		
Transfer to Foreign Ownership and/or Registry		
Vessels of 1,000 Gross Tons and Over	77	758,844
Vessels Under 1,000 Gross Tons		
Commercial Craft	29	10,612
Pleasure Craft	5	1,421
Subtotal	**34**	**12,033**
Total	**111**	**770,877**
Charters to Aliens		
Vessels of 1,000 Gross Tons and Over		
Approvals	104	
Modifications	68	
Extensions	10	
Vessels of Under 1,000 Gross Tons		
Approvals	0	
Modifications	1	
Extensions	0	
Violations		
Reported	30	
Mitigated or Settled	30	
Rescissions (Sales to Aliens)	1	
Transfers-Stock/Control/Interest	5	
Modifications (Stock Transfer)	0	
Modifications (Sales to Aliens)	1	
Mortgages to Aliens	1	
Denials	0	

[1]Approvals granted by MARAD pursuant to section 9, Shipping Act, 1916, as amended.

Table 14: (Continued)

B. FOREIGN TRANSFER APPROVALS--Vessels of 1,000 Gross Tons and Over

	Pursuant to Section 9 (U.S. Owned and U.S. Documented)		
	No. of Vessels	Gross Tons	Average Age
Tankers	4	240,036	23 yrs
Cargo	9	115,823	30 yrs
Passenger/Cargo	0	0	0 yrs
Miscellaneous	64	402,985	16 yrs
Total	**77**	**758,844**	**23 yrs**

Recapitulation by Nationality	Number	Gross Tons
Bahamian	5	65,182
British	1	3,490
Canadian	4	18,476
Honduran	1	1,469
Liberian	6	92,935
Malaysian	2	19,744
Maltese	1	3,990
Marshall Islands	1	103,907
Mexican	1	10,562
Nigerian	1	2,665
Panamanian	19	177,625
St. Vincent & the Grenadines	4	10,967
Vanuatu	9	36,379
Venezuelan	2	3,977
Total	**57**	**551,368**
Sale Alien (No Foreign Registry)	10	51,402
Sale to Alien for Scrapping	10	156,074
Total	**20**	**207,476**
GRAND TOTAL	**77**	**758,844**

Chapter 3

Domestic Operations

The segment of the American merchant marine which operates on the Great Lakes, the inland waterways, and in the coastwise, intercoastal, and domestic offshore trades carries a combined total of over one billion short tons of cargo each year.

Great Lakes

On September 30, 1991, the U.S. Great Lakes bulk fleet consisted of 77 self-propelled vessels of 1,000 gross tons and over, 54 of which were active. (See Table 15.) This represents nearly full utilization of the vessels capable of competitive operation in the region's bulk trades. Comparatively small size, lack of self-unloading equipment, and other economic factors make the eight, long-term, inactive lay up ships uneconomical to operate.

The primary dry bulk cargoes, iron ore, coal, and limestone, shipped from U.S. ports during the 1991 shipping season through September totaled 72 million short tons. Vessel use remained about average throughout the year. Total cargo carried in 1991 was about 7 percent less than the previous year.

Inland Waterways

In calendar year 1989, the most recent year for which figures are available, 686.2 million short tons of cargo moved on the inland waterways compared to 671.8 million short tons in 1988.

In the first quarter of 1991, low-water levels and drought throughout the Missouri River Basin caused operating problems for towboat operators and users. Towboat operators faced restricted navigation because of ice build-up at some locks and dams on the Ohio and Upper Mississippi Rivers. Bad weather conditions threatened to curtail navigation on the Missouri River. The Corps of Engineers also reported low-water levels on the Missouri River due to limited water releases from the upper river basin reservoir.

Barge operators again faced restrictions imposed in 1990. The normal operating season begins on April 1 and ends November 30. It was started a week late and ended a month early and barge operating drafts were limited to 7.5 feet. By the end of the second quarter of 1991, however, there was sufficient rainfall to permit deeper operating drafts of 9 feet at Kansas City and Nebraska City.

New construction continued to increase as orders for barges, towboats, and river gambling vessels were placed in various shipyards.

Container-on-barge traffic rose, with imports from South America to New Orleans barged to Indiana.

Both domestic and international coal shipments increased in this reporting period. Low-sulfur coal sales were up as coal burning facilities moved toward compliance with the 1990 Clean Air Act. Export coal shipments rose, especially steam coal to Europe.

According to U.S. exporters, the upsurge in European demand for coal coincided with grain shippers' entry into the barge market. This, coupled with lock repairs and some low water, tightened the supply of barges and forced barge rates upward. In September, barge rates from the mid-Mississippi River range to the Gulf hovered around 220 to 249 percent of tariff, about double the rates for May and June.

The U.S. Energy Information Administration announced in a recent forecast that demand for U.S. coal in Europe will increase by almost 150 percent by the year 2000.

In another area, the Soviet Union made its largest purchase of U.S. corn, 3.7 million metric tons (145.7 million bushels) valued at $380 million, raising prospects for additional inland barge business.

During FY 1991, MARAD continued to participate in the Upper Mississippi River Environmental Management Program, providing industry coordination with environmental planners throughout the five-state area. Congress extended the program term from 10 to 15 years and increased funding to $300 million.

MARAD continued to represent the Department of Transportation on the Upper Mississippi River Basin Association in its environmental planning and liaison efforts. The Agency also provided technical assistance to the U.S. Army Corps of Engineers in reviewing and updating their *Missouri River Master Water Control Manual.*

Domestic Ocean Trades

A new roll-on/roll-off (RO/RO) barge, WAIALEALE, was launched and christened at Trinity Industries' Gretna Machine and Iron Works, Inc. in Harvey, LA, for Matson Navigation Co., Inc. The 345-foot barge will be used to transport trailers and autos in the Hawaiian Islands.

Trailer Bridge Co., a new company, announced it will offer weekly RO/RO service between Jacksonville, FL, and San Juan, PR. The new service was scheduled to begin in January 1992 with two triple-deck barges.

Domestic Tanker Movements

The continued decline in the volume of Alaskan oil transported to the lower 48 states provided fewer employment opportunities for the U.S.-flag tanker fleet, with less than half of the eligible ships engaging in the trade during the reporting period. During FY 1991, 48 vessels made 815 voyages from Valdez. Included were 21 voyages by five foreign-flag vessels that carried crude to the Virgin Islands. A total of 81,779,993 tons of crude was transported from Valdez with 87 percent to the U.S. West Coast, 12 percent to Panama for transhipment to the U.S. East Coast and 1 percent to the Virgin Islands.

There was a test drawdown of the Strategic Petroleum Reserve (SPR) during the first quarter of fiscal year (FY) 1991. Of the 3.9 million barrels sold, only 19 percent were transported by U.S.-flag vessels. The remainder were moved from the SPR by pipeline.

Offshore Drilling

Depressed natural gas prices and environment related pressures caused a further decline in the number of drill rigs operating in U.S. waters. During FY 1991, mobile drill rig owners continued to move equipment overseas in pursuit of higher daily rates and long-term contracts.

During the year, the total Gulf of Mexico drilling fleet contracted from 212 to 184. The number of rigs working under contract fell from 140 to 103 during this period. The number of permits issued to drill offshore wells fell from 861 to 669, more than a 22 percent decrease.

Offshore Service Vessels

The market for offshore service vessels initially showed signs of strength. In late 1990, contracts were let for building boats from the keel up for the first time in almost a decade. However, rates for vessels, which had remained stable in a healthy range since 1989, tumbled during early 1991 to depressed levels. The exodus of customers from the U.S. Gulf affected the support vessel market and mergers and consolidations continued.

Several operators mobilized boats to overseas support bases, in some cases after extensive upgrades or conversions. Many other boat operators do not have the corporate organizational structure needed in international operations. The search for oil in water far offshore has resulted in increased requirements for vessels of greater capability and capacity. The only potential growth in the domestic offshore markets appeared to be in spill response and in transporting wastes from platforms and drill rigs in special barges.

Table 15: U.S. GREAT LAKES FLEET [1]--SEPTEMBER 30, 1991

	Vessels	Gross Registered Tons	Estimated Deadweight Tons
Total	**77**	**1,102,518**	**2,112,286**
Bulk Carriers	69	1,071,490	2,098,066
Active	54	947,569	1,881,141
Temporarily Inactive	4	52,053	91,715
Laid-Up Inactive (More than 12 months)	8	71,868	125,210
Tankers	2	9,758	14,220
Active	2	9,758	14,220
Temporarily Inactive	0	0	0
Others [2]	6	21,270	-
Active	0	4,244	-
Temporarily Inactive	1	0	-
Laid-Up Inactive (More than 12 months)	5	17,026	-

[1] Self-propelled vessels of 1,000 gross registered tons and over.
[2] Includes railroad car ferries, auto ferries.

Chapter 4

Market Development

The Maritime Administration (MARAD) conducts specialized marketing programs designed to increase U.S.-flag participation in the Nation's oceanborne foreign commerce. Programs are directed toward market research, improvement of communications between carriers and shippers, and individual consultation with firms active in international trade.

Marketing Program

The goal of MARAD's marketing program is to assist U.S.-flag carriers through market leads and encouraging shippers to give preference to U.S.-flag vessels for their ocean transportation needs. The Market Lead System collects market intelligence from private and Government sources which MARAD provides to U.S.-flag vessel operators.

MARAD offices, strategically located throughout the country, consult with the transportation policymakers of import and export firms. In FY 1991, the trade specialists assigned to these offices consulted with more than 900 firms to encourage the use of U.S.-flag vessels. Voluntary reports from carriers and shippers indicate that $10.8 million in additional ocean freight revenues for U.S.-flag vessels were generated by these policy consultations. Over the last 9 years, in excess of $145 million in additional revenue for U.S.-flag carriers was generated by this program.

MARAD participated in more than 235 seminars, forums, workshops, and other meetings dealing with international trade and transportation in FY 1991. Attended by shippers, carriers, freight forwarders, and other maritime interests, these meetings provided an opportunity for the exchange of information and views on transportation economics and practices. The meetings also provided a forum for the Agency to brief several thousand foreign trade executives on the national benefits which accrue from using U.S.-flag services.

Market Analysis and Planning

A report on U.S. import and export oceanborne cargo moving through Canadian ports in 1989 was published in fiscal year (FY) 1991. Compared to the previous year, the analysis showed a 10 percent increase in transshipments through Canada. In 1988, 4.8 million long tons of cargo was transshipped through Canadian ports compared to 5.2 million long tons in 1989. The latter figure represents 5 percent of the total U.S. liner trade in 1989.

Bilateral Cargo Monitoring

MARAD continued monitoring cargo movements between the United States and selected trading partners as part of its efforts to assure a fair transportation environment for U.S.-flag shipping. Countries were selected on the basis of changing trade conditions, unilateral regulatory actions, or the existence of bilateral maritime agreements.

Because of the bilateral maritime agreement and continuing trade discussions between the United States and the Peoples Republic of China (PRC), trade between the two countries was closely monitored during the year. In calendar year 1990, the liner trade between the two countries totaled 5.9 million long tons valued at $15.7 billion, an increase in value of $2.4 billion (18 percent) over 1989. However, the tonnage declined by almost 900,000 long tons (13 percent) during the period.

U.S.-flag liner vessels lifted 11 percent of the overall liner trade by weight and 25 percent by value. PRC-flag vessels lifted 22 percent by weight and 15 percent by value. U.S.-flag tonnage decreased 3.6 percent, from 700,540 long tons in calendar year 1989 to 675,538 long tons in 1990. PRC-flag cargo increased slightly from 1,334,812 long tons to 1,335,941 long tons.

Preference Cargo

MARAD monitors compliance with the three major cargo preference laws and reports its findings to Congress. This oversight is essential in encouraging Federal agencies to maximize the use of U.S.-flag vessels. Accordingly, MARAD monitors compliance with the following laws and reports its findings to Congress:

o The Cargo Preference Act of 1904, which requires all cargoes procured for or owned by the military services to be carried exclusively on U.S.-flag vessels. (MARAD's oversight responsibilities under the Merchant Marine Act of 1970 [Public Law {P.L.} 91-469] encompass all of the Department of Defense's [DOD] ocean transportation requirements to ensure that at least 50 percent of the 100 percent requirement is met by the use of privately owned U.S.-flag commercial vessels as required by P.L. 83-664.);

o Public Resolution 17 of the 73rd Congress, requires that all cargoes generated by the Export-Import Bank (Eximbank) be shipped on U.S.-flag vessels unless a waiver is granted; and

o The Cargo Preference Act of 1954 (P.L. 83-664), requires that at least half of all Government-generated cargoes subject to the law be transported on privately owned U.S.-flag commercial vessels available at fair and reasonable rates. In 1985, the Merchant Marine Act, 1936, was amended to require that the percentage of certain agricultural cargoes moving on U.S.-flag vessels increase from 50 to 75 percent.

To ensure compliance with cargo preference laws, MARAD monitors the shipping activities of 52 Federal agencies, independent entities, and Government corporations (See Table 16). Statistics are maintained on a calendar year (CY) basis or on a 12-month program period, with the exception of Eximbank statistics which are maintained over the life of a loan or guarantee.

Agencies Not In Full Compliance With Public Law 83-664

The U.S. Department of Agriculture's (USDA) Foreign Agricultural Service (FAS) failed to achieve the 75 percent U.S.-flag shipping requirement for the P.L. 480, Title I program. USDA's compliance for this period is shown as 69 percent but is noted with explanation.

The Food, Agriculture, Conservation, and Trade Act of 1990 amended P.L. 480 and required USDA to promulgate new regulations regarding conflict of interest. It also mandated that the President sign a new Executive Order implementing revised delegations of authority for the P.L. 480, Title I and the new Title III. The 1990 Farm Bill caused unforeseen and unusual program delays. USDA indicated that during the 1990-1991 cargo preference year, U.S.-flag vessels were not available in many instances. This has been verified by MARAD.

Ocean Freight Differential

The Food Security Act of 1985 (P.L. 99-198), increased to 75 percent the U.S.-flag tonnage share of commodity exports under certain specified food aid programs (P.L. 83-480, Food for Progress, and Section 416 programs).

Under the 1985 Act, the USDA's Commodity Credit Corp. (CCC) continues to be responsible for funding the ocean freight differential (OFD) costs on the first 50 percent share of the cargo that must move in U.S.-flag vessels. MARAD is responsible for reimbursing the USDA for the OFD costs incurred on the U.S.-flag share of cargo above 50 percent, but not to exceed the additional legislated increment of 25 percent.

OFD cost is defined as the difference between the cost of shipping cargo on a U.S.-flag vessel as compared to shipping the same cargo on a foreign-flag vessel.

The 1985 Act provided for a USDA/CCC Cargo Preference Year (CPY) covering the 12 months beginning each April 1 through March 31 of the following year. During the CPY which started on April 1, 1990, MARAD's share of the OFD, based on its review of all invoices submitted by CCC, totalled $45,042,994. This figure is not definitive because final invoices were not received from CCC by the end of this reporting period. In all instances, MARAD has reimbursed USDA for the incremental OFD amounts within agreed time frames.

The average OFD cost for all of the agricultural preference programs for the April 1, 1990, to March 31, 1991, cargo preference year was $31.44 per metric ton, as compared to $31.55 per metric ton in the first year (1986/1987) under the provisions of the Food Security Act of 1985.

If, in any fiscal year, the total cost to CCC of ocean freight and OFD for the P.L. 480 and Section 416 programs exceeds 20 percent of the value of the commodities exported under these programs, plus the ocean freight and OFD incurred on those commodities,

MARAD is required to reimburse CCC the amount of such excess. USDA informally advised MARAD that the total ocean freight costs experienced on the subject programs during FY 1991 may have exceeded the 20 percent cap. However, final cost data was not available for this report.

The 1985 Act also provided that for fiscal year 1986 and each fiscal year thereafter, the minimum tonnage to be exported under the P.L. 480 and Section 416 programs shall be the average of the tonnage exported during the base period. The base period for any fiscal year is defined as the five fiscal years, high and low years discarded, beginning with the sixth fiscal year preceding such fiscal year and ending with the second fiscal year preceding such fiscal year.

Based on preliminary program tonnage figures provided by USDA, MARAD determined that for FY 1991 the total tonnage for the P.L. 480 and Section 416 programs was 7,694,601 metric tons, exceeding the minimum requirement by 404,638 metric tons.

Department Of Defense Programs

Commercial Contractor Shipments

MARAD continues to assist commercial contractors in identifying appropriate privately owned and operated U.S.-flag ocean carriers who can provide service between ports where a cargo preference requirement exists. The CY 1990 statistics, shown in Table 16, represent commercial contract shipments, identified by MARAD which are subject to the Cargo Preference Act of 1904. MARAD has instituted a program in which a point of contact and phone number for commercial contractors are identified to the U.S. carrier industry through the Market Lead System. Department of Defense permits MARAD to identify contracts awarded by the Army, Navy, Air Force and the Defense Agencies.

The military services and DOD agencies did not achieve 100 percent U.S.-flag participation in their commercial contracting activities during CY 1990. A small portion of foreign-flag participation was required due to the nonavailability of U.S.-flag vessels primarily resulting from the volume of cargo moving between areas not served by U.S.-flag vessels. The shortfall can also be attributed to the unfamiliarity of many Government contracting officers with ocean provisions in the Defense Federal Acquisition Regulation (DFAR) and a failure by contracting activities to ensure submission of ocean documents from commercial contractors. These shortfalls have been addressed in letters sent by MARAD to contracting officers for commercial shippers. MARAD continues to improve contract monitoring procedures and to ensure that our oversight obligations for DOD are responsive.

MARAD has been unsuccessful in obtaining bills-of-lading from household goods freight forwarders. MARAD's rules do not cover personal property shipments. The Military Traffic Management Command (MTMC) modified its solicitation and has made submission of bills-of-lading for military household effects a voluntary program for household goods freight forwarders. Until such time as regulations are promulgated, data on international household goods movements cannot be collected and reported.

Troop Support Cargoes

Tonnages carried by U.S.-flag vessels for troop-support cargoes processed by MTMC and the Navy's Military Sealift Command (MSC) utilizing the Defense Transportation System (DTS) are not reflected in DOD contractor shipment statistics located at Table 15. DOD troop support cargoes processed by MTMC and MSC are provided as a separate listing. A breakdown of tonnage between U.S.-flag privately owned and U.S. Government-owned vessels is included. The data is provided by MSC, with no independent MARAD verification. Precise revenue data from the MSC is not available.

Other DOD Programs

The Foreign Military Financed (FMF)/Military Assistance Program (MAP) Merger and Related Foreign Assistance Act (FAA) Transfers' statistics reflected in Table 16 represent combined tonnage and revenue data for those ocean shipments arranged by the foreign recipients' freight forwarder and also those that were authorized movements within the DTS and processed by MTMC and MSC.

Major cargo movements for two unbudgeted Defense Security Assistance Agency (DSAA) sponsored programs, Special Authority Drawdowns and the International Narcotics Control Act, were delayed until CY 1991. Availability of necessary DOD assets,

including cargo and services, was seriously impacted by Operations Desert Shield/Desert Storm. Data for the Transfer of Excess Defense Articles (Section 573, FAA) cannot be isolated and will be reported as cargo movement under other programs.

With FMF leaning towards an all-grant program, eliminating loan agreements which contained cargo preference language, MARAD found it necessary to request DSAA to implement procedures advising the grant recipients of cargo preference applicability to ocean cargo movement of FMF and related FAA transfers.

Civilian Agency Program

Strategic Petroleum Reserve

In 1977, the U.S. Government announced its intention to store 750 million barrels of crude oil in salt domes along the U.S. Gulf Coast as a Strategic Petroleum Reserve (SPR). At the end of CY 1990, 585.69 million barrels of crude oil had been stored at five SPR sites.

The Cargo Preference Act of 1954 requires the Department of Energy (DOE) to transport at least 50 percent of the oil in U.S.-flag tankers. In 1977, MARAD and DOE agreed that long ton/miles (LTM) more accurately reflect the broad geographical distances in transporting the oil than tonnage alone for compliance.

The SPR purchasing activity was suspended in August 1990 based on the unstable conditions in the Persian Gulf. At that point U.S.-flag tankers had carried 2.017 LTM (31.49 percent) and their operators had received $7.57 million in revenue (48.41 percent). Due to events beyond DOE's control, the 50 percent LTM requirement was not met in CY 1990.

There was a test drawdown of the SPR during the first quarter of fiscal year 1991. Of the 3.9 million barrels sold, only 19 percent was transported by U.S.-flag vessels. The remainder was moved from the SPR by pipeline.

Export-Import Bank (Eximbank)

The Eximbank program's total ocean freight revenue decreased from $38.3 million in CY 1989 to $18.2 million in CY 1990. This decline resulted from the completion of projects and reduction in the funding for new projects. In CY 1990 U.S.-flag operators earned $14.4 million which accounted for 79 percent of total ocean revenues.

Israeli Cash Transfer

From 1980 through 1988, under the Cash Transfer Program, a side letter was in effect. The Government of Israel failed to execute its side letter with the Agency for International Development commencing on October 1, 1989. This represents a loss to the U.S.-flag carriers of approximately 810,000 metric tons of bulk grain shipments and revenues of $21 million.

Table 16: GOVERNMENT-SPONSORED CARGOES--CALENDAR YEAR 1990

Public Law 664 Cargoes:

Program	U.S.-Flag Revenue ($1,000)	Total Metric Tons	U.S.-Flag Metric Tons	Percentage U.S.-Flag Tonnage
Agency for International Development (AID):				
Loans and Grants	44,034	1,445,370	737,779	51.0
P.L. 480 - Title II	180,764	2,182,228	1,643,105	75.0[1]
Section 416	52,294	1,170,867	963,379	82.3
Food for Progress	10,027	244,807	140,169	57.2[4]
Population Division	1,200	1,992	1,823	91.0
Department of Agriculture:				
P.L. 480-Title I/III	151,398	3,277,395	2,404,952	73.4 [5]
Defense Security Assistance Agency (DSAA)				
Foreign Military Financing and MAP Merger Programs	40,431	212,865	189,339	88.9[6]
Department of Energy:				
Bonneville Power Administration	25	284	33	11.6[4]
Strategic Petroleum Reserve	7,577	1,321,661	547,423	41.4[7,8]
Other Agencies	131	781	511	65.4
Department of Health and Human Services	68	93	85	91.3
Department of Justice Programs	131	180	145	80.5
Department of Interior Bureau of Reclamation	0	289	0	0.0[4]
National Aeronautics and Space Administration	240	693	575	83.0
National Science Foundation	4,342	26,077	26,023	99.7
General Services Administration	86	127	76	59.8
Department of Transportation Urban Mass Transportation Administration (UMTA)	1,428	7,466	3,158	42.0 [4,6]
U.S. Information Agency	420	1,096	667	60.8
Voice of America	472	1,976	1,346	68.1
Department of State:				
Foreign Building Office	5,394	15,349	10,622	69.2
Tennessee Valley Authority	131	474	437	92.2
Other Agencies	26	80	40	50.0[9]

Table 16: GOVERNMENT-SPONSORED CARGOES--CALENDAR YEAR 1990 (CONTINUED)

Public Resolution 17 Cargoes:

	Total Metric Tons	U.S.-Flag Metric Tons	Total Freight Revenue	U.S.-Flag Freight Revenue	Percentage U.S.-Flag
Export-Import Bank	54,215	37,290	$18,116,830	$14,363,492	79.0[10]

Cargo Preference Act of 1904 Cargoes: [12,13]

	Total Metric Tons	Metric Tons[11] Dry Cargo	Metric Tons Petroleum	Percentage
Department of Defense Troop Support Cargoes:				
Military Sealift Command (MSC)				
U.S.-flag privately owned vessels	1,813,813	1,813,813	0	15.5
U.S. Government-owned vessels	820,287	759,287	61,000	7.0
MSC chartered vessels	7,526,501	550,657	6,975,844	64.1
Foreign-Flag vessels	1,578,765	497,978	1,080,787	13.4
Total carriage of MSC Troop Support Cargo	11,739,366	3,621,735	8,117,631	100.0

Department of Defense Commercial Contractor Cargoes:	U.S.-Flag Revenue ($1,000)	Total Metric Tons	U.S.-Flag Metric Tons	Percentage U.S.-Flag Tonnage
Army Materiel Command	4,874	20,883	17,552	84.0
Air Force	1,439	2,912	2,815	96.6
Corps of Engineers	820	2,684	2,678	99.9
Defense Logistics Agency	1,121	7,619	7,547	99.1
Navy	3,799	13,480	12,965	96.1
Total U.S.-Flag carriage Department of Defense Commercial Contractor Cargoes	12,053	47,578	43,557	91.5

Defense Security Assistance Agency (DSAA):

Southern Region Amendment (SRA)	7,648	29,799	29,754	97.7[14]

1. The Food Security Act of 1985 (P.L. 99-198) impacted on the P.L. 480 Title I/III, II, the Section 416, and the Food for Progress programs by changing the reporting period from a calendar year to a 12-month period, commencing April 1, 1986, through March 31, 1987, and by increasing the U.S.-flag share from 50 to 75 percent over a 3-year period. The required U.S.-flag share for the current reporting period, April 1, 1990, to March 31, 1991, is 75 percent.

2. Includes civilian agencies, Department of Defense (DOD) Foreign Military Sales Program, and a partial listing of DOD commercial contractor shipments. DOD Troop Support cargoes processed by the MSC are also reported.

3. Program shown as achieving compliance. USDA is reviewing relay vessels employed to carry transhipped cargoes. If they determine that the vessels were not qualified, the program may end in a negative position.

4. This agency complied with the statute, as imbalance in favor of foreign-flag shipments was due to the non-availability of U.S.-flag service.

5. USDA's failure to achieve the 75 percent U.S.-flag shipping requirement is noted with explanation. The Food, Agriculture, Conservation, and Trade Act of 1990 made amendments to P.L. 480 which required USDA to promulgate new regulations regarding conflict of interest and mandated the signing of a new Executive Order to implement the revised delegations of authority for the Title I and new Title III program. USDA indicated that U.S.-flag vessels were not available in many cases during the program year. Because of the extenuating circumstances, MARAD considers USDA to be in compliance for this reporting period.

6. These programs' tonnages are reflected in metric tons for uniformity only. Cargo preference compliance for those programs involving high cube/low density cargo, is achieved on a gross revenue ton basis. Percentages reflected on a weight tonnage basis for such programs do not necessarily represent the exact extent of the programs' compliance with the statute.

7. MARAD accounts for SPR Program on the basis of long ton miles (LTM). In CY 1990 this program provided a total of 6,400 billion LTM of which U.S.-flag carriers derived 2.017 billion LTM or 31.40 percent.

8. This program is not in compliance for CY 1990. However, various events beyond DOE's control, including the Persian Gulf war, precluded DOE from being able to fulfill the 50 percent U.S.-flag LTM shipping requirement. Based on an agreement between the Secretary of Transportation and the Secretary of Education, dated October 29, 1982, the SPR's program compliance obligation is cumulative. Between CY 1981 and 1990, the SPR provided a total of 254.5 billion LTM of which U.S.-flag carriers derived 132.7 billion LTM or 52 percent.

9. Cargo of Government agencies that generated less than 25 metric tons of cargo in 1990.

10. Compliance is based on freight revenue only. U.S.-flag participation on a tonnage basis was 69 percent.

11. As MSC records liner cargo in measurement tons, MARAD has converted these to metric tons using a factor of .274 metric tons per measurement ton. MARAD is unable to verify the troop support cargo data, but merely reflects that information provided by MSC.

12. DOD's contracting activities are subject to the Cargo Preference Act of 1904 (10 USC 2531). P.L. 664 impacts 10 USC 2631 requiring that privately owned U.S.-flag commercial vessels must be used for at least 50 percent of DOD's 100 percent U.S.-flag requirement. DOD's contractors must use privately owned U.S.-flag commercial vessels for 100 percent of their cargoes since such cargoes are processed within the commercial transformation environment.

13. Data reflects only a partial listing of DOD's contracting activities due to the time required for DOD to update its active contracts to include the full U.S.-flag shipping provisions contained in the FAR and the DFAR.

14. SRA cargo transfers are not subject to cargo preference. However, as a matter of agency policy, DSAA requires 100 percent U.S.-flag carriage.

Chapter 5

Port and Intermodal Development

The Maritime Administration (MARAD) provides technical assistance in port and intermodal planning and operations to State and local port authorities, private industry, and foreign governments. It also develops contingency plans for the utilization of ports and port facilities to meet defense needs in time of national emergency or war (also see Chapter 8). Port activities in the international arena are reported in Chapter 9.

Congressional Report on Public Ports

The Secretary of Transportation is required by Public Law 96-371 to submit a report to Congress on the status of public ports of the United States. The report for the years 1988 and 1989 examined the composition of the port industry, highlighted issues and problems, and reviewed the importance of U.S. ports to the Nation's economy and military security. The combined 1990-1991 report is scheduled for completion in the fourth quarter of 1992.

Port and Waterway Development

In fiscal year (FY) 1991, MARAD began reevaluating the Geophysical Information System (GIS) in terms of its potential application to intermodal planning and operations. Emphasis is on the application of GIS technology to land transportation access planning in relation to marine terminals.

Port Access

MARAD continued a multiagency, Departmental research effort in cooperation with industry to study intermodal land transportation access to ports in the United States. The cooperative effort has involved several activities and projects designed to alleviate problems and settle issues related to port landside access. Proposed activities will focus on implementation of key recommendations and further study of land

American President Lines' stack trains being loaded at the Union Pacific Railyard in Seattle, WA.

transportation access as related to shallow and deep draft bulk terminals.

Technical Assistance to Port Industry

MARAD continued to provide technical assistance to the port industry through two major programs and several projects dedicated to strengthening the role of U.S. ports in economic development and national defense. This involved the development of various analytical reports, methodologies, and data systems for improving planning, productivity, and the general efficiency of port management and marine terminal operations. These technical projects were cost-shared by MARAD and appropriate State or local port authorities and private sector organizations.

Port and Intermodal Planning Program

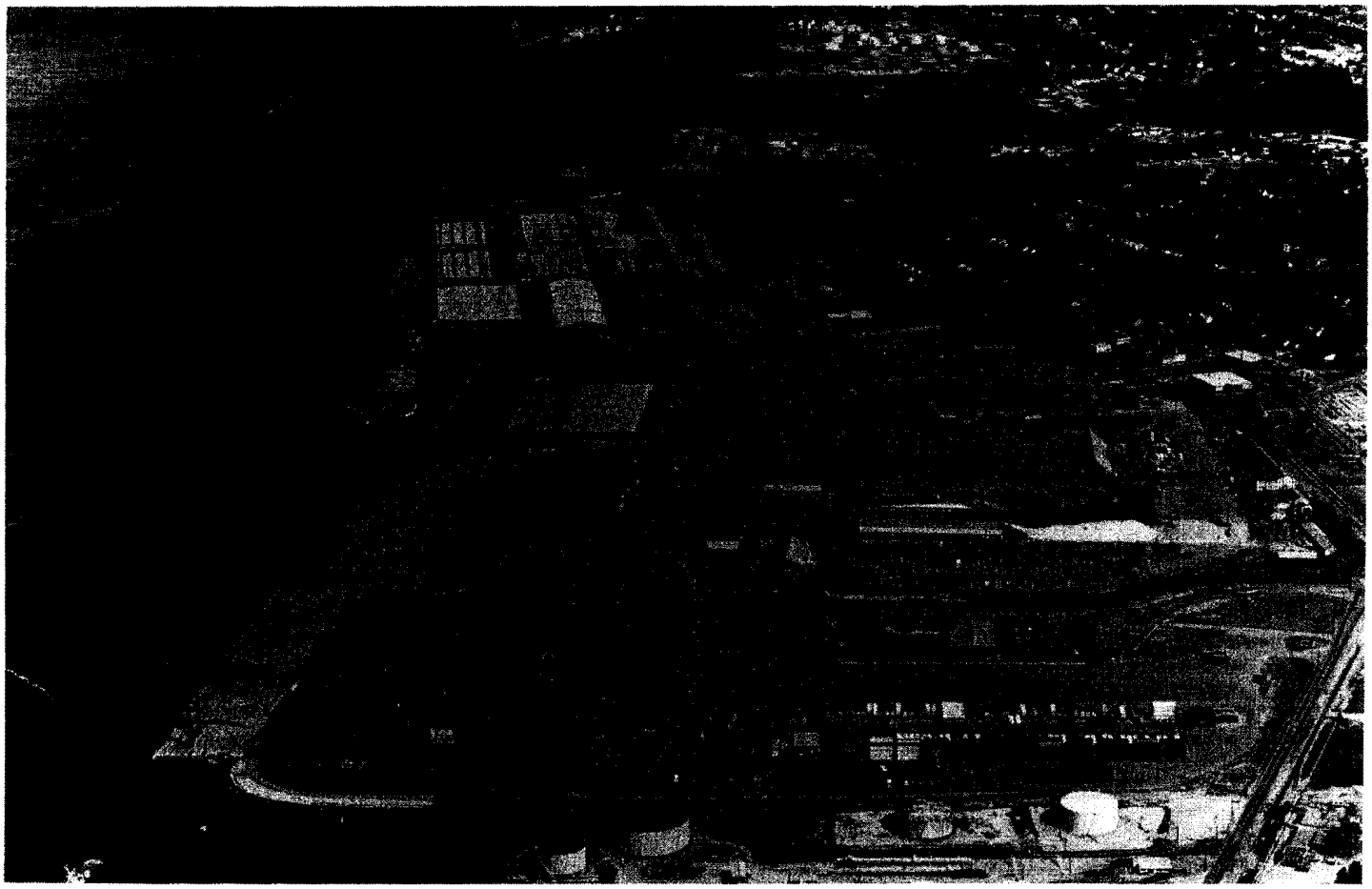
The Agency's port and intermodal planning activities included cooperative research; port planning and management information systems; and financial and economic impact analysis projects. Emphasis continued to be placed on developing generic methodologies usable by any port or region.

Projects under this program which were completed, continued, or initiated in FY 1991 are listed below:

Projects Completed	Description
Landside Port Access Port Visits on Land Transportation Access	Chaired interagency, Departmental working group visits and listening sessions at the ports of New York/ New Jersey, Long Beach, CA, Los Angeles, CA, New Orleans, LA, Charleston, SC, Hampton Roads, VA, Seattle and Tacoma, WA, Toledo, OH, and Boston, MA.
National Port Access Survey	Analyzed the results of data provided by over 50 ports to the American Association of Port Authorities (AAPA) concerning land transportation access problems and some solutions undertaken.
National Roundtable with the Federal Transit Administration (FTA), formerly the Urban Mass Transportation Administration.	Organized meeting of nationally recognized authorities on waterfront land use and environmental issues to discuss cargo and passenger access to port areas.
Transportation Research Board (TRB) Phase I Report	Managed an agreement with TRB to study land transportation issues and solutions in the movement of general cargo to U.S. ports.
Brochure on U.S. Ports	Developed a MARAD brochure, *U.S. Ports Serving World Shipping and Trade.*
National Transportation Policy	Participated in the Working Group on Improved Intermodal Access and Coordination Intermodal and Funding subgroup assessments of key issues in the implementation of the National Transportation Policy review.

International Transport Infrastructure	Participated in the International Infrastructure Focus Group meetings and conference sponsored by the Hudson Institute.
Transport Investment Strategies	Reviewed and commented on a proposal for a study of *Strategic Investments in Transportation* prepared by the National Governors' Association.
Port Expenditure Survey	Prepared and distributed a report, *United States Port Development Expenditure Report.* It profiles major capital expenditures for new construction, modernization, and rehabilitation.

Ongoing Projects	Description
Port Access Study Groups	Continued to chair the DOT steering and working groups of the Landside Port Access initiative, which include representatives from five agencies and three industry associations.



The Port of Wilmington, NC was one of a number of U.S. load-out ports for vessels heading toward Saudi Arabia during the Persian Gulf conflict.

Port Facilities Data Base	Continued maintaining, operating, and updating MARAD's port facility inventory for ocean and inland river ports.
Foreign Trade Data	Maintained active participation in the Foreign Trade Data Users Group which seeks to improve the quality of data collected and published on international trade transactions.
Port Planning Seminar	Assisted the AAPA Planning and Research Committee in organizing its 1991 seminar *Port Planning in a Changing Global Environment.*
Intermodal Research and Development	Continued to act as Chair of the Intermodal Working Group of the DOT Research and Development Coordinating Council.
Public Port Financing	Continued cooperative efforts with the AAPA Finance Committee to update the MARAD report *Public Port Financing in the United States.*
National Port Assessment	Continued research efforts and data collection to update the MARAD report *National Port Assessment.*
Air and Ferry Services	Increased coordination with the Federal Aviation Administration (FAA) and the Federal Transit Administration (FTA), formerly UMTA, concerning improved access between air and mass transit facilities.
Southeast Container Study	Maintained participation with the U.S. Army Corps of Engineers in the study of region trade demands, cargo flow patterns, and forecasts of commodity growths, and their expected effects on the ports of the South Atlantic coast.
U.S. Stevedoring and Marine Terminal Industry	With the assistance of the industry, continued development of the update of the MARAD report *The U.S. Stevedoring and Marine Terminal Industry.*
Data Interchange Technology	In cooperation with the Department, continued to encourage the use of Electronic Data Interchange among the users and providers of transportation to speed the international commerce of the country.
Port Industry Cooperative Research Program	Continued discussions and procedures to conclude an agreement which establishes a cooperative research program with the AAPA. Emphasis will be on encouraging and supporting research that improves the productivity of port management and operations.

Projects Initiated	Description
Landside Port Access Study	Provided TRB with a scope of work for Phase II of the *Landside Port Access Study* which will focus on impediments at bulk commodity terminals.
Port/Highway Cooperation	Began discussions with the Federal Highway Administration (FHWA) on developing a Memorandum of Understanding which would assure continuing cooperation between the two agencies to help implement the provisions of surface transportation legislation related to port access.
Subsidies of U.S. Port Authorities	Began an investigation of the nature and magnitude of a variety of direct and indirect subsidy revenues by U.S. public ports, with emphasis on their uses for port development and operation.

Port and Intermodal Operations Program

This cost-shared program helps to improve productivity in the operation of facilities, equipment, and waterways. The program also provides planning for emergency operating conditions at ports in time of crisis or war. Projects completed, ongoing, or initiated in FY 1991 are described below:

Completed Projects	Description
Maritime Security Awareness	Conducted maritime terrorism and drug smuggling awareness seminars in New York, New Orleans, and San Francisco. These seminars were coordinated by MARAD with Federal law enforcement agencies and key industry organizations.
Port Readiness Brochure	Completed development of a brochure which profiles the *National Port Readiness Network* and the roles of the seven signatory agencies.
Inventory of Coal Export Facilities	Completed an update of the MARAD report *Existing and Potential U.S. Coal Export Loading Terminals.*
Overweight Marine Containers	Participated in industry and Government discussions and various analytic efforts concerning the issue of overweight marine containers moving on U.S. highways.

Chapter 6

Technology Assessment

The Maritime Administration's (MARAD) Technology Assessment program evaluates activities related to the development and use of water transportation technology and systems for commercial, economic, and national security purposes.

MARAD evaluates current maritime developments and future trends involving such interrelated areas as trade, markets, intermodal transportation, emerging technologies, economic developments, fuels and materials, and national defense requirements.

Technical and program studies, research and development contracts, interagency transfers, and cooperative agreements awarded in FY 1991 are listed in Appendix III.

Advanced Ship Development

The Advanced Ship Development Program anticipates future changes in shipping markets and trade routes and studies the advancement of ship design and operational features. It focuses on technology developments with the potential to enhance the competitiveness of the U.S. maritime industry.

In FY 1991, MARAD entered into a cooperative agreement with the U.S. Navy's David Taylor Research Center supporting advanced research and development of commercial cargo and passenger vessels. The agreement calls for a study of potential market opportunities for U.S. ship operators and builders, focusing on transport needs and innovative ship design concepts. The agreement resulted from a recommendation from the "Ship of the Future 2000 Conference and Workshop" held in May 1990.

Navigation Systems

Recent developments in the Global Positioning System (GPS) satellite navigation system have led to new capabilities in marine navigation. The development by the USCG of a Differential GPS (DGPS) communications link can provide navigation accuracies of better than 5 meters in harbor and harbor approach areas. The differential GPS corrections to the standard GPS signal are to be transmitted over existing USCG radio beacons. These DGPS receivers should become a standard navigation system for future U.S.-flag merchant ships. The USCG hopes to have DGPS beacons operational around the conterminous United States within the next few years.

Cargo Handling Technology

The Cargo Handling Program assesses advanced materials handling, automation, data processing, and communications technologies to reduce cargo handling and documentation costs of intermodal shipments between water and rail or motor carrier transportation modes.

During FY 1991, MARAD continued its stimulation and support of industry research and development through the Cargo Handling Cooperative Program (CHCP). Four U.S.-flag carriers, American President Lines, Ltd., Matson Terminals Inc., Sea-Land Service, Inc., and Crowley Maritime Corp., carried out joint projects to increase cargo handling productivity through new technology.

In projects designed to automate materials handling equipment in marine terminals, the CHCP completed testing the Position Location Systems (PLS). This technology gives the exact location of container handling equipment, follows its movement, and provides constant identification in the location of containers.

Technology to assist tractor drivers align containers under cranes was tested in a basic form and development of an electronic security seal continued.

Other CHCP work included analysis and testing of emerging electronic clipboards; automation of tire pressure checks; research on alternative technologies for automatic guidance systems for container handling equipment, and automating ship planning and storage techniques.

Human Factors Research

The Human Factors Research Program addresses effective manning, fatigue, boredom, training, and other human factors issues which are relevant aboard ship. The program addresses human error causes of marine transportation, accidents focusing on design and operating changes to reduce or eliminate those problems.

In FY 1991, MARAD initiated a study at the Volpe National Transportation Systems Center (VNTSC) to investigate the feasibility and applicability of using fitness-for-duty tests onboard ship. The tests would regularly monitor the fatigue and mental performance levels of mariners and provide useful feedback to improve their performance. MARAD also organized a one-day intermodal workshop on the elements of determining fitness-for-duty as part of the Transportation Research Board's (TRB) 24th Annual Workshop on Human Factors in Transportation.

Marine Environmental Protection

The Marine Environmental Protection Program supports studies and prepares reports to assist the maritime industry in more effectively protecting the marine environment. During FY 1991, MARAD accomplished the following significant tasks:

o MARAD was an active participant on the "Interagency Coordinating Committee on Oil Pollution Research" and its subcommittees on prevention and on grants. Chaired by the U.S. Coast Guard (USCG), it was established by Title VII of the Oil Pollution Act of 1990 (P.L. 101-380) to coordinate Federal oil pollution research concerning innovative oil pollution technology, oil pollution technology evaluation, oil pollution effects research, marine simulation research, demonstration projects, simulated environmental testing, and a regional research program. A report to Congress was prepared detailing a 5-year coordinated research plan to be performed by the member agencies.

o MARAD prepared and distributed four quarterly issues of the *Report on Port and Shipping Safety and Environmental Protection* dealing with safety and environmental protection matters related to ports and shipping. The reports summarized activities at the national and international level, including those of the International Maritime Organization.

o A report on the *U.S. Implementation of MARPOL 73/78 Annex V (Garbage)* also was initiated by MARAD in FY 1991. This interagency study by the Marine Board is expected to be completed during calendar year 1993. Participating agencies are the USCG, Environmental Protection Agency (EPA), U.S. Navy, National Oceanic and Atmospheric Administration, and MARAD. Annex V of the International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 (MARPOL 73/78), concerns the prevention of pollution by garbage from ships.

o A MARAD/EPA Memorandum of Agreement (MOA) concerning a Cooperative Research and Technology Program. The MOA was signed and became effective during September 1991.

Maritime Operational Safety

The Maritime Operational Safety Program involves advanced ship design and operations features, vessel navigation and communication systems, operational procedures, and maintenance and other initiatives. It is intended to enhance maritime safety while enabling vessels to operate more efficiently and meet Federal standards for safety and for air, water, and noise pollution in port and at sea.

During FY 1991, MARAD completed a project to demonstrate the technical feasibility of automatically determining the position of a vessel from a shoreside location using a satellite communications link with the ship's onboard navigation system. With the rapid innovation of the global positioning system (GPS) navigation system and INMARSAT communications system, it is expected that a worldwide vessel-tracking system can be implemented at a reasonable cost in the near future.

A number of longer term projects were ongoing at year's end, including a study on the applicability of free-fall life boats on U.S. vessels. This study, being performed by C.R. Cushing & Co., is near completion. It assesses designs, operations, economics, and regulatory issues of such life boats, which are preferred on many foreign-built ships.

Developmental work on the modular approach to analyzing ship controllability was also continuing. The cooperative effort with the USCG has resulted in construction of a series of bare hull ship models. The results from testing of the models will provide systematic series data for use in a modular ship maneuvering mathematical model. The model will be used for design analysis and simulation of maneuvering for shiphandling training or research.

Work through the Society of Naval Architects and Marine Engineers on standardizing the exchange of hydrodynamic coefficients for modular mathematical models progressed during fiscal year (FY) 1991. An international workshop was scheduled for November 1991.

Maritime Technology Policy

Through the Maritime Technology Policy Program, MARAD participates in the basic activities of the Marine Board and the TRB. It also utilizes the technical advisory role of the National Research Council on policy issues of national significance to both industry and Government concerning the water transportation community.

During FY 1991, the Marine Board reviewed three significant issues. An interdisciplinary study on shiphandling simulation assessed the state of ship operational simulation in restricted waterways, the adequacy of data to define the simulation, and the validity of hydrodynamic and other related mathematical models. It also addressed the question of simulation accuracy and the application and presentation of simulation results.

Another Marine Board study considered the processes of tank vessel design and worldwide operational risks. How alternative designs might influence the safety of personnel, cargo, and the environment, and attendant cost also were addressed.

A Committee on Advances in Navigation and Piloting was convened by the Marine Board in March 1991 to assess technological changes affecting the safety of ship navigation and piloting in United States waters. The Committee completed two fact-finding meetings in New York and Seattle. It will conclude its activities with a public report in 1993.

The TRB also reviewed several significant issues during the year, including a study initiated by a committee of experts in 1989 to assess the impact of regulation on innovation in marine container shipping. It also evaluated the state of the industry and identified significant issues and problems relating to Federal regulatory matters. The committee analyzed these issues and its report was undergoing review at year's end. Publication was planned for early in 1992.

In accordance with the National Transportation Policy (NTP), the TRB in June 1991 held a Strategic Planning Workshop implemented for MARAD. It brought together representatives of shippers, vessel operators, port and terminal operators, Government, and the university community to review strategic changes in the U.S. marine and water transportation sectors. Methodologies for planning for these changes were evaluated.

A Marine Transportation Task Force, appointed by the TRB Executive Committee in 1989 to examine future TRB activities in marine and intermodal activities, identified congestion at intermodal terminals as a critical issue facing U.S. ports. It recommended a policy study on port land uses to address this problem. In FY 1991, the TRB convened a study committee to determine whether access to U.S. general cargo ports is impeded by a number of factors. These include the lack of interagency and public/private coordination, physical impediments, land use restrictions, and Federal, State, or local safety and environmental regulations. The committee will evaluate the severity of the problems identified and will recommend remedial strategies.

The National Research Council continues to provide expert advice to MARAD on a wide variety of maritime technology policy issues.

Military Sealift Technology

Development of more efficient and effective waterborne transportation services for the carriage of military cargoes by commercial vessels is the focus of the Military Sealift Technology Program.

During FY 1991, MARAD continued to work with the Naval Sea Systems Command to develop and execute a

Technology Development Program for the Midterm Fast Sealift Ship (to be built after 1998). MARAD is responsible for work in the areas of economic viability, cargo handling, manning, and acquisition/operations strategies.

Another study, *An Assessment of Rail and Container-Handling Capabilities at Defense Logistics Agency Depots*, was completed during the year. It evaluated truck, rail, and rail/container requirements and capabilities at six Defense Logistics Agency depots. It used criteria for both peacetime efficiency and mobilization effectiveness. It also evaluated depot interfaces with commercial intermodal services and facilities.

A study entitled *Development and Analysis of Alternatives for Expanding U.S. Ship Repair Capacity to Meet National Defense Mobilization Requirements* investigated the ship repair capability of U.S. shipyards to meet mobilization needs.

Also completed during FY 1991 was a study addressing alternatives to stockpiling National Defense Features (NDF)/Sealift Enhancement Features (SEF). *The Potential Military Application of Commercial Intermodal Equipment Advancements - An Alternative to the Stockpiling of National Defense Features*, examined possible day-to-day commercial utilization of Government-developed and procured NDFs/SEFs.

National Maritime Enhancement Institutes

Under Public Law 101-115, Congress authorized MARAD to designate National Maritime Enhancement Institutes at U.S. universities or university consortia with capabilities for providing leadership in the solution of national problems.

The institutes are structured to provide interdisciplinary and intermodal teams to address maritime problems of national importance. During 1991, work continued on two projects, one addressing the impact of ship maintenance policies on structural life, and the other on the problem of breakbulk cargo technology and waterfront utilization.

Ship Operations Technology

The Ship Operations Technology Program focuses on the application of innovative technology to ensure productive deployment and utilization of ships and equipment to maximize shipper service and carrier competitiveness.

Work continued on the development, installation, and testing of a system to assist shipboard engineers in diagnosing potential diesel engine failures. The system, called DEXTER, is installed on four vessels operated by American President Lines, Ltd. During the reporting period, development was completed and shipboard installation and integration was begun. Evaluation will be completed early in 1992. The system also was being customized for installation and evaluation aboard a Military Sealift Command vessel.

Development of the Shipboard Piloting Expert System continued during FY 1991. The stand-alone prototype system was completed, and the current effort was concentrated on consolidation with the integrated bridge system installed aboard the EXXON BENECIA.

In FY 1991, a study on the *Application of Ceramic Coatings to High Speed Diesel Engine Combustion Zone Components of Off-Highway Transport Vehicles* was completed by the Department of Energy's Lawrence Berkeley Laboratory (LBL). The report presents the results of cooperative efforts between MARAD and LBL to simulate the in-service test and evaluation of ceramic coatings in off-highway vehicle diesel engines.

Another study completed during the year, *Application of Advanced Diesel Technology to Inland Waterway Towboats - Three Wheel Turbocharger System*, describes the design, development, shoreside dynamometer tests and in-service evaluation and demonstration of an advanced turbocharger system applied to a towboat propulsion diesel engine.

Ship Structures Research

MARAD participates in the activities of the Ship Structure Committee, an interagency group and research sponsor dedicated to the improvement of marine structures. Originally established in 1946, the committee advises the Government on improving the structural

design, material, and construction methods for ships. The committee's major thrust is the development and introduction of probability and reliability methods into ship design to optimize safety and economy over their full life cycles.

During the reporting period, the committee sponsored a Marine Structural Inspection, Maintenance, and Monitoring Symposium. This program brought together shipowners, operators, builders, researchers, and Government and classification society bodies to discuss developments in marine structural inspection, maintenance, and monitoring.

Small Business Innovation Research

MARAD participates in the Department of Transportation's Small Business Innovation Research Program with the other modal administrations. The program is a highly competitive award system for small business concerns and is administered by the VNTSC.

During 1991, MARAD sought innovative proposals to improve ship and terminal productivity. Two awards were made. One seeks to develop a neural network-based autopilot for improved ship control. Research will assess the feasibility of replicating human shiphandling functions with an artificial intelligence neural network controller having the ability to automatically learn course-keeping and track-keeping functions for a given vessel. The second project will develop and demonstrate a moored ship motion technique to assist in the accurate positioning of containers being loaded on a ship.

A project on advanced insulation for refrigerated shipping containers was completed during the year. The research successfully demonstrated the feasibility of advanced vacuum and gas-filled insulations as a substitute for the presently used chlorofluorocarbon insulation, known to be damaging to the environment.

Waterway Navigation Technology

The Waterway Navigation Technology Program applies advanced simulation methodologies to better understand the interaction of vessel maneuvering capabilities and channel configuration in harbors, rivers, and canals. MARAD owns the Computer-Aided Operations Research Facility (CAORF), a full bridge ship research simulator operated by a commercial operator. CAORF is located at the U.S. Merchant Marine Academy in New York.

During fiscal year 1991, MARAD and the USCG initiated a project to collect man-in-the-loop performance data on the CAORF simulator to determine how an electronic chart display information system might be used on a ship's bridge. The simulator would be used to evaluate situations in which the electronic chart would enhance navigation, and how it might be designed for wide-scale use in the maritime industry.

Chapter 7

Maritime Labor and Training

The Maritime Administration (MARAD) supports the training of merchant marine officers and supplemental training related to safety in U.S. waterborne commerce. The Agency also monitors maritime industry labor practices and policies in conjunction with national and international organizations, and promotes consonant labor relations.

U.S. Merchant Marine Academy

The U.S. Merchant Marine Academy at Kings Point, NY, trains young men and women to become officers in the American merchant marine. It is operated by MARAD.

Graduates receive U.S. Coast Guard licenses as deck or engineering officers, or both, and Bachelor of Science degrees. U.S. citizen graduates are obligated to apply for, and accept, if offered, commissions as reserve officers in an armed service of the United States.

Vice President Dan Quayle delivered the commencement address to the Kings Point class of 1991. This was the first Vice Presidential visit to the Academy since 1953. The class comprised 82 third mates, 79 third assistant engineers, and 8 graduates who completed the dual deck/engine program. Twenty-one women were among the graduates. Within 3

Vice President Dan Quayle at the 1991 Kings Point Commencement. This was the first Vice Presidential visit since 1953.

months after commencement, approximately 95 percent of the 169 graduates had found employment in the maritime industry, aboard ship or ashore, or were serving on active military duty in the U.S. armed services.

The Academy's average enrollment during the year was 851. The regiment of midshipmen included 77 women, 11 of whom were scheduled to graduate in June 1992 at the beginning of the 1991-92 school year.

One thousand eight-hundred-twelve constituents were nominated by members of Congress for the Class of 1995 and a total of 298 appointments were made in FY 1991. All classes of the Academy are under mandatory service obligation contracts to serve 5 years in the U.S. merchant marine or in maritime-related employment, retain a Reserve Commission for 8 years, and renew their 5-year U.S. Coast Guard licenses at least once after graduation.

The Academy is accredited by the Middle States Association of Colleges and Schools. The Marine Engineering Systems curriculum is accredited by the Accreditation Board of Engineering and Technology.

Academy midshipmen, in addition to classroom study, are assigned to U.S.-flag merchant ships for two 6-month periods for practical shipboard experience. During Operations Desert Shield/Desert Storm, about 150 midshipmen served on Military Sealift Command (MSC) owned or chartered vessels, or Ready Reserve Force (RRF) ships, for sea training. One hundred of these midshipmen sailed into the Persian Gulf and earned the Merchant Marine Expeditionary Medal. (See Medals and Awards.)

On July 7, 1991, the U.S. Merchant Marine Academy Class of 1995 reported for duty. Among the freshmen class of 298 students fourteen were foreign nationals: five from Panama, two from the Philippines, one each from Greece and Colombia, and five from the former Soviet Union. These five from the former Soviet Union are the first students from that region to become midshipmen at any U.S. service academy.

As a result of the Department of Transportation's diversity campaign a unique recruitment program was undertaken by the Amoco Foundation and the U.S. Merchant Marine Academy. High school students in the Chicago, IL, area can now be counseled and encouraged to consider maritime careers. Personal development and future employment opportunities for these students have been assured by Amoco Transportation corporate management.

State Maritime Academies

MARAD provides financial assistance to six State maritime academies to train merchant marine officers by authority of the Maritime Training Act of 1980. This meets the objectives of the Merchant Marine Act of 1936, as amended.

The six State academies receiving financial assistance are: California Maritime Academy, Vallejo, CA; Great Lakes Maritime Academy, Traverse City, MI; Maine Maritime Academy, Castine, ME; Massachusetts Maritime Academy, Buzzards Bay, MA; State University of New York Maritime College, Fort Schuyler, NY; and, Texas Maritime College, Galveston, TX.

Graduates of the five seacoast academies receive Bachelor of Science degrees (associate degrees are awarded by the Great Lakes Maritime Academy) in addition to U.S. Coast Guard licenses. Three hundred-ninety officers graduated from the six academies in 1991. After graduation, 95.4 percent of the graduates found employment in the maritime industry aboard ship or ashore, or were serving on active duty in the U.S. Navy or Coast Guard.

State maritime academy cadets who participate in the Student Incentive Payment Program receive $1,200 annually to offset school costs. Participating cadets are obligated to remain employed in the maritime industry for 3 years, to accept a reserve commission in the Navy or one of the other armed forces, and to renew or upgrade their U.S. Coast Guard merchant marine license.

MARAD also provides training vessels to the five seacoast academies for use in at-sea training and as shoreside laboratories. During their 1991 annual training cruise, Texas Maritime College participated in a cadet exchange with a Soviet training ship from Odessa Maritime Academy. The two ships met in Panama, exchanged 25 cadets each, and continued on their cruise through Belize and Vera Cruz arriving in

U.S. Merchant Marine Contingent in the Victory Parade (June 8, 1991, Washington, DC). Mariners, Midshipmen, and cadets sailed into the Persian Gulf war zone.

Galveston, TX, where the Texas Maritime College hosted the Soviet training vessel for several days.

As part of their training program, cadets from Maine Maritime Academy and Massachusetts Maritime Academy sailed on vessels which participated in Operations Desert Shield/Desert Storm. These cadets, like those at Kings Point, have been awarded the Merchant Marine Expeditionary Medal for their service in that conflict.

At year's end, the California Maritime Academy was planning an inaugural symposium for women in the maritime industry entitled "Women Underway." The first symposium of its kind, the goal was to provide maritime women an opportunity to celebrate accomplishments, exchange ideas, network, and inform each other about mutual items of interest. Several speakers from various sectors of the maritime industry were expected with an emphasis on career enhancement.

The President of Massachusetts Maritime Academy and the Superintendent of the Great Lakes Maritime Academy retired during the year. The Massachusetts Maritime Academy appointed retired Navy RADM Peter H. Cressy as president. Dr. Timothy Quinn was named Acting Superintendent of the Great Lakes Maritime Academy.

Supplemental Training

MARAD provides supplemental training for seafarers in maritime firefighting, diesel engineering, and defense readiness. In fiscal year 1991, 1,529 maritime personnel were trained in ship and barge firefighting. Participants were largely U.S. seafarers, but included others concerned with maritime fire safety such as Coast Guard personnel and port-city professional firefighters.

The Agency's Continuing Education Marine Diesel Program conducted at Kings Point, NY, continued to provide industry personnel with special short courses on the operation and maintenance of diesel power plants. Forty-five students completed Diesel Courses during the fiscal year.

A special advanced firefighting exercise for local maritime academy students was implemented at the Earle, NJ, facility by MARAD in September 1991.

Labor Relations

Operations Desert Shield/Desert Storm/Desert Sortie

Hostile events in the Middle East triggered the August 10, 1990, activation of MARAD's RRF. Under the Navy's MSC orders, the sealift activation provided an actual test of the adequacy of civilian seafaring personnel resources to crew military sealift assets as well as operation of ships engaged in maritime commerce. This activation of the RRF severely taxed personnel resources in the civilian sailing workforce. Merchant mariners were called upon immediately to provide engineering personnel to activate unfamiliar cold ships, to crew ships for sea trials, and to provide crews for an unknown period of time under MSC control. In historic seafarer tradition, merchant mariners adjusted their personal lives and responded to the call to support the operation.

Seafaring Labor

Overcoming the initial problems caused by the large-scale activation of the RRF, seafaring labor crewed 81 ships tendered to the MSC. They established a transoceanic pipeline of military sealift extending from the United States and Europe to the Middle East.

The technologically advanced warfare introduced by Operations Desert Shield/Desert Storm was matched by maritime labor union computer databases of seafaring personnel. Computers were used to search for names of sailing and retired seafarers. In some cases, organized labor revoked or waived rigid labor/management agreement technicalities to enable utilization of available qualified seafarers. Work rules established through collective bargaining agreements were modified to allow seafarers to remain on ships beyond peacetime tours of duty, and industry school enrollments for unlicensed personnel were increased dramatically. Pensioners were allowed to re-enter the job queue normally prohibited by union charters in peacetime. Maritime labor's support of Persian Gulf operations was essential for the success of the RRF's mission.

During this military operation, war bonuses, tax relief, and recognition for seafarers who sailed into the Navy designated war zone were established.

All major seafaring unions have collective bargaining agreements in place through 1993 and beyond.

Longshore Labor

East and Gulf Coast longshore labor also voluntarily responded to America's military sealift effort in the Persian Gulf. The International Longshoremen's Association (ILA) sent dockworkers from many U.S. ports to North Carolina where military cargo was being delayed due to shortages of longshoremen skilled in handling munitions. Munitions loading was carried out 24 hours a day. The ILA advised the Secretary of Defense that longshoremen were available to handle cargo in the Persian Gulf, if necessary.

A 4-year master agreement was signed in FY 1991 giving increased wages and benefits. It expires in September 1994 and includes a two-person reduction in gang size and retraining of longshoremen to perform new jobs created by automation. The contract also provides for a joint labor-management committee to draft a detailed program for handling drug and alcohol abuse problems. Subsequent to the master agreement, ILA local ports completed negotiations with no serious job actions.

On the West Coast, the Pacific Maritime Association (PMA) and the International Longshoremen's and Warehousemen's Union (ILWU) agreed to contract terms through June 1993. Employers sought changes including steady employees, computer-based dispatching systems in major ports, and automating several functions now performed by longshoremen and marine clerks. These changes were rejected by the union bargaining committee.

At the close of the fiscal year, David Arian was the leading candidate for presidency of the ILWU. If elected, Arian would succeed James Herman who could

not seek reelection because of union retirement rules. Mr. Arian has been promoting a program of increased membership, alliances with other labor organizations and extension of ILWU jurisdiction into new job areas. (Mr. Arian was elected in fiscal year 1992.) Maintenance and equipment repair, intermodal work and computer applications are areas the ILWU is looking into for potential job growth.

The Justice Department brought a civil suit against the ILA under the Federal Racketeer Influenced and Corrupt Organization Act (RICO). The complaint alleged that recent criminal prosecutions had demonstrated that persons associated with organized crime exercise control over six ILA locals which operate in the Port of New York-New Jersey and have used their unions and various affiliated benefit funds to conduct racketeering activity.

The court action sought to remove from office any union officers found to have violated the Federal racketeering law, to appoint trustees to insure fair election of new officers, and to discipline those officials found guilty of illegal acts. Settlement was reached with all but one of the six locals. The ILA is concerned that the Government's case raised serious legal issues of concern to the labor movement in general. In question is the fiduciary responsibility of union officers beyond that established by the Labor-Management Reporting and Disclosure Act, as well as the outer limits of a union officer's responsibility to investigate wrongdoing, including that not connected to his own local. The AFL-CIO filed a brief on this matter which isstill before the court in connection with the ongoing litigation.

Other 1991 labor related events include changes in leadership in the largest licensed deck and engineer unions' leadership and important legislative proposals. Additionally, the State of California set policy which is challenging Federal maritime law. The largest licensed engineer and licensed deck officer unions, the Licensed Division of District No.-1 Marine Engineers' Beneficial Association/NMU (MEBA District 1) and the International Organization of Masters, Mates and Pilots (MM&P) elected new leadership in fiscal year 1991. Captain Timothy A. Brown was elected president of the MM&P and Gordon Ward now leads the Licensed Division of MEBA-District 1.

The State of California challenged Federal maritime law by including merchant seamen under state compensation laws. A Federal District Court in California upheld the State policy in May 1991. That court ruled that admiralty law does not pre-empt State employment codes. Under State employment codes, ship operators must pay crews time-and-a-half for every hour worked over 8 hours a day. A group of ship operator associations have taken the issue to the U.S. Supreme Court arguing that the policy would ruin the uniformity of Federal maritime codes among the states as they apply to oceangoing ships.

At the close of the reporting period, hearings were scheduled on a bill that would extend protection to foreign merchant seamen under U.S. labor laws. A similar version of this proposed legislation was considered in 1990 by the House Education and Labor Committee's Subcommittee on Labor-Management Relations. The proposed legislation would extend the National Labor Relations Act and the Fair Labor Standards Act to foreign passenger ships active in U.S. waters and to foreign ships owned by U.S. corporations.

During the year, legislation was passed by the House of Representatives to provide reemployment rights for merchant mariners who served in emergency ship activations or sealift operations. However, it failed to clear Congress by the end of the session.

The Supreme Court issued a decision on February 19, 1991, which provides a broader definition of seamen and those entitled to Jones Act coverage. The requirement that a worker be onboard a vessel primarily to aid in navigation was redefined to be "a worker who contributes to the function of the vessel or to the accomplishment of its mission."

A recent interpretation of a 1991 amendment to the Immigration Law concerning longshore work by foreign nationals in U.S. ports is again an issue with longshore labor. In May 1991, the Department of State formulated a list of countries which legally prohibit U.S. crews from performing longshore work in their ports. The crews on vessels of these countries are prohibited from performing longshore work in U.S. ports. Longshore labor argued that the Department of State's list of 47 countries was incomplete.

Overall, there exists an atmosphere of cooperation between U.S. maritime labor and U.S. ship operators which significantly benefits the development and coordination of actions to increase and improve the competitiveness of the U.S. commercial fleet.

Labor Data

Average monthly U.S. seafaring employment in all sectors (private, Government contract, and Great Lakes) increased to 16,230, up 14.6 percent from the FY 1990 average of 14,168 in fiscal year 1991. (See Table 17.)

The increase resulted from participation in Operations Desert Shield/Desert Storm/Desert Sortie. The total work force in selected U.S. commercial shipyards increased 1.2 percent from 92,995 in FY 1990 to 94,070 in FY 1991. Average longshore employment decreased 27,997 to 26,698.

Merchant Marine Awards

The Merchant Marine Decorations and Medals Act, Public Law 100-324, authorizes the Secretary of Transportation to grant medals and decorations for outstanding and meritorious service or participation in national defense action.

Then-Secretary of Transportation Skinner presented letters of commendation to the master and crew of the LNG GEMINI.

Shown left to right: Kendall Chin, president of Energy Transportation Corp., Leback, Konigsfelf, and Skinner.

In fiscal year 1991, the Distinguished Service Medal was presented to Third Mate Michael T. Haimen for his valor in rescuing survivors from a Panamanian vessel while serving aboard the U.S.-flag vessel LNG GEMINI owned by Energy Transportation Corp., the largest U.S.-flag operator of liquified natural gas vessels, on November 20, 1989. Additionally, Meritorious Service Medals were presented to Ordinary Seaman Jeffrey Amendolia, Second Mate John Codispoti, Ordinary Seaman Victor Honigsfeld and Third Mate Steven Sellers for their exemplary performance in the rescue of survivors from the Panamanian vessel.

Secretary of Transportation Samuel K. Skinner presented letters of commendation to the Master and crew of the LNG GEMINI and the president of Energy Transportation Corp. Energy Transportation was recognized for numerous rescues of refugees and others in distress.

Letters of Commendation were presented to Captain Daniel Skwyra and his crew, which included two Maine Maritime Academy cadets, on the SS HUMACAO of Puerto Rico Marine Management, Inc. The HUMACAO was recognized for outstanding actions and teamwork in the rescue of stowaways in July 1990.

During FY 1991, MARAD issued an additional 7,000 Certificates of Service recognizing veteran status of World War II merchant mariners. Public Law 100-324 reinstated MARAD's authority, rescinded in 1956 by Public Law 84-759, to accept and process original applications for the issuance of World War II merchant marine awards and decorations. MARAD, with a design from the Department of the Army's Institute of Heraldry, commissioned the creation of new medals to supplement the existing World War II, Korea and Vietnam Service ribbon bars, and a new Merchant Marine Expeditionary Medal. The medals will be available to eligible merchant marine personnel in 1992.

MARAD authorized the issuance of the Merchant Marine Expeditionary Medal to recognize the U.S. merchant mariners who supported American and allied military forces in Operations Desert Shield and Desert Storm. The medal will be available to seafarers who sailed into the war zone designated by Presidential Executive Order No. 12744 as "the Persian Gulf, Red Sea, Gulf of Oman, Gulf of Aden, and that portion of the Arabian Sea that lies north of 10 degrees north latitude and west of 68 degrees east longitude," after August 2, 1990.

America's merchant seafarers were the only civilians to participate in the National Victory Parade on June 8, 1991, in Washington, DC, in recognition of their important role to the success of Operations Desert Shield/Desert Storm.

Table 17: MARITIME WORK FORCE AVERAGE MONTHLY EMPLOYMENT

	Average Monthly Employment in Fiscal Year	
	1991	1990
Seafaring Shipboard Jobs:	**16,230**	**14,168**
Shipyards:[1]	**94,070**	**92,995**
Production Workers	64,437	63,632
Management and Clerical	29,633	29,363
Longshore:	26,698	27,997

[1]Commercial yards in the Active Shipbuilding Base, constructing new ships and/or seeking new construction orders.

Chapter 8

National Security

The Maritime Administration (MARAD) assists the U.S. maritime industry in providing logistical support of the military when needed. It also maintains the National Defense Reserve Fleet (NDRF) as a source of vessels that can be activated in national emergencies.

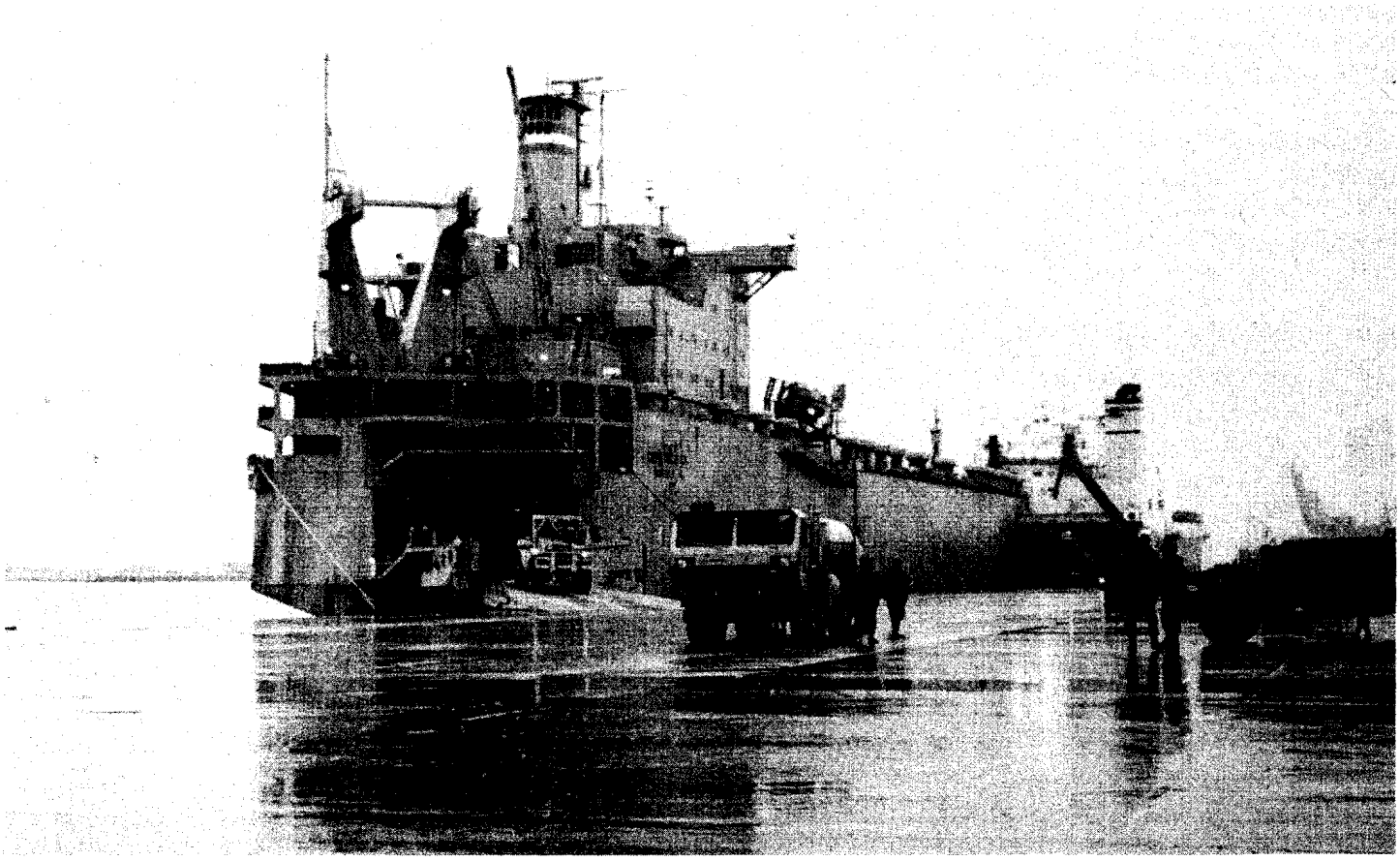
The U.S. merchant marine traditionally serves as the Nation's "Fourth Arm of Defense."

The Ready Reserve Force (RRF), a component of the NDRF, consists of vessels maintained in an advanced state of readiness for rapid activation and deployment.

During the Persian Gulf crisis, MARAD provided surge sealift support to Operations Desert Shield/Desert Storm. The Agency's role in this crisis is discussed in a special section beginning on page x.

National Security Sealift Policy

President Bush has assigned oversight responsibility for monitoring implementation of the National Security Sealift Policy to the National Security Council's Policy Coordinating Committee on Emergency Preparedness and Mobilization Planning. The Maritime Administrator serves as Chairman of the Sealift Subcommittee of the Policy Coordinating Committee. Members represent the Departments of Defense, State, and Transportation, the National Security Council, and the Office of Management and Budget. It advises the full committee on sealift policy oversight responsibilities.



The ability to drive equipment on and off of its ramps made Roll-on/Roll-off ships "the vessels of choice" during Operations Desert Shield/Desert Storm.

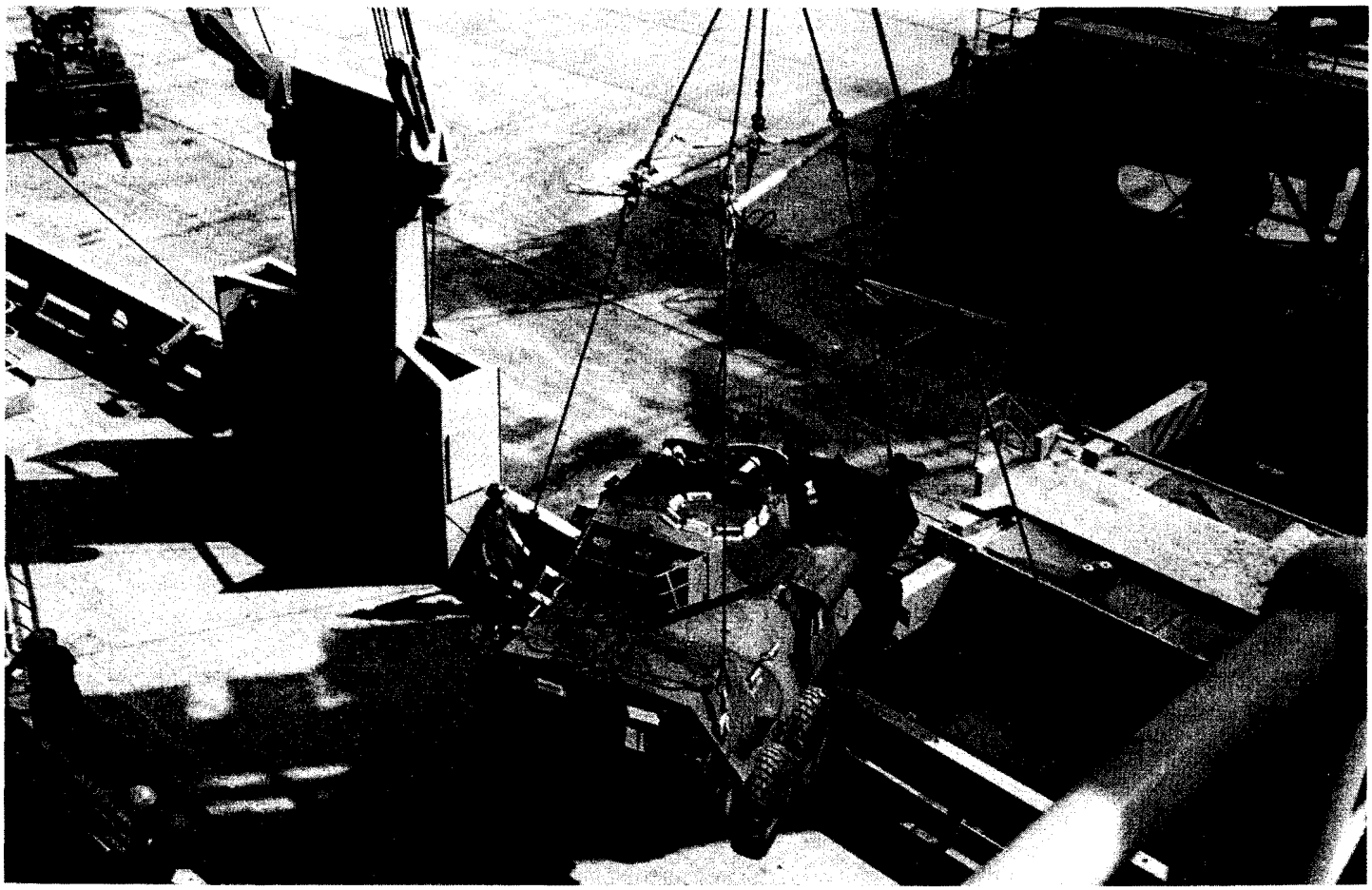
In FY 1991, at the request of the full Policy Coordinating Committee, the Sealift Subcommittee reviewed the April 1990 *Report of the National Security Sealift Strategy Task Force.* The Sealift Subcommittee found that the Task Force recommendations would contribute toward implementation of the National Sealift Policy. The Subcommittee placed special emphasis on the recommendations for effecting maritime reform, maintaining the RRF in an adequate state of readiness, and establishing a Merchant Marine Reserve program sufficient to meet mobilization manning requirements.

The Sealift Subcommittee also reviewed the Nation's strategic sealift capabilities during Operations Desert Shield/Desert Storm. It determined that the experience had reaffirmed the critical role of sealift in America's national security strategy and recommended that the Statement of National Security Sealift Policy signed on October 5, 1989, not be amended.

Reserve Fleet

The Reserve Fleet is comprised of NDRF and other vessels in MARAD's custody. NDRF ships serve as an inactive reserve which can be activated to help meet United States shipping requirements during national emergencies. These vessels are available for both military and nonmilitary emergencies, including commercial shipping crises. Inactive merchant ships and naval auxiliaries are maintained in the Reserve Fleet.

As of September 30, 1991, the Reserve Fleet consisted of 234 MARAD-owned vessels and 82 others which were in MARAD custody. Of the 316-vessel total, 276 were located at Ft. Eustis, VA; Beaumont, TX; and Suisun Bay, CA; and 40 other ships at various locations. (See Tables 18 and 19.) During the reporting period, 266 ships were in the fleet preservation program, which involves conventional preservation, dehumidification, and cathodic protection.



Heavy equipment, such as the tank shown here, was transported to Saudi Arabia by RRF vessels.

Ready Reserve Force

The RRF is a select component of the NDRF, established in 1976 by a Memorandum of Agreement between the Department of Navy and MARAD. MARAD maintains these ships in a state of advanced readiness to allow activation in 5, 10, or 20 days to meet surge sealift needs in the early stages of military contingency operations. On September 30, 1991, 96 ships were in the RRF. Plans call for the RRF's expansion to 142 ships by 1998.

To keep pace with the growth of the RRF, the Secretary of Navy approved a MARAD/Navy RRF outporting plan which permits certain RRF vessels to be berthed at or near activation sites and expected load-out ports. As of September 30, 1991, 3 ships were outported at layberths on the East Coast, 16 ships on the West Coast, 7 ships on the Gulf Coast, and 2 ships were outported in Japan.

Operations Desert Shield/Desert Storm/Desert Sortie

As the fiscal year began, MARAD continued its emergency sealift support to U.S. and coalition forces in the Persian Gulf. At that time 39 RRF ships had been tendered to the U.S. Navy's Military Sealift Command (MSC) and were in various stages of cargo lift, particularly transport of unit equipment including tanks, large tracked vehicles, and ammunition.

As the Persian Gulf crisis escalated and additional troops were deployed, MSC requested more RRF ships. Thirty-eight additional RRF activation notices were received in FY 1991 and two other RRF vessels participating in a separate Department of Defense (DOD) operation were activated. By the end of February 1991, RRF ships had transported about one-fifth of the total dry cargo for Operations Desert Shield/Desert Storm, including roughly one-third of all of the unit equipment. A list of all RRF vessels which participated in Operation Desert Shield/Desert Storm and their operational status as of September 30, 1991, are shown in Chart 2 on page xiii.

As the fiscal year ended, the majority of the vessels remained under MSC operational command engaged in the return of equipment and supplies.

Most of the RRF ships activated for the Persian Gulf conflict had not been operated in several years. However, officials of the U.S. Transportation Command (Transcom) and MSC have advised MARAD that the overall sealift performance of this fleet, including operational reliability, exceeded expectations.

The activation of over 80 percent of the RRF in FY 1991 provided MARAD with valuable hands-on activation experience. It permitted identification of procedural and maintenance deficiencies and of improvements needed for the activation system. An interagency DOD/DOT RRF Working Group was established to assess the RRF and identify measures to enhance its overall readiness. Its comprehensive report contained several recommendations and the report is expected to be released in fiscal year 1992.

The marshalling of sealift resources to participate in Operations Desert Shield/Desert Storm supported the largest buildup of U.S. armed forces since the Vietnam war, and the most "intensive" in United States history. In addition to activating RRF ships as part of the sealift effort, MARAD assisted the MSC in locating, determining the status of, and obtaining characteristic information on domestic and foreign commercial ships which subsequently were chartered for additional sealift capacity.

MARAD also supported military operations by coordinating procedures with DOD for vessels sailing into the Persian Gulf. The Agency continued to provide the U.S. Navy with operating and communications instructions for masters of U.S.-flag merchant vessels in the affected area. Ten MARAD advisories identifying checkpoint locations, mine danger areas, safe routes, and proper communication procedures were issued. Several maritime nations asked that these procedures be provided for merchant shipping in support of the Multinational Coalition Forces in the Persian Gulf.

In addition, U.S.-flag merchant ship operators were asked to increase vessel position reporting frequency as a result of increased terrorist threats.

MARAD also cooperated with the Joint Chiefs of Staff and other agencies regarding the enforcement of the United Nations trade embargo against Iraq.

MARAD coordinated with the Department of State "Special Warnings to Mariners" regarding the use of armed force against Iraq, missile attacks in the Persian Gulf, and the interdiction policy in the Persian Gulf and Red Sea.

During the Persian Gulf hostilities, MARAD issued a daily "Situation Report for the Contiguous Waters of the Arabian Peninsula." It included general information on the current events of the region, the location of U.S.-flag merchant vessels transiting those waters, and calling ports in the area. Daily reports were ended in March 1991, but MARAD continued to prepare weekly status reports on redeployment from the Saudi peninsula.

Aviation Logistics Support Ship Program

MARAD accepted custody of the Aviation Logistic Support Ship Program in 1986, in response to a request from the Chief of Naval Operations, Strategic Sealift Division. The SS WRIGHT (T-AVB 3) and SS CURTISS (T-AVB 4) are maintained in a high state of readiness by ship manager retention crews, in support of DOD rapid deployment requirements and to augment Maritime Preposition Forces. These ships furnish dedicated sealift for movement of Marine Corps aviation technicians, spare parts, and equipment from the United States. They provide repair capability for Marine Corps aircraft in operational areas worldwide.

From August 1990 to June 1991, the WRIGHT and CURTISS provided full operating services to the Marine Corps in the Persian Gulf. As of September 30, 1991, the CURTISS was undergoing drydocking, repairs, and equipment upgrades. The WRIGHT was drydocked for its 5-year regulatory requirements and subsequently returned to the Persian Gulf during early FY 1992 for retrograde cargo.

Sealift Enhancement Feature (SEF) Program

Six RRF ships which participated in Operations Desert Shield/Desert Storm were equipped with Sealift Enhancement Features. These consist of Modular Cargo Delivery Systems installed fore and aft, permitting the RRF vessel to send a tensioned highline to a Navy ship and transfer cargo to that ship while underway. Such ships are considered Navy Combat Logistic Force (CLF) fleet assets.

All CLF ships that participated in Operations Desert Shield/Desert Storm successfully completed underway replenishment systems qualifications and tests administered by Navy training units. Several conducted underway cargo transfers in theater. The CAPE ANN was especially successful in keeping the aircraft carrier AMERICA's air wings supplied with ammunition and other ordinance.

Defense downsizing has reduced the projected requirements for CLF platforms from 30 to 17. At the end of FY 1991, there were 11 CLF capable ships.

Six ships have been selected for conversion in fiscal year 1992. Installation of equipment is expected to cost $26 million with module costs amounting to an additional $2,200,000 for each station. MARAD, with funding provided by the Naval Sea Systems Command, will handle the conversions for the Navy.

Other RRF Operations

Other fiscal year 1991 activities included a Joint Chiefs of Staff exercise, DISPLAY DETERMINATION 91, involving three RRF vessels. This exercise near Ft. Story, VA, in September 1991, emphasized the discharge of equipment from offshore to a beach area. Three different ship discharge systems were used: roll-on/roll-off (RO/RO), heavylift seabee, and a crane ship (T-ACS).

During the year, MARAD continued its transition from General Agency to Ship Manager contracts. However, awards under one request for proposals were cancelled because of Operations Desert Shield/Desert Storm. During FY 1991, MARAD Ship Managers/General Agents issued contracts totalling over $65 million for repairs, maintenance, and regulatory services for vessels of the RRF.

Desert Shield/Desert Storm operations halted sight validations of installed equipment and the inventory of onboard spare parts on all RRF vessels. However, arrangements were made to place inventory riders and automated shipboard spare parts inventory systems on about 20 activated vessels to maintain the existing integrity of some inventories. A very thorough logistics support survey was to be conducted on every returning RRF vessel to assess its logistics condition.

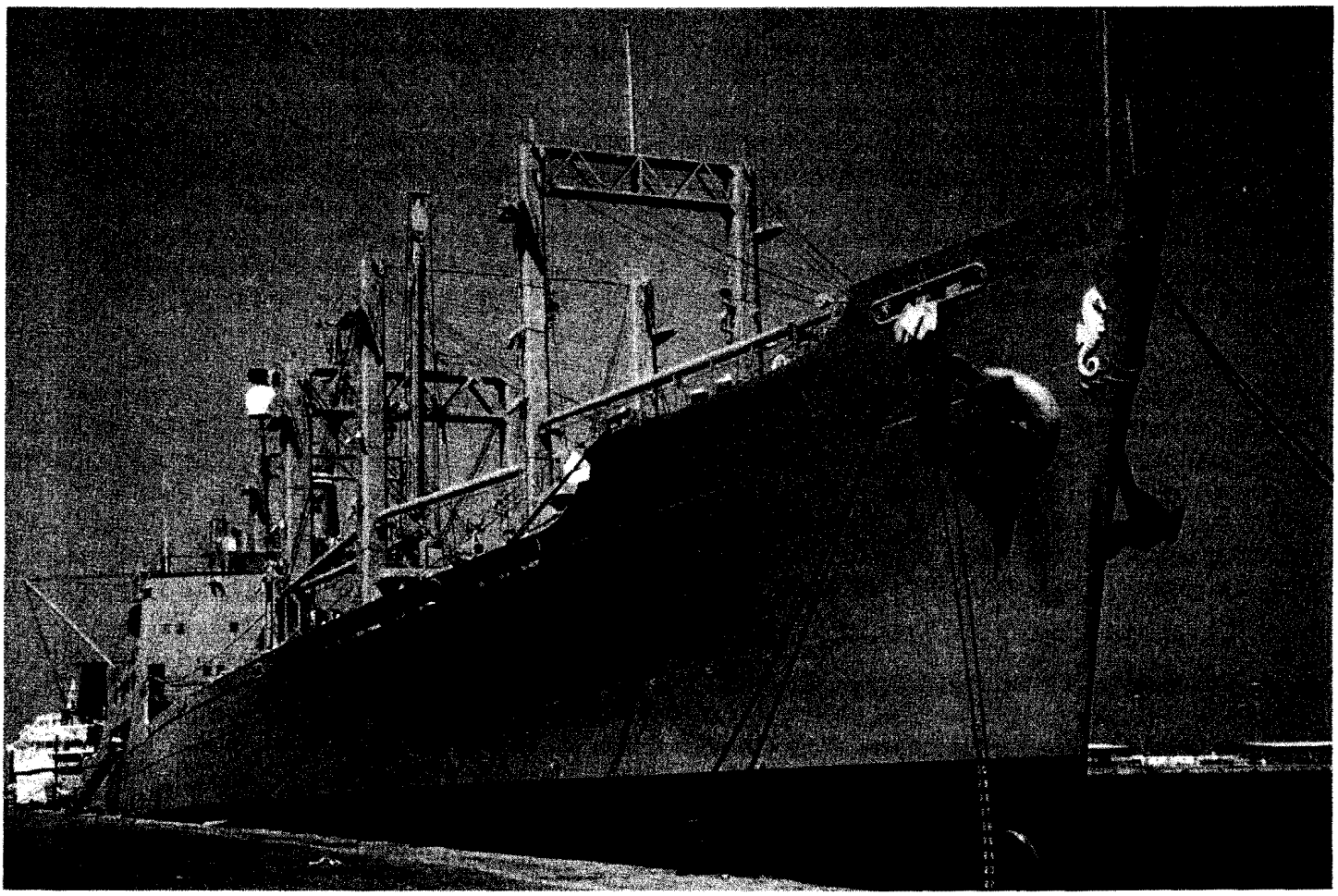
A new computer-based spares management system, RRF Equipment, Configuration and Spare Parts Management System, has been created and will ultimately provide user access through a worldwide network. An automated requisitioning system also has been established for ordering spare parts through the DOD supply system. A modification to MARAD's logistics support contract enables a contractor to provide spare part procurement services to fill existing RRF spares deficiencies.

Ten-Year Drydocking

Under the most recent Memorandums of Understanding between MARAD and the U.S. Coast Guard and MARAD and the American Bureau of Shipping, selected RRF vessels can extend their required drydocking surveys from the previously established 5-year interval to a maximum of 10 years. Vessels are selected based on projected life expectancy, ship type (tankers do not qualify), and capability of meeting requirements for a midterm underwater inspection.

Although the activation of several ships will affect the estimated drydock intervals under this program, MARAD was pursuing extended drydocking cycles whenever possible. In fiscal year 1991, several additional ships qualified for the extended drydocking interval. Vessels will be considered for extended drydocking as they return from the Persian Gulf.

The length of time between drydock inspections under the new program varies depending on operational time. The 10 ships in the program are considered experimental with respect to budgeting for drydocking.



The CAPE ANN is one of six RRF ships equipped with Sealift Enhancement Features. During the Persian Gulf conflict, it effectively supplied the aircraft carrier AMERICA with ammunition and other ordinance.

MARAD cannot determine qualification for the 10-year timeframe until their 5-year underwater hull surveys are complete.

In addition, several possible alternative extended life coating systems are being examined as possible alternatives to the conventional antifouling paints now in use. A research project, awaiting funding, would allow testing of some of these coatings.

Auxiliary Crane Ship Program

The Auxiliary Crane Ship (T-ACS) conversion program calls for conversion of 12 containerships into crane ships capable of both self-sustaining load/discharge, and the load/discharge of non-self-sustaining containerships without the aid of port facilities. (This number was reduced to 10 in fiscal year 1992.) As of September 30, 1991, eight were in the RRF.

During fiscal year 1991, MARAD suspended cargo-handling training of military personnel at Cheatham Annex, VA, due to Operations Desert Shield/Desert Storm. (See Chapter 1.) All designated training ships were involved in supply and retrograde efforts.

By the middle of fiscal year 1991, five T-ACS vessels had been deployed to support Operations Desert Shield/Desert Storm.

Emergency Planning and Operations

In addition to Persian Gulf planning and operations, the Agency participated in several meetings in FY 1991 dealing with NATO Civil Emergency Planning. Among them were the Senior Civil Emergency Planning Committee, the 42nd Plenary meeting of the Planning Board for Ocean Shipping (PBOS), and several meetings of PBOS subordinate planning groups. MARAD also hosted two NATO sponsored training sessions--the 1990 Defense Shipping Authority Training Session and the 1991 Civil Sealift Group Training Session.

In July 1991, MARAD participated in the GLOBAL WAR GAME 91 conducted at the Naval War College in Newport, RI. The Agency also participated in various emergency training exercises that began during the year and were scheduled to continue in FY 1992. These include the NATO Defense Shipping Authority Information Systems Training Session, the NATO Wartime Oil Organization Training Exercise, the NATO Civil Sealift Group Training Exercise, the Naval Control of Shipping Exercise EXPORT GOLD/ALPINE CHARGER 91, the NATO Interallied Insurance Organization Training Exercise, and the NCS Exercise EXPANDED SEA 92.

Various improvements in the Emergency Shipping Information System were incorporated to better support the missions of the NATO Civil Sealift Group and Defense Shipping Authority during the fiscal year. In addition, a revised valuation system was approved and implemented for the NATO Interallied Insurance Organization. The Agency assisted USCG personnel in defining requirements for an improved United States Merchant Ship Reporting System. This system was incorporated into the Coast Guard's Automated Mutual-Assistance Vessel Rescue System.

A Joint Visual Display System terminal was installed in the MARAD Operations Center. The terminal is used to transfer data among MARAD, MSC, and Transcom Communications Centers. The terminal provides excellent geographical display capability and was used extensively during Operations Desert Shield/Desert Storm/Desert Sortie.

Under the permanent sections of the Defense Production Act of 1950 (DPA), MARAD is the sponsor of the Voluntary Tanker Agreement used to provide tanker support to the DOD in national emergencies. In FY 1991, major changes were made to the DPA which broadened the antitrust protection and improved the overall effectiveness of that agreement.

MARAD also participated in the annual meeting of the Transport Canada-U.S. Department of Transportation Emergency Planning Committee for Civil Transportation held in Ottawa. Deployment of military forces to Saudi Arabia, terrorism, readiness, training, and marine insurance were items of common interest.

Emergency Communications

During fiscal year 1991, MARAD initiated planning for emergency communications capability, to eliminate vulnerability to commercial telephone disruptions. As a first step, a transportable INMARSAT Terminal has been

installed in the MARAD Operations Center. This terminal can provide voice and TELEX communications directly between MARAD Headquarters and ships at sea and earth stations around the world.

MARAD also planned to investigate use of an emergency communications network of High Frequency (HF) radios under a Federal system called SHARES. The SHARES program consists of 24 Federal agencies operating a national network of HF radios to provide communications services during emergencies.

Fast Sealift Ship Design

At the request of the Navy's Fast Sealift Ship Characteristics Improvement Board (SCIB) Working Group, MARAD initiated a concept design study to determine the feasibility of a commercially viable Fast Sealift Ship. Preliminary findings were presented to the SCIB and to several commercial ship operators. The operators suggested improvements to increase commercial viability. Concepts were refined and designated:

- o PD-321E - Breakbulk/Containership (Baseline)
- o PD-321F - Containership (Jumbo)
- o PD-321G - Industrial RO/RO (Baseline)
- o PD-321H - Industrial RO/RO (Jumbo)

Three designs were considered most commercially viable:

PD-323 - Combination Carrier, PD-324--RO/RO Carrier, PD-325 - Container Carrier.

In fiscal year 1991, the House Appropriations Committee directed that the Navy examine converting six C-8 and C-9 LASH ships to RO/RO configurations. MARAD prepared conceptual designs and associated costs estimates for the Navy.

Also at the Navy's request, MARAD initiated a design study for development of a baseline midterm sealift ship entitled, "PD-337 - Commercial Cargo Ship for Sealift in the Year 2000." An in-house market survey indicated that the best opportunity for commercial viability for a U.S.-flag ship of this type would be the north/south trade with South America. As a result of previous studies and consultations with ship operators, a RO/RO-Containership design configuration (based on PD-323 - Combination Carrier) was selected as the cornerstone of this project.

The first design iteration was presented to the Navy in September 1991. The final design and final report were scheduled for delivery to the Navy early in 1992.

Readmeasurement of RRF Vessels

Over the next 3 years, MARAD must readmeasure all RRF vessels. Readmeasurement insures conformity in the measurement of a vessel's gross and net tonnage. These tonnage measurements are used to calculate taxes, fees, and other charges to vessels engaged in domestic and international trade.

The requirement is based on the 1969 International Maritime Organization (IMO), International Tonnage Convention (ITC), findings and recommendations. MARAD has asked the American Bureau of Shipping (ABS) to perform the readmeasurement in accordance with Agency specifications. However, contracting problems in fiscal year 1991 delayed the process. MARAD is working with ABS to meet all the IMO requirements in the time prescribed.

Emergency Operations

In addition to war-related information, MARAD issued advisories to mariners during the fiscal year on reporting of information on terrorism, master mariner readiness training courses, and a naval control of shipping exercise.

Incidents of piracy continued to plague the world's merchant fleets. Particularly troublesome areas for piracy included the South China Sea, Straits of Malacca, especially Phillip Channel, the Gulf of Thailand, and parts of South America.

MARAD has encouraged the use of the Defense Mapping Agency's Anti-Shipping Activities Message system to report these incidents into a data base available to all mariners. Of 25 incidents reported during fiscal year 1991, five were against U.S.-flag merchant ships. There were no U.S. crew injuries.

Security measures were discussed and reviewed with during MARAD's Security Awareness Seminars held during the year.

War Risk Insurance

MARAD administers the standby emergency War risk Insurance Program in accordance with the statutory authority of Title XII of the Merchant Marine Act, 1936, as amended. The program encourages the continued flow of U.S. foreign commerce during periods when commercial insurance cannot be obtained on reasonable terms and conditions to protect vessel operators and seamen against losses resulting from war or warlike actions.

On August 20, 1990, as a result of the Middle East crisis, MARAD received authority from the President under Section 1205 of Title XII of the Merchant Marine Act, 1936, to issue war risk policies on vessels contracted for Operations Desert Shield/Desert Storm.

As of September 30, 1991, war risk hull, protection and indemnity, and second seamen's policies were issued on 388 such vessels. Also in response to the Middle East crisis, on August 29, 1990, the President authorized MARAD, under Section 1202 of the Act, to write war risk insurance on commercial vessels when insurance could not be found on reasonable terms and conditions in the commercial market. At year's end, MARAD had written war risk policies on four vessels under Section 1202 authority and MARAD collected $236,364 in premiums for these policies. No losses were incurred under either the Section 1202 or Section 1205 Programs.

Overall, the War Risk insurance program resulted in significant savings for the Government under the Section 1205 program. Over $20 billion in policies were issued under the Title XII authorities resulting in savings to DOD estimated in excess of $100 million when compared with the cost in the commercial market.

As of September 30, 1991, the war risk revolving fund asset total was approximately $20.5 million. Binders issued during FY 1991 generated $3,800 in binder fees and $1,510,696 in investment income. Program expenses for FY 1991 totalled $220,697. As of September 30, 1991, 1,729 vessels were issued binders, providing eligibility for hull and protection and indemnity war risk insurances. Two hundred fifty-two of these vessels also had second seaman's war risk insurance available under binder. No binders related to MARAD's standby war risk cargo insurance and builder's risk insurance programs have been issued. All binders are effective for 30 days following an automatic termination of commercial insurance.

MARAD continued to act as the claim agent for Government-owned vessels during fiscal year 1991. Consequent to Operations Desert Shield/Desert Storm as of September 30, 1991, there were approximately 725 protection and indemnity claims outstanding and 17 were in litigation. Total settlement value of all cases is estimated to be approximately $30,000,000.

MARAD assures that contract requirements are met on all insurance placed in commercial markets by mortgagors of vessels on which the Government guarantees, insures, or holds mortgages; by charters of Government-owned vessels; and by subsidized operators. Table 19 shows marine and war risk insurance approved in FY 1991.

Environmental Issues

In fiscal year 1991, MARAD implemented its Shipboard Solid Waste Management Plan in actual operations aboard RRF vessels. MARAD ships participating in Persian Gulf operations used individual shipboard pollution prevention plans to meet the requirements of MARPOL Annex V, Pollution Prevention regulations. The only difficulty encountered was the Department of Agriculture's unwillingness to allow disposal of food-contaminated compacted plastics at some U.S. ports.

MARAD discussions with the Environmental Protection Agency (EPA) on the possibility of a Memorandum of Agreement (MOA) covering RRF tankers for the pending hydrocarbon vapor control legislation were suspended in fiscal year 1991 because of Operation Desert Shield activities. The Agency plans to reestablish contacts in fiscal year 1992.

MARAD also was monitoring the implementation of the 1990 Oil Pollution Prevention Act concerning new tank vessel construction standards requiring double hulls. Several RRF tankers and Offshore Petroleum

Discharge System (OPDS) vessels will be affected by this legislation.

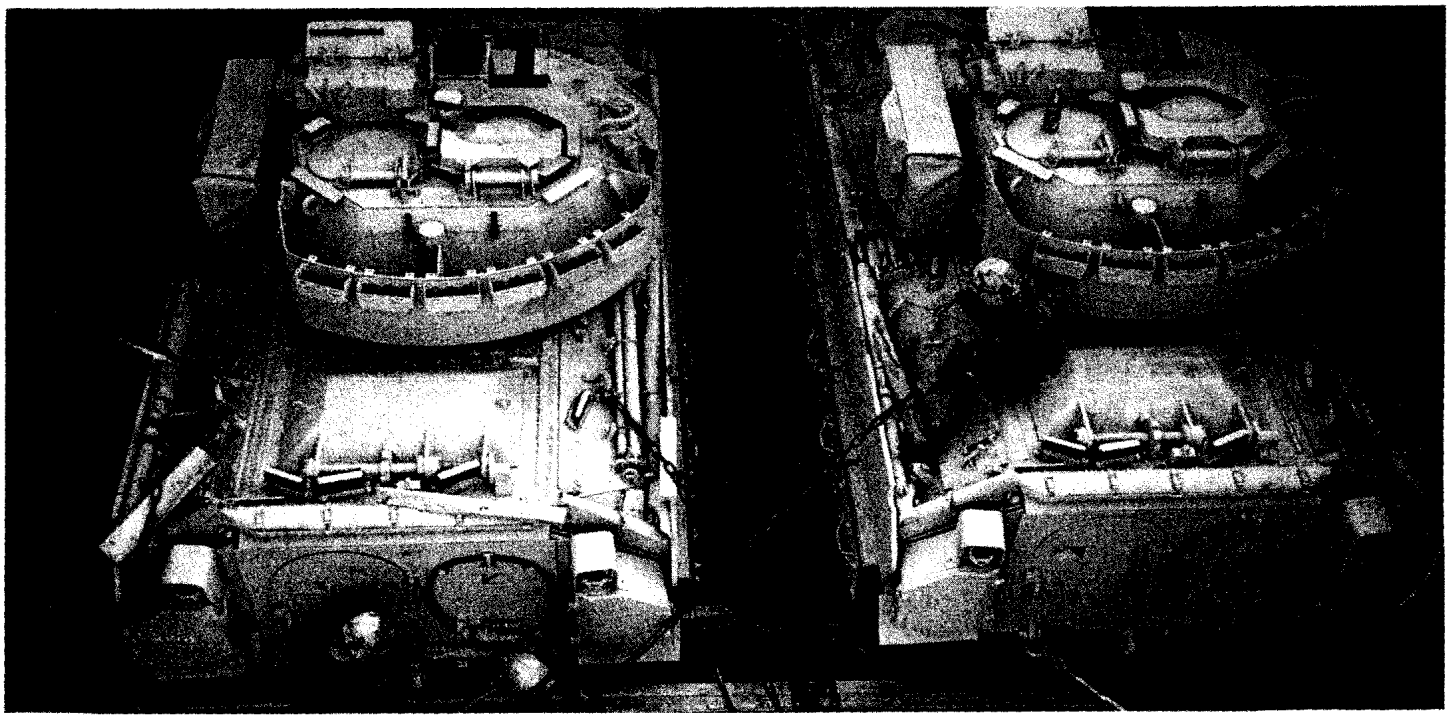
Nuclear waste from the NS SAVANNAH was deposited in the Maxey Flat, KY, nuclear waste disposal site during the ship's operations from 1961-1969. This site is being cleaned up under the EPA Superfund laws. MARAD was considered to be a *de minimus* contributor in this case, which is being addressed by the Department of Justice. Resolution was expected early in fiscal year 1992.

The NS SAVANNAH has had the charter renewed for another 5 years by the Patriots Point Development Authority in South Carolina. It is being used as part of a maritime museum. MARAD has a joint license from the Nuclear Regulatory Commission with the State of South Carolina for "Possession Only" of the residual radioactive materials still contained in the defueled reactor pressure vessel. Annual audits are held to monitor the radioactive status of the ship.

Data from the NS SAVANNAH are being held at the U.S. Merchant Marine Academy at Kings Point, NY. Some of these data were being requested as part of an information exchange between the Japan Atomic Energy Research Institute (JAERI) and the Department of Energy (DOE) under a Memorandum of Understanding (MOU) to exchange information on deactivation of nuclear facilities. The release of this data is restricted by an original MARAD/Navy/Atomic Energy Commission agreement not to release nuclear data outside of the United States. This restriction is now under review by DOE and the Navy prior to changing the MOU to include the SAVANNAH and MUTSU as exchange facilities.

As a mechanism for resolving environmental issues, MARAD formed an internal Environmental Coordinating Committee (ECC). The ECC meets biannually to review environmental problems and solutions within Agency facilities and operations and to assure compliance with environmental audits of all of the MARAD facilities.

The first audit was conducted at the U.S. Merchant Marine Academy late in fiscal 1990. The three reserve fleet sites at James River, VA; Beaumont, TX; and Suisun Bay, CA, and the Fire Training Center in Swanton, OH, were audited in fiscal year 1991. Recommended changes and necessary actions were developed for each facility and a timetable was established for corrective actions. These facilities will be audited again in fiscal 1993 and every 2 years thereafter.



Workers are removing chains used to secure tanks for voyage from the United States to Damman (Saudi Arabia).

Port Emergency Operations

During FY 1991, MARAD carried out numerous preparations for U.S. port operations in emergencies which threaten national security.

Completed Projects	Description
Operations Desert Shield/ Desert Storm	Prepared a final report, *Seminar on U.S. Port Operations During Desert Shield Mobilization.*
Federal Port Controllers	Coordinated Federal Port Controller (FPC) activities, vessel activity, both commercial and military, at each of the designated load-out ports in cooperation with MSC and Military Traffic Management Command (MTMC).
Emergency Ammunition Ports	With a consortium of six interested agencies, completed an unclassified study of potential commercial ports which could augment Government-owned and operated ammunition loading facilities in an emergency.
Federal Port Controllers	Completed three FPC contracts with ports that potentially will be involved in cargo movements during a national emergency.
Federal Port Controller Information System	Completed the Phase II report on an automated FPC Management Information System to organize emergency information.
Military Utilization of Marine Containers	Assisted Department of Defense agencies in assessing the use of containers to support military logistical requirements, drafted voluntary container agreement, and reviewed proposed regulation governing the Army's containerization policy.

Ongoing Projects	Description
National Port Readiness Coordination	Participated in meetings of the National Port Readiness Steering and Working Groups, comprised of representatives of MARAD, MTMC, MSC, USCG, U.S. Army Corps of Engineers (USACE), Naval Control of Shipping Organization (NCSORG), and Maritime Defense Zones (MARDEZ), in accordance with an existing Interagency Memorandum of Understanding on Port Readiness.

Local Port Readiness Committees	Headquarters and regional personnel participated in meetings of local Port Readiness Committees held with local representatives of MTMC, MSC, USCG, NCSORG, USACE, MARDEZ, and other local port members as part of the National Port Readiness Network.
National Defense Executive Reserve	Continued a program to obtain National Defense Executive Reserve membership for FPCs.
Contingency Response	Continued to participate as a member of the MTMC's National Contingency Response (CORE) team to promote military mobilization and defense preparedness.

Projects Initiated	Description
Regional Emergency Training	Initiated planning for a series of regional training seminars at the ports of Baltimore, MD, Tampa, FL, New Orleans, LA, and Oakland, CA, for emergency planning and operations personnel, including MARAD FPCs.

Fish Reef Program

Ownership of the vessel INDRA (AR-37) was approved for transfer to the State of North Carolina for sinking offshore as an artificial fishing reef pursuant to Public Law 92-402, as amended by Public Law 98-623.

As of September 30, 1991, three states were on the waiting list to receive vessels as they become available for the fish reef program.

Ship Sales/Disposal

Eighteen Government-owned vessels were offered for sale to citizens and noncitizens during the year for scrapping purposes pursuant to Public Law 95-177, as amended by Public Law 101-595. Nine vessels were sold for a total of $4,635,455 for scrapping in acceptable foreign areas.

Merchant Mariner Memorial Program

Three obsolete vessels, NORTH STAR III, NEWCASTLE VICTORY, and KINGSPORT, were transferred to three groups of nonprofit organizations for sale for scrap in fiscal year 1991, pursuant to Public Law 101-595.

The proceeds of these sales will be used by the organizations to acquire land for, designing, berthing, refurbishing, repairing, or constructing memorials to merchant mariners.

Table 18: NATIONAL DEFENSE RESERVE FLEET--SEPTEMBER 30, 1991

Fleet Sites	Active Retention[1]	Inactive Retention[2]	Custody Programs[3]	Totals
James River, VA	73	18	39	130
Beaumont, TX	51	0	24	75
Suisun Bay, CA	48	5	18	71
Other Locations	36	3	1	40
Totals:	208	26	82	316

[1] Vessels maintained under the fleet preservation program for emergency activations, including the RRF.

[2] Vessels pending trade-out under Section 510(i) provisions and two vessels donated to states for fish reefs.

[3] Title XI vessels in default, Navy, and other Government-owned vessels.

Table 19: NATIONAL DEFENSE RESERVE FLEET, 1945--1991

Fiscal Year	Ships	Fiscal Year	Ships
1945	5	1968	1062
1946	1421	1969	1017
1947	1204	1970	1027
1948	1675	1971	860
1949	1934	1972	673
1950	2277	1973	541
1951	1767	1974	487
1952	1853	1975	419
1953	1932	1976	348
1954	2067	1977	333
1955	2068	1978	306
1956	2061	1979	317
1957	1889	1980	303
1958	2074	1981	317
1959	2060	1982	303
1960	2000	1983	304
1961	1923	1984	386
1962	1862	1985	300
1963	1819	1986	299
1964	1739	1987	326
1965	1594	1988	320
1966	1327	1989	312
1967	1152	1990	329
		1991	316[1]

[1] Includes 82 vessels not owned by the Maritime Administration but in Maritime Administration custody.

Table 20: MARINE AND WAR RISK INSURANCE APPROVED IN FY 1991

Kind of Insurance	Total Amount	Percentage	
		American	Foreign
Marine Hull & Machinery	$3,768,005,076	46	54
Marine Protection and Indemnity [1]			
War-Risk Hull and Machinery	$4,800,607,105	53	47
War-Risk Protection & Indemnity	$4,800,607,105	53	47

[1] Protection and Indemnity insurance coverage is obtained principally from assessable mutual associations managed in the British market and is unlimited, thereby making it impossible to arrive at the total amount or percentage figures for American and foreign participation.

Chapter 9

International Activities

The Maritime Administration (MARAD) continued its efforts to obtain equitable treatment for U.S.-flag carriers' participation in world trade in fiscal year (FY) 1991. The Agency negotiated a bilateral agreement with Brazil, conducted discussions with Korea, Japan, and China, and took part in several multilateral conferences.

Agreement and Discussions with Brazil

In March 1991, United States and Brazilian maritime delegations held discussions in Brazil to review cargo reservation policy and implementation of the bilateral maritime agreement. In July 1991, the Maritime Administrator and his Brazilian counterpart signed a new 2-year, equal-access agreement. This agreement commits Brazil to formulating appropriate legislative and administrative measures to liberalize and enhance competition in the maritime trade, including efforts to reduce significantly the scope and coverage of government-controlled liner cargo.

Consultations with Korea and Japan

The Maritime Administrator and his Korean counterpart held 2 days of discussions on shipping issues in Seoul, Korea, in July 1991. The talks set the framework for elimination of existing maritime restrictions and the movement toward a more positive relationship in the maritime area. Agreed Minutes of the consultations outlined the Korean policy to open fully long-haul trucking to U.S. carriers; described measures to ensure U.S. carriers can contract directly for cargo space on Korean railroads; outlined Korean policy governing foreign ownership of container terminal facilities and terminal operating equipment; and reported on the elimination of discriminatory port service charges.

The Maritime Administrator also met with officials of the Ministries of Transport and Foreign Affairs and with shipping industry groups in Tokyo in July 1991. During these talks, the United States was gratified that the Harbor Management Fund would not be extended beyond March 1992.

Discussions with China

The Maritime Administrator held consultations with his Chinese counterpart in Washington, DC, in April 1991 concerning problems facing U.S. carriers in the China trade. The talks followed a MARAD-chaired visit by a U.S. delegation to Beijing in November 1990. Issues at the center of these bilateral discussions included restrictions on U.S. carriers' offices, tariffs, and feeder ship opportunities in China. Agreed Minutes were signed at the conclusion of the April talks.

Organization for Economic Cooperation and Development (OECD)

MARAD assisted in negotiations aimed at multilateral agreement under the OECD to eliminate government subsidies to shipbuilding and other practices inconsistent with normal competitive conditions in the industry. The effort was headed by the Office of the U.S. Trade Representative. MARAD officials also served on U.S. delegations to multilateral talks at OECD headquarters in Paris.

The Agency also participated in the U.S. delegation to regularly scheduled meetings of the Maritime Transport Committee of the OECD. In 1991, the Committee initiated a dialogue on maritime transport matters with Eastern European countries and began planning for a similar dialogue with Dynamic Asian Economies. A review of member country support measures to assist their merchant fleets also was discussed at this meeting.

Uruguay Round Services Negotiations

In December 1990, the Uruguay Round of multilateral trade negotiations ended with a ministerial meeting in Brussels. None of the individual negotiating groups completed their work at this scheduled final meeting and the Round was extended. MARAD continued its involvement in the U.S. delegation's work on the

services negotiations, including sending a representative to the Brussels conclave. MARAD has worked within the Department of Transportation, with other U.S. agencies, and with U.S. firms to achieve the United States objective of excluding maritime services from a multilateral services agreement. The Agency continues to assert that this is the most effective way to preserve U.S. ability to strengthen and liberalize the sector.

Other International Activities

MARAD, in cooperation with the Department of State, completed a survey of maritime cabotage laws around the world. Cabotage reserves carriage of domestic trade to domestic vessels. Pamphlets explaining vessel reflagging, ownership, and crewing restrictions, fleet subsidies, ship construction provisions, and foreign-flag operations were published in this reporting period.

In addition, MARAD participated in meetings and training sessions of the North Atlantic Treaty Organization's (NATO) Defense Shipping Authority and its Planning Group, Military Sealift Working Group, Training and Exercise Study Sub-Group, and the Interallied Insurance Organization. The Agency also participated in the Planning Board for Ocean Shipping Plenary and certain activities of NATO's Senior Civil Emergency Planning Committee.

The U.S.-U.S.S.R. Maritime Agreement has had a strong positive impact on regularly scheduled vessel service to Great Lakes ports. The ports of Detroit (MI) and Milwaukee (WI) have experienced significant increases in export/import traffic. Other Great Lakes ports also have attracted inducement port calls by Russian-flag vessels.

MARAD also participated in a U.S. delegation that visited the Polish ports of Gdynia and Gdansk and identified port and intermodal development needs. The Agency also prepared and delivered a paper titled *Efficient Intermodalism and the Role of Adequate Landside Port Access* to the Fifteenth Joint Business Conference of the United States and Taiwan in Salt Lake City, UT.

In cooperation with the International Maritime Organization's World Maritime University, the Agency provided on-the-job training at its offices and selected U.S. ports for students from Korea, Malaysia, Philippines, and Tanzania.

MARAD also participated in the annual meeting of the Transport Canada-U.S. Department of Transportation Emergency Planning Committee for Civil Transportation.

Some of the tanks and military vehicles transported to the Port of Damman, Saudi Arabia by Ready Reserve Force ships.

Chapter 10

Administration

The administrative actions taken in support of the mission and programs of the Maritime Administration (MARAD) in fiscal year (FY) 1991 are summarized below.

National Transportation Policy/Maritime Policy

MARAD worked toward implementing the long-term agenda of the National Transportation Policy (NTP) announced in fiscal year 1990 by the Secretary of Transportation. The Agency initiated the development of a strategic plan which focused on the most critical issues requiring action by senior management.

One of the primary maritime objectives cited in the 1990 publication, *Moving America-New Directions, New Opportunities: A Statement of National Transportation Policy*, was development of a series of maritime program reform proposals aimed at providing commercial operators greater flexibility to compete in international trades and the ability to acquire vessels at competitive world prices. A policy reform package, however, was not completed in FY 1991.

Captain Warren G. Leback, Maritime Administrator, being interviewed by Seapower Magazine's contributing editor, Vincent C. Thomas, (left), and its Editor, James D. Hessman.

By the end of the reporting period, the Department of Transportation was updating the NTP statement to include changes in the transportation environment since the original policy was announced.

Maritime Subsidy Board

The Maritime Subsidy Board (MSB), by delegation from the Secretary of Transportation, principally awards, amends, and terminates contracts subsidizing the construction and operation of U.S.-flag vessels in the foreign commerce of the United States. To perform its functions, the MSB holds public hearings, conducts fact-finding investigations, and compiles and analyzes trade statistics and cost data. MSB decisions, opinions, orders, rulings, and reports are final unless the Secretary of Transportation undertakes reviews of these actions.

The MSB is composed of the Maritime Administrator, who acts as Chairman of the Board, the Deputy Administrator, and the Agency's Chief Counsel. The secretary of MARAD and the MSB acts as an alternate member in the absence of any one of the three permanent Board members.

The MSB met 28 times in FY 1991. It considered and acted on 31 items and issued 12 formal opinions, rulings, and orders. MARAD also published 38 notices in the *Federal Register* relating to required statutory hearings and to developing and adopting rules and regulations to implement the provisions of the Merchant Marine Act, 1936, as amended. The secretary of MARAD, as Freedom of Information Officer, received and processed approximately 240 Freedom of Information Act requests.

During FY 1991, the MSB took a number of administrative actions to help strengthen the U.S. merchant marine. Of significance was approval to allow interchange (substitution) and transfer privileges among all of Lykes Bros. Steamship Co., Inc. (Lykes) subsidized services of the C6-S-60c Constellation-class vessels ALLISON LYKES, MALLORY LYKES, and MAGALLANES. This action not only permits Lykes to use its ships more flexibly and efficiently but also provides MARAD with potential for savings in vessel operating subsidy.

In addition, the MSB increased the operational flexibility of American President Lines, Ltd. (APL) by approving its request to conform its Line A and Line B (West Coast to Far East) services to a newly designated Trade Route 2. This action enhances APL's competitive stance and efficiency.

Legal Services, Legislation, Regulations, and Litigation

MARAD's Chief Counsel provides legal assistance on a wide range of issues relating to Department and MARAD programs. The office provides legal support services for contracting, procurement, and personnel activities conducted by MARAD headquarters, regional offices, and the U.S. Merchant Marine Academy at Kings Point, NY. It also routinely provides significant legal support in administration of the Merchant Marine Acts of 1920 and 1936, the Shipping Act of 1916, and the cargo preference laws.

MARAD's involvement in Operations Desert Shield/Desert Storm/Desert Sortie required substantial legal resources in FY 1991. In addition, much effort was devoted to reconciling the provisions of the Federal Credit Reform Act with the requirements of the Title XI Ship Mortgage Guarantee Program, and addressing difficult questions arising under the Capital Construction Fund and Preference Cargo Programs. In addition, the Chief Counsel issued a recommended decision on a subsidy recapture dispute involving a major subsidized operator after hearing oral argument.

Litigation support was provided to the Department of Justice in admiralty and maritime cases arising from the operation and administration of MARAD's programs during the year.

Significant time was devoted to litigation involving disposition of vessels obtained by MARAD through defaults of Title XI of the Merchant Marine Act of 1936.

The Agency also negotiates the settlement of a variety of contractual claims under the Ready Reserve Force Ship Manager Program and vessel conversion activities.

During the fiscal year, MARAD processed for settlement a number of claims brought under the Suits in Admiralty and Public Vessels Acts, including payment of $606,517 in compensatory damages for seamen's

personal injuries while on board MARAD-owned vessels.

The Agency reviewed and commented on legislative material which focused on developing significant operating-differential subsidy reform legislation, preserving the integrity of the Jones Act, resisting efforts to circumvent the Cargo Preference laws, and informing Congress of the Ready Reserve Force role in the sealift effort during the Persian Gulf conflict.

Regulatory initiatives during the year included publication of an updated *Index of MARAD Regulations;* interim final rules implementing significant statutory changes in the Ship Mortgage Act of 1920; and final regulations which implement MARAD's statutory authority to provide assistance for groups establishing memorials to merchant mariners. In addition, the Agency argued a case before the Federal Maritime Commission (FMC) involving MARAD's authority to approve certain Military Sealift Command (MSC) charters under Section 9 of the Shipping Act of 1916. The FMC concluded it lacked authority to adjudicate a dispute between two Executive branch agencies and dismissed the complaint.

Management Initiatives

In FY 1991, the Secretary of Transportation's responsibility under Public Law 101-624, Title XV, Subtitle B, (enacted November 28, 1990), was assigned to the Associate Administrator for Marketing. This law involves revising agricultural price support and related programs including farm credit. Additionally the Agency revised the Office of Market Development's shipper rates procedure to reflect the liaison role rather than developing, calculating and recommending Government shipper Agency rates. Recommendation of rates was transferred to the Office of Ship Operating Assistance.

Audits

In FY 1991, the Department of Transportation's Office of the Inspector General submitted final principal internal audit reports to MARAD. They were:

- *Audit of Maintenance, Repair, and Use of State Academy Training Vessels;*
- *Audit of James River Reserve Fleet;*
- *Audit of Lobbying Activities;*
- *Audit of Maintenance of Ready Reserve Force (RRF);*
- *Audit of Contracted Advisory and Assistance Services;*
- *Audit of Personal Property Management at the U.S. Merchant Marine Academy;* and
- *Audit of Activation of RRF.*

The General Accounting Office issued no final audit reports during FY 1991 on MARAD's activities.

Information Resources Management

MARAD continued to upgrade its information processing equipment and services in FY 1991. Additional secure telephone units were obtained from the National Security Agency and distributed to officials at several major U.S. ports to assist in Operations Desert Shield/Desert Storm/Desert Sortie.

MARAD identified various Transportation Computer Center mainframe systems that had become obsolete or ineffective. The systems and applications were analyzed for potential enhancements and reprogramming use on the Local Area Network (LAN).

The Agency also reduced systems support funding through the Working Capital Fund. The download of the Maritime Statistical Information System On-Line Query and Reporting Subsystem, PIERS, Shipper Information Systems, and the National Cargo Statistics System were removed from the mainframe and placed on the LAN through a Database Server with Client/Server Technology. This cost-effective move improved responsiveness and increased access to data for program offices. The funds saved were used to acquire software, hardware, peripherals, and support services needed to improve the operation of the updated LAN.

The Client/Server Architectural design and building of the Data Dictionary on the Database Server are all leading edge technology and are intended to provide

MARAD with user-friendly access to the mainframe data in a cost efficient manner.

MARAD also completed development of the Ready Reserve Force Spares Management System utilizing IDMS on the TCC Amdahl computer in FY 1991. During Operations Desert Shield/Desert Storm, activation data on RRF ships was successfully down-loaded to the system, but delays were experienced and problems encountered with efficient operation. This system is being re-programmed in dBASE/CLIPPER and will be resident on the LAN Server supporting the shipbuilding and ship operations program areas.

During FY 1991, the Maritime Management Information System was implemented successfully at MARAD headquarters. This Executive Information System provides data/information on virtually all programmatic functions within the Agency.

Furthermore, the Maritime Management User Profile System was implemented to ensure that the Agency conforms to the Federal Managers' Financial Integrity Act.

Conversion of applications on the Callan UNISTAR to the MIPS minicomputer platform proceeded at a steady pace. The first demonstration of reprogrammed function for the Maritime Contract Impact System was held in August 1991. Additionally, programming for Conversion of the Seaman's Employment Analysis System was completed in August 1991 and the Student Incentives Payment System was converted to run on the MIPS. It is expected to be tested for user acceptance in fiscal year 1992.

Conversion of the Financial Review and Contract Surveillance System (FRACS) to the MIPS was accomplished during the year. It is the first system targeted for conversion from the Hewlett-Packard 3000 minicomputer to the MIPS/ORACLE environment. The front end data entry functions for FRACS have been converted and were successfully demonstrated to the principal user in August 1991.

MARAD encourages automating information and reducing the burden on public respondents when possible. In FY 1991, the need for developing the Container/Trailer report was eliminated. This resulted in a reduction on the public of 4,550 staff hours and 9,100 responses annually. This ongoing review process is built into the day-to-day management of information collections.

MARAD and MSC have implemented a two-way data communications link to exchange information on the status of oceangoing merchant vessels. This link is expected to be extremely useful during emergency operations.

The MARAD Network Information System houses a variety of information on sensitive subject matter files and systems. This system has strict access control. It is totally menu-driven and identification and password protected, based on security level. Maintenance responsibility for menu items is controlled on the file server by the staff authorized at specific security levels. Security controls are supported throughout this information access environment by Saber Corp. and Novell, Inc., as well as disk operating system (DOS) and application software controls.

Information Systems Security Programs were initiated in the reporting period by identifying all "Sensitive" or "Classified" data. Access control was implemented through the MMUPS and the LAN Saber menu access control module. Log-on identifications and password controls are required for access to the LAN and, once they are accepted, the requesting microcomputer is scanned for potential viruses before acceptance into the Agency Extended LAN (ELAN).

Once accepted and authorized to access a "Sensitive" or "Classified" file, a reminder of the security requirements for release of data is displayed.

A third MIPS/3240 minicomputer to support emergency operations was purchased during FY 1991. This MIPS will be accessed directly through the ELAN at higher speeds and increased data accessibility. The costs of ADP program development are expected to be drastically reduced through the use of ORACLE on the MIPS. The third MIPS also gives MARAD the capability of backing up programs run on the other two MIPS minicomputers and provides an alternate location for support should either of the other two MIPS minicomputers fail.

MARAD continued to purchase OATS hardware and software configurations and currently has invested over $500,000 in this area. The Agency now has over 60 OATS configurations operational at headquarters, and

the Merchant Marine Academy has installed the OATS LAN configuration.

The Department of Transportation began analysis effort to convert MARAD to the DOT DAFIS mainframe System DOT. Implementation is expected by July 1992.

Personnel

MARAD's employment totaled 1,079 at the end of FY 1991. The Agency's percentage of female and minority employees as well as their representation in supervisory positions remained relatively stable during the period, as did the percentage of handicapped employees.

Two upward mobility positions were established in FY 1991.

Four Silver Medals, 15 Bronze Medals, two Secretary's Awards for Excellence, one award for Valor and one award for Community Service were approved for 23 MARAD employees in FY 1991.

Performance awards went to 92 Agency employees--15 Quality Step Increases and 77 Special Achievement Awards.

Adopt-A-Ship Program

The Propeller Club of the United States has sponsored an Adopt-A-Ship Program since 1936. This program develops understanding of and interest in the American merchant marine among elementary school students.

The crews of the adopted merchant ships and their elementary school classes engage in regular exchanges of correspondence supervised by their teachers and MARAD has been a liaison with program participants. To further acknowledge the long-term participation by Evans Elementary School of Fond Du Lac, WI, in the Adopt-A-Ship Program and its donation of over 7,000 books to a special drive by the American Merchant Marine Library Association for Operation Desert Shield/Desert Storm, Maritime Administrator Captain Warren G. Leback, visited the school in FY 1991.

Safety Program

In FY 1991, MARAD continued its efforts to furnish its employees with safe work environments. The Agency hired three full-time, professional Fleet Safety Officers to replace the collateral duty safety assistants located at the National Defense Reserve Fleet (NDRF) sites during the fiscal year. They are responsible for overseeing the local occupational safety and health programs at their locations. These include instructing fleet employees in safe work practices and conditions and evaluating and abating both safety and health hazards.

MARAD also arranged for the development of a hazardous materials management plan for each reserve fleet as well as employee training in the handling and use of such materials in a safe and healthful manner.

As an incentive to improve the lost-time accident rates at the NDRF sites, the Maritime Administrator's Safety Award was created. It will be awarded annually to the fleet with the lowest lost-time accident rate. The inaugural award for FY 1991 was won by the Beaumont Reserve Fleet. The James River and Suisun Bay Reserve Fleets also were honored with separate awards in recognition of the significant reductions in lost-time accidents at these facilities.

MARAD continued its Action Plan for the prevention of asbestos exposures and uses in MARAD programs. MARAD policy is to prohibit or stringently limit personnel exposure to airborne asbestos fibers. The Action Plan is geared to the elimination of asbestos material from Agency programs. It encompasses the repair or replacement of such materials already installed, modified work procedures, and employee training.

As stipulated in the Agency's Asbestos Medical Surveillance Program, designated employees continue to be provided with preplacement, periodic, and pre-separation medical examinations. Designated employees are those employees exposed or potentially exposed to hazardous substances or conditions at the work place, including employees assigned to MARAD's headquarters, the Reserve Fleets, the Regional Offices, and the U.S. Merchant Marine Academy (civilians and midshipmen).

Installation and Logistics

Real Property

On September 30, 1991, MARAD's real property included NDRF sites at Suisun Bay, CA; Beaumont, TX; and James River, VA; and the U.S. Merchant Marine Academy at Kings Point, NY. Facilities for training maritime firefighters were operated at Freehold, NJ, and Treasure Island, CA, under MARAD agreements with the U.S. Navy, and in New Orleans, LA, at facilities operated by Delgado College. MARAD operates the Toledo, OH, marine fire training facility.

Regional headquarters offices were maintained in New York, NY; Norfolk, VA; New Orleans, LA; Des Plaines, IL; and San Francisco, CA. Maritime Development Offices were maintained in Long Beach, CA; Seattle, WA; Houston, TX; Portland, OR, and at the five regional headquarters. In addition to those located at Regional headquarters offices, Ship Management staffs were maintained in New York, NY; Cleveland, OH; Portland, OR; and Port Arthur, TX.

Marine Safety International of New York, NY, continued to manage and operate the Agency's Computer-Aided Operations Research Facility at Kings Point, NY, under a cooperative agreement.

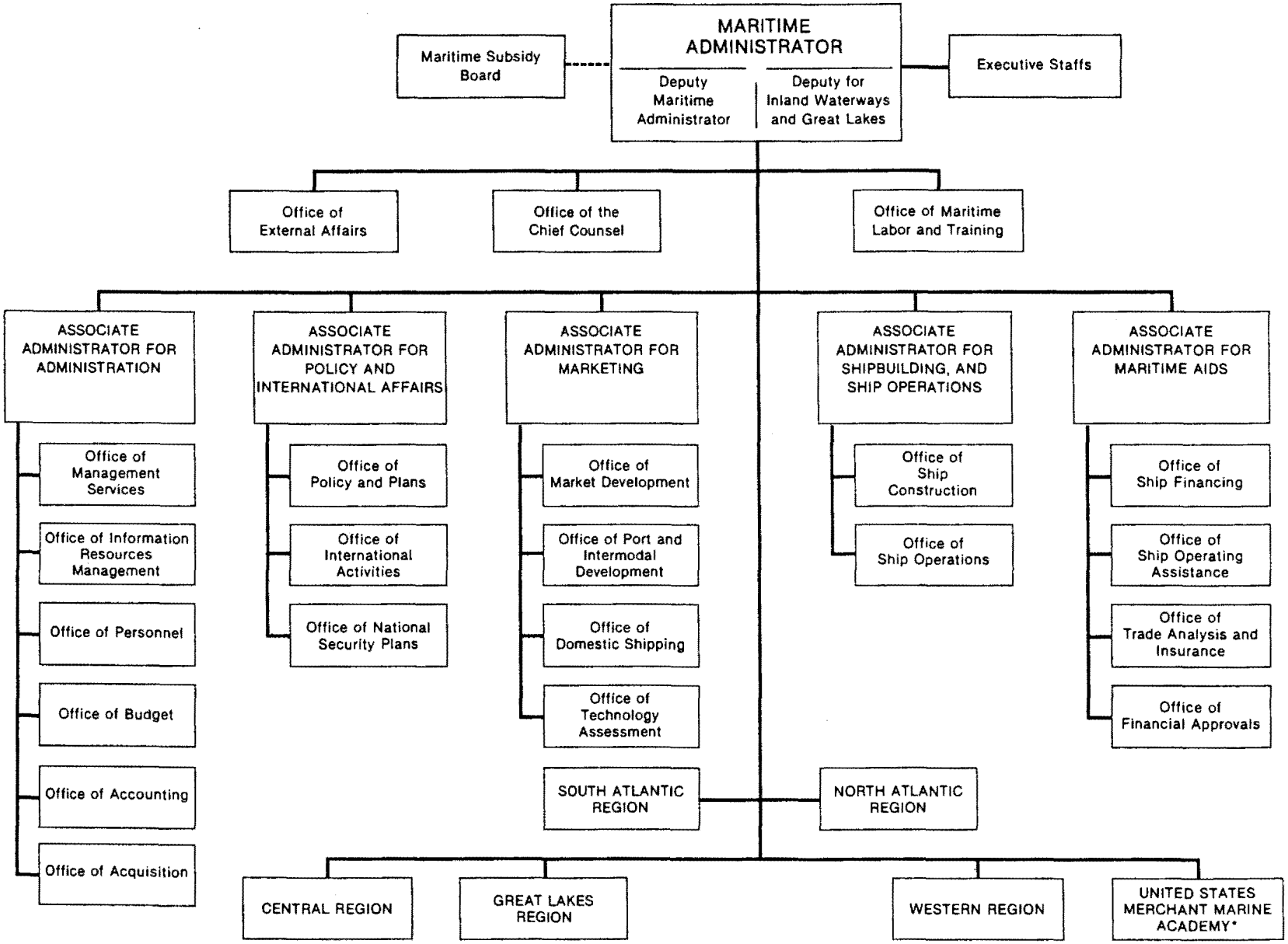
Accounting

MARAD's accounts are maintained on an accrual basis in conformity with generally accepted principles and standards, and related requirements prescribed by the Comptroller General.

The net cost of MARAD's FY 1991 operations totaled $550.2 million. This included $251.8 million in operating and ocean freight differential subsidies; administrative expenses of $73.6 million; $164.7 million for maintenance and preservation of reserve fleet vessels and $4.6 million for financial assistance to State Maritime academies.

MARAD received $55.5 million in other operating expenses net of income. Financial statements of MARAD appear as Exhibits 1 and 2.

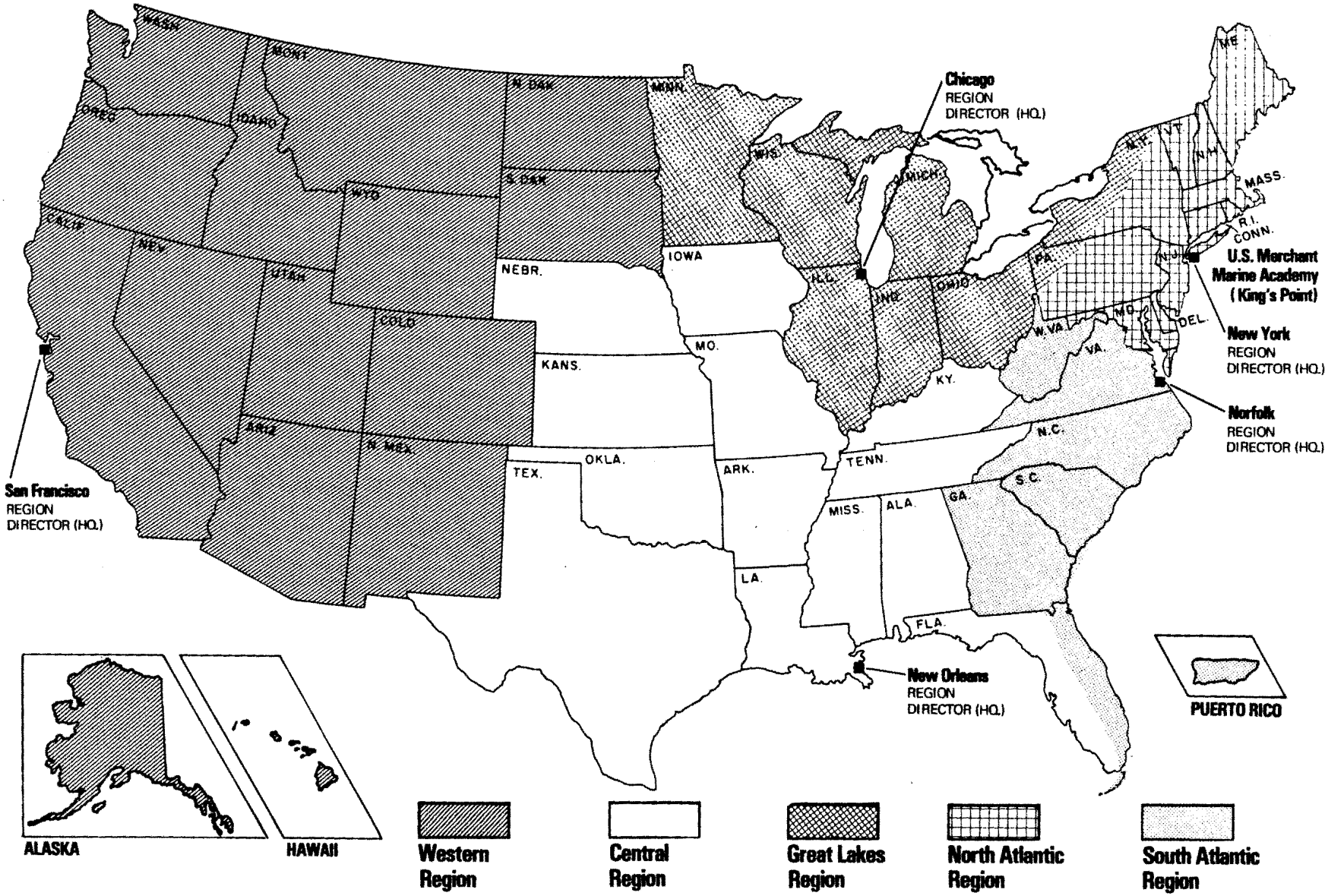
MARITIME ADMINISTRATION



* Kings Point, N.Y.

U.S. Department of Transportation
Maritime Administration

MARITIME ADMINISTRATION FIELD ORGANIZATION



U.S. DEPARTMENT OF TRANSPORTATION--Maritime Administration

Exhibit 1. Statement of Financial Condition
September 30, 1991, and September 30, 1990

ASSETS	September 30 1991	September 30 1990
Selected Current Assets		
Funded Balances with Treasury:		
Budget Funds	$ 231,224,334	$ 165,148,929
Deposit Funds	566,530	563,033
Allocations from Other Agencies		
Budget Clearing Accounts	6,754	7,786
	231,797,618	165,719,748
Federal Security Holdings	718,085,000	554,425,000
Accounts Receivable:		
Government Agencies	87,553,763	46,013,393
The Public	3,805,592	20,991,912
Allowances (-)	0	(728,666)
	91,359,355	66,276,639
Advances To:		
Government Agencies		
The Public	72,264	48,183
	72,264	48,183
Total Selected Current Assets	**$ 1,041,314,239**	**$ 786,469,570**
Loans Receivable:		
Repayment in Dollars	813,091,324	899,630,346
Allowances (-)	(647,322,111)	(636,800,000)
	165,769,213	262,830,346
Real Property and Equipment:		
Land	7,749,000	7,749,000
Structures and Facilities	59,025,693	125,190,007
Equipment and Vessels	829,454,173	798,802,656
Leasehold Improvements	172,175	172,175
Allowances (-)	(292,857,670)	(328,847,486)
	603,543,371	603,066,352
Other Assets:		
Works-in-Process--Other	18,969,471	18,969,471
Material and Supplies	3,439,962	3,439,962
Noncurrent Assets	0	0
Allowances(-)	0	0
	22,337,433	22,409,658
Total Assets	**$1,832,964,254**	**$1,674,775,398**

The Notes to Financial Statements are an integral part of this statement.

U.S. DEPARTMENT OF TRANSPORTATION--Maritime Administration

	September 30	
LIABILITIES	**1991**	**1990**
Selected Current Liabilities (Note 2)		
Accounts Payable (Including Funded Accrued Liabilities):		
Government Agencies	$ 10,190,853	$ 7,325,921
The Public	72,212,110	44,815,135
	82,402,963	52,141,056
Total Selected Current Liabilities	**82,402,963**	**52,141,056**
Deposit Fund Liabilities	566,530	563,033
Unfunded Liabilities:		
Accrued Annual Leave	9,095,465	8,224,837
Debt issued under borrowing Authority:		
Borrowing from Treasury	0	0
Other Liabilities:		
Vessel Trade-in Allowance and Other Accrued Liabilities	0	8,635,191
Total Liabilities	**$ 92,064,958**	**$ 69,564,117**
Government Equity		
Unexpended Budget Authority:		
Unobligated	973,712,360	607,879,902
Undelivered Orders	2,129,928,775	2,483,750,689
	3,003,641,135	3,019,630,591
Unfinanced Budget Authority (-)		
Unfilled Customer Orders	(199,268,855)	(52,025,426)
Contract Authority	(1,746,100,000)	(2,303,310,000)
	(2,045,368,855)	(2,355,335,426)
Invested Capital	782,627,016	868,916,116
Total Government Equity	**$1,740,899,296**	**$1,605,211,281**
Total Liabilities and Government Equity	**$1,832,964,254**	**$1,674,775,398**

The Notes to Financial Statements are an integral part of this statement.

U.S. DEPARTMENT OF TRANSPORTATION--Maritime Administration

Exhibit 2. Statement of Operations

	Years Ended September 30	
	1991	**1990**
OPERATIONS OF THE MARITIME ADMINISTRATION		
Net Costs of Operating Activities		
Reserve Fleet Programs:		
Maintenance and Preservation	$ 164,658,034	$ 89,067,378
Direct Subsidies and National Defense Costs:		
Operating-Differential	217,574,038	230,971,797
Construction-Differential	0	0
Ocean Freight Differential	34,202,000	22,014,000
	251,776,038	252,985,797
Administrative	73,555,783	79,830,888
Research and Development	0	1,357,885
Financial Assistance to State Marine Schools	4,603,830	8,209,000
	78,159,163	89,457,773
Other Operating Income Net of Expenses	9,660,661)	28,022,560)
Net Cost of Maritime Administration	$ 504,254,296	$ 459,533,508
OPERATIONS OF REVOLVING FUNDS (-Income):		
Vessel Operations Revolving Fund	(55,568,111)	(51,357,170)
War Risk Revolving Fund	(1,3310439)	(1,333,793)
Federal Ship Financing Fund	(8,826,683)	257,465,642
Special Studies	533,594	0
	45,938,583)	(204,774,679)
Net Cost of Combined Operations	**$ 550,192,879**	**$ 664,308,187**

The Notes to Financial Statements are an integral part of this statement.

Notes to Financial Statements -

September 30, 1990, and September 30, 1991

U.S. Department of Transportation
Maritime Administration

1. The preceding financial statements include the assets, liabilities, income, and expenses of the Maritime Administration; the Vessel Operations Revolving Fund, the War-Risk Insurance Revolving Fund, and the Federal Ship Financing Fund.

2. The Maritime Administration was contingently liable under agreements guaranteeing obligations or insuring mortgages and construction loans payable to holders or lenders totaling $2,643,994,565 on September 30, 1991, and $3,013,587,709 on September 30, 1990. MARAD had $51,355,000 in commitments to guarantee additional obligations on September 30, 1991.

3. MARAD held no cash or securities on September 30, 1991, in escrow in connection with the guarantee of obligations or the insurance of loans and mortgages which were financed by the sale of bonds in the securities market. There were no conditional liabilities for prelaunching War-Risk Builder's Insurance on September 30, 1991.

4. On September 30, 1991, the U.S. Government held $90,000 in securities which had been accepted from vessel owners, charterers, subsidized operators, and other contractors as collateral for their performance under contracts.

5. The Federal Ship Financing Fund, a revolving fund, is currently self-supporting. As of September 30, 1991, the fund had investments (U. S. Treasury Securities) of $698.4 million. During FY 1991, the fund incurred and paid out $11.8 million in mortgage loan defaults, no borrowing from the U.S. Treasury was necessary to cover these defaults.

6. The Maritime Administration wrote off loans receivable of $71 million for the Title XI Program during FY 1991.

7. The Maritime Administration adjusted its liabilities to $1,846,100,000 as of September 30, 1991, recognizing the estimated total of contractual liability outstanding on the current Operating Differential Subsidy contracts.

Appendix I: MARITIME SUBSIDY OUTLAYS--1936-1991

Fiscal Year	CDS	Reconstruction CDS	CDS	ODS	Total ODS & CDS
1936-1955	$ 248,320,942	* $ 3,286,888	$ 251,607,830	$ 341,109,987	$ 592,717,817
1956-1960	129,806,005	34,881,409	164,687,414	644,115,146	808,802,560
1961	100,145,654	1,215,432	101,361,086	150,142,575	251,503,661
1962	134,552,647	4,160,591	138,713,238	181,918,756	320,631,994
1963	89,235,895	4,181,314	93,417,209	220,676,685	314,093,894
1964	76,608,323	1,665,087	78,273,410	203,036,844	281,310,254
1965	86,096,872	38,138	86,135,010	213,334,409	299,469,419
1966	69,446,510	2,571,566	72,018,076	186,628,357	258,646,433
1967	80,155,452	932,114	81,087,566	175,631,860	256,719,426
1968	95,989,586	96,707	96,086,293	200,129,670	296,215,963
1969	93,952,849	57,329	94,010,178	194,702,569	288,712,747
1970	73,528,904	21,723,343	95,252,247	205,731,711	300,983,958
1971	107,637,353	27,450,968	135,088,321	268,021,097	403,109,418
1972	111,950,403	29,748,076	141,698,479	235,666,830	377,365,310
1973	168,183,937	17,384,604	185,568,541	226,710,926	412,279,467
1974	185,060,501	13,844,951	198,905,452	257,919,080	456,824,532
1975	237,895,092	1,900,571	239,795,663	243,152,340	482,948,003
1976**	233,826,424	9,886,024	243,712,448	386,433,994	630,146,442
1977	203,479,571	15,052,072	218,531,643	343,875,521	562,407,164
1978	148,690,842	7,318,705	156,009,547	303,193,575	459,203,122
1979	198,518,437	2,258,492	200,776,929	300,521,683	501,298,612
1980	262,727,122	2,352,744	265,079,866	341,368,236	606,448,102
1981	196,446,214	11,666,978	208,113,192	334,853,670	542,966,862
1982	140,774,519	43,710,698	184,485,217	400,689,713	585,174,930
1983	76,991,138	7,519,881	84,511,019	368,194,331	452,705,350
1984	13,694,523	-0-	13,694,523	384,259,674	397,954,197
1985	4,692,013	-0-	4,692,013	351,730,642	356,422,655
1986	-416,673	-0-	-416,673	287,760,640	287,343,867
1987	420,700	-0-	420,700	227,426,103	227,846,803
1988	1,236,379	-0-	1,236,679	230,188,400	231,425,079
1989	-0-	-0-	-0-	212,294,812	212,294,812
1990	-0-	-0-	-0-	230,971,797	230,971,797
1991	-0-	-0-	-0-	217,574,038	217,574,038
Total	**$3,569,648,434**	**$264,904,682**	**$3,834,553,116**	**$9,069,965,572**	**$12,904,518,688**

* Includes $131.5 million CDS adjustments covering the World War II period, $105.8 million equivalent to CDS allowances which were made in connection with the Mariner Ship Construction Program, and $10.8 million for CDS in fiscal years 1954 to 1955.

** Includes totals for FY 1976 and the Transition Quarter ending September 30, 1976.

Appendix II: Combined Financial Statements of Companies With Operating-Differential Subsidy Contracts
Statement A--Balance Sheet for Fiscal Years Ending in 1990 and 1989

	1990	1989
	(stated in thousands)	
CURRENT ASSETS		
Cash	$112,455	$55,046
Marketable Securities	14,341	16,399
Notes Receivable	3,136	17
Accounts Receivable	828,467	322,662
Allowance for Doubtful Receivables	(4,157)	(4,106)
Other Current Assets	113,284	85,879
TOTAL CURRENT ASSETS	$1,067,526	$475,897
Non-Current Assets:		
Restricted Funds	$15,027	$17,442
Investments	3,480	6,421
Property and Equipment (net of depreciation)	1,267,720	1,318,575
Other Assets	155,593	157,295
Deferred Charges	20,139	22,409
Goodwill and Other Intangible Assets	42,668	43,563
Total Non-Current Assets	$1,504,627	1,565,705
TOTAL ASSETS	**$2,572,153**	**$2,041,602**
LIABILITIES & EQUITY		
CURRENT LIABILITIES:		
Notes Payable	$59,393	$69,587
Accounts Payable	107,096	119,835
Accrued Liabilities	330,624	304,948
Other Current Liabilities	530,157	20,373
Advance Payments/Deposits	7,325	6,787
Total Non-Current Liabilities	$1,034,595	$521,530
Non-Current Liabilities:		
Long Term Debt	$793,440	$794,468
Other Liabilities	133,518	105,172
Deferred Credits	97,081	97,672
Total Non-Current Liabilities	$1,024,039	$997,312
Total Liabilities	$2,058,634	$1,518,842
Owner's Equity:		
Invested Capital	$186,186	$188,157
Treasury Stock	2,443	2,451
Retained Earnings	329,776	337,054
Total Owners' Equity	$513,519	$522,760
TOTAL LIABILITIES AND OWNERS' EQUITY	**$2,572,153**	**$2,041,602**

Appendix II: (continued)
Statement A--Income Statement for Fiscal Years Ending in 1990 and 1989

	1990	1989
	(stated in thousands)	
SHIPPING REVENUE	$2,311,322	$2,225,520
Other Shipping Operations Revenue	100,018	104,752
Total Revenue from Shipping Operations	2,411,340	$2,330,272
Shipping Expense	$805,142	$705,011
Operating-Differential Subsidy	(227,031)	(231,663)
Shipping Port Call Expense	95,702	83,671
Cargo Handling Expense	1,158,191	1,134,609
Inactive Vessel Expense	22,083	5,076
Other Shipping Operations Expense	16,250	83,055
Total Expense of Shipping Operations	$1,870,337	$1,779,759
Gross Income from Shipping Operations	$541,003	$550,513
Other Revenue	51,081	46,210
Other Expense	17,270	17,190
General and Administrative Expense	376,236	339,690
Depreciation and Amortization Expense	129,256	124,504
Interest Expense	77,555	87,781
Net Income Before Income Taxes	($8,233)	$27,558
Provision for Income Taxes	3,487	11,656
Net Income After Income Taxes	($11,720)	$15,902
Effect of Change in Accounting Policy	0	2,023
Income or Loss from Extraordinary Items	(3,282)	(9,927)
NET INCOME	**($15,002)**	**$7,998**

(Data from the Financial Report, Form MA-172, filed by 17 subsidized companies.)

APPENDIX III: TECHNICAL AND PROGRAM STUDIES PLAN--FISCAL YEAR 19

Project	Task	Vendor	Contract Number	Amount
Advanced Ship Development:				
Cooperative Advanced Ship Development Program Concept Design Studies	A principal recommendation from the 1990 "Ship of the Future 2000 Conference and Workshop" was establishment of a cooperative program to support U.S. ship operators and builders. This project began a cooperative effort between MARAD and the Department of the Navy's David Taylor Research Center. The initial task was to explore market possibilities for commercial transport and develop several ship design concepts to meet identified needs.	David Taylor Research Center Bethesda, MD	MA-1-A07	$ 75,000
Cargo Handling Technology:				
Cargo Handling Cooperative Program	Carry out research, development, test, and evaluation of new technologies, systems, and methods directed at increasing the cargo handling productivity of U.S.-flag carriers.	American President Lines, Ltd. Matson Terminals Inc. Sea-Land Service, Inc. Crowley Maritime, Corp.	MA-CA-10014	$200,000
Human Factors Research:				
Fitness for Duty	Investigate the feasibility and applicability of using fitness-for-duty tests for monitoring the fatigue and mental performance levels of mariners on merchant ships.	Volpe National Transportation Systems Center Cambridge, MA	M-1-020	$ 50,000**
Maritime Operational Safety:				
Demonstration of a Worldwide Vessel Locating and Tracking System	The ability to identify the position of a particular vessel or a fleet of vessels is crucial to the commercial and military support roles of the U.S.-flag merchant marine. This project will demonstrate the capability to provide real-time vessel positions using available technology.	Ocean Systems, Inc. Oakland, CA	91-P-10152	$ 23,940
Worldwide Vessel Locating and Tracking System - Phase II	To define the requirements of a worldwide automated ship tracking system which will serve both commercial and government users.	Synetics Wakefield, MA	91-10030	$ 60,559*
Maritime Technology Policy:				
Marine Board FY 91	To continue support of the Marine Board of the National Academy of Sciences during FY 91.	Dept. of Interior Washington, DC	MA-1-A29	$125,000

*Cost Shared
**Cost Reimbursable from U.S. Coast Guard

APPENDIX III: TECHNICAL AND PROGRAM STUDIES PLAN--FISCAL YEAR 1991

Project	Task	Vendor	Contract Number	Amount
Military Sealift Technology:				
Sealift Technology Development Program	To perform a number of studies related to potential technology developments for a mid-term sealift ship to be contracted after 1998. The studies are part of MARAD's support to the Naval Sea Systems Command in the maritime sealift area. The studies focus on market analysis and economic viability of sealift ships and review technology developments in all areas with concentration on potential innovations in cargo handling, human factors, and management and acquisition.	Advanced Technology, Inc. Reston, VA	91-10002	$990,000**
National Maritime Enhancement Institutes:				
Inspection and Maintenance Impact on Safety and Reliability of Tanker Structures	Identify maintenance strategies and assess the impact of inspection and repair programs on the reliability of tanker structure.	University of California Berkeley, CA	MA-CA-00010	$ 50,632
Ship Operations Technology:				
Shipboard Evaluation of a Piloting Expert System - Phase III	Design, develop, test, install, and evaluate an operational shipboard piloting expert system for decision support in restricted waters.	Rensselaer Polytechnic Institute Troy, NY	89-90031	$199,077*
Ship Structures Research:				
Ship Structure Committee	MARAD's share to participate in the Ship Structures Committee FY 91 Program.	U.S. Coast Guard Washington, DC	MA-1-A37	$ 75,000
Small Business Innovation Research:				
Small Business Innovation Research Program	MARAD's support of the FY 91 Small Business Innovation Research Program.	Volpe National Transportation Systems Center Cambridge, MA	MA-1-A38	$102,098
Technology Transfer:				
Maritime Technical Information Facility (MTIF)	To provide support for the final year of operation of the MTIF.	Seatrack Great Neck, NY	90-00003	$ 96,494

*Cost Shared
**Cost Reimbursable from U.S. Navy

APPENDIX III: TECHNICAL AND PROGRAM STUDIES PLAN--FISCAL YEAR 1991

Project	Task	Vendor	Contract Number		Amount
Waterway Navigation Technology:					
Electronic Chart and Display Information Systems (ECDIS)	The U.S. Coast Guard R&D Center requested CAORF services to interface an ECDIS system with the CAORF simulator and develop a test plan for man-in-the-loop simulation experiments to study the benefits and limitations of an ECDIS for the U.S. Coast Guard R&D Center.	Marine Safety International Kings Point, NY	88-80024 Order	Task	$248,500**
Port and Intermodal:					
Landside Access to U.S. Ports	Assess impediments and potential strategies for improving landside access to U.S. ports.	Transportation Research Board Washington, DC	MA-CA-90017		$ 60,000

*Cost Shared
**Cost Reimbursable from U.S. Coast Guard