MARAD '99

May 2000

U. S. Department of Transportation
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Secretary

Maritime Administration
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Maritime Administrator

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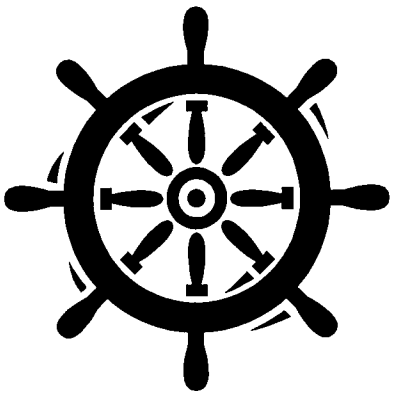
Contents



Introduction

The annual report of the Maritime Administration (MARAD) for the fiscal year which ended on September 30, 1999, is submitted to Congress in accordance with Section 208 of the Merchant Marine Act of 1936, as amended.

MARAD '99 includes nine chapters on MARAD programs and activities and includes specific reports required by law on acquisition of obsolete vessels in exchange for vessel trade-in, war risk insurance activities, scrapping or removal of obsolete vessels owned by the United States, and U.S.-flag carriage of Government-sponsored cargoes.

This report details MARAD's efforts to support the Nation's maritime policy and the goals of the Administration.

CLYDE J. HART, JR.
Maritime Administrator

Chapter 1

National Security

The Maritime Administration (MARAD) is responsible for assuring that merchant shipping is available in times of war or national emergency. MARAD administers programs to meet sealift requirements determined by the Department of Defense (DOD) and conducts related national security activities.

MARAD also maintains inactive, Government-owned vessels in the National Defense Reserve Fleet (NDRF), and its Ready Reserve Force (RRF) component. The RRF was created to maintain a surge shipping and resupply capability available on short notice to support deployment of a multi-division force.

Chart 1: Maritime Security Program Participants as of September 30, 1999

American Ship Management, LLC	9 containerships
Automar International Car Carrier, Inc.	2 RO/RO's*
Central Gulf Lines, Inc.	3 RO/RO's
First American Bulk Carrier Corp.	2 containerships
First Ocean Bulk Carrier I, LLC.	1 containership
First Ocean Bulk Carrier II, LLC	1 containership
First Ocean Bulk Carrier III, LLC	1 containership
Farrell Lines Incorporated	3 containerships
Maersk Line, Ltd.	4 containerships
OSG Car Carriers, Inc.	1 RO/RO
Sea-Land Service, Inc.	15 containerships
Waterman Steamship Corp.	3 LASH** and 1 RO/RO
Total	46 vessels[1]

[1] One additional RO/RO vessel is scheduled to be included in Automar's MSP Operating Agreement in early 2000, bringing the MSP to its full complement of 47 ships.
*RO/RO , roll-on/roll-off vessel ** LASH, lighter aboard ship

MARAD also conducts national security planning, training, and operations in areas such as emergency communications, naval control/civil direction of shipping, war risk insurance, and port emergency operations.

Maritime Security Program (MSP)

The Maritime Security Program (MSP) assists this country in maintaining an active, privately owned, U.S.-flag and U.S.-crewed liner fleet in international trade which is available to support DOD sustainment in a contingency.

The MSP is a 10-year program established under the Maritime Security Act of 1996, and provides approximately $100 million in funding annually for up to 47 vessels to partially offset the higher operating costs of remaining under U.S. registry.

The program is working as intended to help America retain an active U.S.-flag merchant fleet comprising modern, efficient, and militarily useful commercial dry cargo vessels that can support national security requirements and maintain a competitive U.S.-flag presence in international commerce. During fiscal year (FY) 1999, the MSP fleet logged over 16,000 operating days across the oceans of the world. MSP operators and participating vessels are shown in Chart 1.

The MSP also helps retain a labor base of skilled and loyal American seafarers who are available to crew the U.S. Government-owned strategic sealift fleet, as well as the U.S. commercial fleet, both in peace and war. The MSP leverages relatively modest Federal support dollars to retain access to a robust U.S. commercial maritime capitalization base valued at more than $8.5 billion.

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compensated U.S. carriers on a reimbursable basis for the higher costs of operating ships under the U.S. flag as compared to those of foreign-flag competitors. As an incentive for U.S.-flag operators to further reduce costs and increase efficiency, Congress established MSP funding levels at fixed amounts well below that of ODS.

Chart 2: VISA Participants as of September 30, 1999

Alaska Cargo Transport, Inc.	Lykes Lines Limited, LLC.
American Automar, Inc.	Maersk Line Limited*
American President Lines, Ltd.	Matson Navigation Company, Inc.Maybank Shipping Company, Inc.
American Roll-On Roll-Off Carrier, LLC	McAllister Towing &Transportation
American Ship Management, Inc.*	Moby Marine Corp.
Automar International Car Carrier, Inc.*	NPR, Inc.
Central Gulf Lines, Inc.*	OSG Car Carriers, Inc.*
Crowley American Transport, Inc.	Osprey Shipholding Corp., LLC.
Crowley Maritime Services, Inc.	Resolve Towing & Salvage, Inc.
Dixie Fuels II, Ltd.	Seacor Marine International, Inc.
Double Eagle Marine/Caribe USA, Inc.	Sealift, Inc.
Farrell Lines, Inc.*	Sea-Land Service, Inc.*
First American Bulk Carrier Corp.*	Smith Maritime
First Ocean Bulk Carrier – I, LLC*	Totem Ocean Trailer Express, Inc.
First Ocean Bulk Carrier II, LLC*	Trailer Bridge, Inc.
First Ocean Bulk Carrier III, LLC *	Trico Marine Operators, Inc.
Foss Maritime Company	Troika International, Ltd.
Lynden Incorporated	Van Ommeran Shipping (USA)LLC
	Waterman Steamship Corp.*
	Weeks Marine, Inc.
* MSP Participants	

The MSP largely provides financial assistance of $2.1 million per year per vessel, which is less than half the cost of the ODS program. MSP operators are being challenged to further reduce costs and become more efficient to accommodate these reduced payments.

Another important element of the MSP is the reflagging of new and more efficient vessels to U.S. registry. Since MSP implementation in 1996, a total of 12 modern commercial liner vessels, all less than 10 years old, have been reflagged to U.S. registry for participation in the MSP. In addition, MARAD approved one MSP company's request to substitute a newly built roll-on/roll-off (RO/RO) vessel for a 25-year old vessel.

In addition, one MSP company without the benefit of MSP financial assistance reflagged three containerships that were less than 5 years old. The addition of these 16 ships greatly benefits the modernization of the U.S. merchant fleet and enhances its competitiveness and sealift readiness for the 21st century.

During FY 1999, MARAD approved the application of Crowley American Transport, Inc. to transfer its three MSP vessels and MSP operating agreements to Automar International Car Carrier, Inc. (AICC). This resulted in the substitution of three full RO/RO vessels for the existing containerships in the former Crowley operating agreements.

One of these RO/ROs is expected to be reflagged from the Norwegian flag to U.S. registry in early FY 2000. This new capability improves America's ability to meet national security requirements. As of September 30, 1999, all 12 MSP carriers were receiving MSP payments for 46 vessels. Chart 3 is a list of MSP participants as of September 30.

Voluntary Intermodal Sealift Agreement (VISA)

The Voluntary Intermodal Sealift Agreement (VISA) program is sponsored by MARAD under its authorities for voluntary agreements contained in the Defense Production Act of 1950 and the Merchant Marine Act, 1936, as amended. VISA was approved as the DOD's principal commercial sealift readiness program on January 30, 1997.

VISA's principal purpose is to provide DOD with "assured access" to commercial intermodal capacity to move ammunition and sustainment cargo. This capacity can also supplement U.S. Government-owned/controlled/ chartered capacity used for initial deployment or "surge" of unit equipment.

VISA's objective is to maximize DOD's use of the multibillion dollar, state-of-the-art, U.S. commercial intermodal transportation system to serve America in peace and war while minimizing disruption to commercial operations. VISA's activation will be time-phased to streamline the availability of capacity to coincide with DOD requirements. Commercial operators can volunteer capacity in VISA Stages I and II, but in Stage III participants must commit at least 50 percent of their capacities for non-MSP vessels and 100 percent capacity for MSP enrolled vessels. By using a time-phased approach to provide capacity to meet varying levels of crisis, carriers can plan options to meet ongoing commercial arrangements during contingencies while concurrently meeting DOD's transportation requirements.

MSP/VISA Linkages

The importance of the link between VISA and the MSP is clear. More than 80 percent of the militarily useful U.S.-flag commercial dry cargo shipping capacity is enrolled in VISA Stage III and over 70 percent of that capacity comes from MSP vessels.

In FY 1999 MARAD published a notice in the *Federal Register* on the VISA "Open Season" enrollment for FY 2000. Several new U.S.-flag vessel operating companies are expected to enroll as a result of the open season. As of September 30, 1999 there were 39 VISA participants.

VISA, as mentioned earlier, is designed to provide DOD with "assured access" to commercial intermodal capacity to move ammunition and sustainment cargo. This capacity can also supplement U.S. Government-owned/controlled/ chartered capacity used for initial deployment or "surge" of unit equipment.

The companies commit specific vessel capacity, intermodal equipment, and management services. As a condition for receiving Government financial support, the MSP participants are required to enroll 100 percent of their MSP vessel capacity and a comparable mix of intermodal resources and services in VISA.

Over 116,000 20-foot equivalent units (TEUs) of capacity committed to DOD stems from MSP obligations. Other U.S.-flag vessel operators are encouraged to commit non-MSP resources to VISA as a condition of receiving priority for award of DOD peacetime ocean freight contracts. VISA participants are listed in Chart 2.

By partnering with the U.S.-flag commercial maritime industry, the U.S. Government leverages "assured access" to a total global intermodal network that includes not just vessels but also logistics, management services, infrastructure, terminals and equipment, communications, and cargo-tracking networks, as well as a cadre of well-trained, professional U.S. seafarers and shore-side employees.

Through VISA's Joint Planning Advisory Group (JPAG), Government and industry identify and discuss DOD's requirements, recommend concepts of operations to meet requirements, test and exercise program arrangements, and comply with antitrust requirements for pooling/teaming arrangements.

In FY 1999, two JPAG meetings were convened. On April 6, 1999, DOD called an emergency meeting of the VISA JPAG to present information on humanitarian relief and military supply transportation challenges faced as a result of the deteriorating situation in Kosovo and the surrounding Balkan region.

DOD shared information with VISA participants on the requirements and capabilities that existed or could be brought to bear in the future. On June 9, 1999, a JPAG classified video teleconference was held to provide U.S. VISA carriers with an update on Kosovo operations and current and projected sealift requirements. MARAD, DOD (including the Military Sealift Command (MSC) and the Military Traffic Management Command) and maritime industry representatives attended.

During FY 1999 a revenue-based methodology for prelodged compensation rates to be used during VISA activation was finalized. This procedure is intended to equitably compensate VISA participants

for activated capacity and resources and for the risks associated with meeting emergency requirements. Additionally, MARAD and DOD's U.S. Transportation Command (TRANSCOM) completed steps to finalize VISA vessel capacity enrollment procedures to accurately portray each participant's capacity commitment for VISA Stage III.

National Defense Reserve Fleet (NDRF)

The NDRF program of Government-owned vessels includes the Ready Reserve Force (RRF) component, and contains ships in a lay-up status that can be activated to help meet U.S. shipping requirements during a national emergency.

As of September 30, 1999, the NDRF included 312 ships, 144 were being kept for emergency activations, future historic display, spare parts, or congressionally legislated sale; 111 were pending disposal; 57 were owned by other Government agencies or by the Title XI program and were being provided custodial services on a cost-reimbursable basis.

The ships in deepest lay-up are in three reserve fleet sites: 97 at Ft. Eustis, VA; 45 at Beaumont, TX; and 97 at Suisun Bay, CA.

Ready Reserve Force (RRF)

A Memorandum of Agreement between the DOD and MARAD established the RRF as the surge component of the NDRF in 1976. These ships are kept in a high state of readiness to enable activation in 4, 5, 10, 20, or 30 days to meet surge military sealift requirements in the event of war or military deployment. Recent experiences in Operations DESERT SHIELD and DESERT STORM, and more recently in Haiti, Somalia, Croatia, Bosnia-Herzegovina, and for humanitarian support as part of Hurricane Mitch Relief in Central America, demonstrated the important contributions of the RRF.

The number of RRF ships remained constant at 91 for FY 1999. Spar decks were added to 5 RRF ships to help reduce an existing shortfall of 550,000 square feet of RO/RO capability that DOD planners and TRANSCOM identified as needed for surge strategic sealift. These first five upgrades will add almost 180,000 square feet of RO/RO capacity. One change in the composition of the RRF was the temporary substitution of the schoolship GOLDEN BEAR for the PATRIOT STATE as an RRF troop ship following the downgrade of the PATRIOT STATE to NDRF status.

To meet the readiness needs of DOD, MARAD outports 4 and 5-day RRF ships and provides them with permanently assigned Reduced Operating Status (ROS) crews. The outporting program provides lay-berths for RRF ships near the expected loading ports for defense cargoes. At year's end, 61 RRF vessels were assigned to outport locations: 21 on the East Coast, 11 on the Gulf Coast, 26 on the West Coast, and three shallow-draft tankers in Japan.

The highest priority RRF vessels to DOD are maintained in a status which permits reliable activation within 4 or 5 days at their berth sites, allowing expedited loading of critical surge DOD equipment. These vessels have 9-or 10-person ROS merchant mariner crews aboard carrying out a planned maintenance program. They become a part of the sailing crew on operational vessels. Vessel outporting and use of ROS crews greatly enhance the probability of successful activation. This enhanced readiness has been demonstrated in all recent vessel call-ups. RRF vessels have consistently satisfied activation timeline requirements, and there have been no failures on ships with ROS crews.

Ship Manager Contract (SMC) awards, which were made in June 1998 to manage RRF vessels, were rescinded in July 1998 due to an award error. Based upon the corrective action proposed, the General Accounting Office dismissed the protests received. Offerors in the competitive range were permitted to submit revised technical and cost proposals. Best and Final offers were received in April 1999.

During FY 1999, a civil action was initiated by a maritime labor union involving the Service Contract Act further delaying awards. Existing Ship

Manager Contracts awarded in 1993 were extended through the end of FY 1999 to provide ship management services until new contracts are awarded.

Further delays were encountered due to legal action resulting in a court decision requiring the solicitation to be amended to comply with the Service Contract Act.

RRF Sea Trial and Dock Trial Program

MARAD continued to carry out a regular program of planned maintenance activations for RRF vessels. High priority vessels, those in 4- and 5-day readiness status, undergo an annual sea trial (4-day), or alternate annually between a sea trial and a dock trial (5-day). Lower priority vessels are sea trialed on a biennial basis (10-day), or alternate between sea trial and dock trial over a 5-year cycle (20-day).

Table 1: NATIONAL DEFENSE RESERVE FLEET 1945-1999

Fiscal Year	Ships	Fiscal Year	Ships	Fiscal Year	Ships
1945	5	1963	1819	1981	317
1946	1421	1964	1739	1982	303
1947	1204	1965	1594	1983	304
1948	1675	1966	1327	1984	386
1949	1934	1967	1152	1985	300
1950	2277	1968	1062	1986	299
1951	1767	1969	1017	1987	326
1952	1853	1970	1027	1988	320
1953	1932	1971	860	1989	312
1954	2067	1972	673	1990	329
1955	2068	1973	541	1991	316
1956	2061	1974	487	1992	306
1957	1889	1975	419	1993	302
1958	2074	1976	348	1994	286
1959	2060	1977	333	1995	296
1960	2000	1978	306	1996	303
1961	1923	1979	317	1997	307
1962	1862	1980	303	1998	307
				1999	312

Table 2: NATIONAL DEFENSE RESERVE FLEET--SEPTEMBER 30, 1999

Home Port	NDRF Retention[1]	NDRF Non-Retention[2]	Reimbursable Custody[3]	Totals
James River, VA	25	59	13	97
Beaumont, TX	33	9	3	45
Suisun Bay, CA	15	41	41	97
Other Locations	71	2	0	73
Totals	144	111	57	312

[1] Vessel being maintained for emergency activations, awaiting possible historic preservation, or for spare equipment. Number shown includes RRF ships.

[2] Vessels pending disposal.

[3] Vessels not in the NDRF program, and owned by other Government agencies or by the Title XI program.

This program was established to enhance the reliability of ships ordered activated by DOD for missions by providing a detailed inspection of the vessel's material condition under operating conditions. It also enables MARAD to better schedule timely maintenance and repair and make decisions on allocation of resources.

During FY 1999, 67 ships underwent successful sea trials including full power tests. The continuing success of MARAD's activation of RRF ships for DOD missions can be attributed in large part to the sea and dock trial program.

RRF Operations

DOD continued to employ the RRF crane ship GOPHER STATE in the prepositioned fleet in FY 1999 to support the U.S. Army's Prepositioning Stock Program (APS-3). The vessel sailed for Southampton, UK from Guam for an extended cargo maintenance period and later participated in Exercise CROC in Gladstone, Australia. This exercise also involved a port visit to Noumea, New Caledonia.

The offshore petroleum discharge ship (OPDS) tankers AMERICAN OSPREY and POTOMAC continued to support the Afloat Prepositioning Force (APF), operating from Guam and Diego Garcia, respectively. OPDS vessels are capable of discharging petroleum products from four miles offshore without benefit of fixed shore facilities. The OPDS tanker PETERSBURG was activated to participate in Exercises FOAL EAGLE/FREEDOM BANNER 98 in South Korea, and relieved the AMERICAN OSPREY in the APF.

The CAPE JACOB, fitted out with a Modular Cargo Discharge System (MCDS) for underway transfer at sea, arrived at Earle, NJ in June 1999, and later sailed for Diego Garcia with a full load of ammunition. The ship is presently on station as part of the APF.

Four RO/RO ships were activated to provide hurricane relief to Central America: the CAPE DUCATO, the CAPE EDMONT, the CAPE VICTORY, and the CAPE VINCENT. Cargo was delivered to both Pacific and Caribbean ports in several Central American countries involving multiple round trip voyages.

Turbo Activations (TA) are no-notice tests (which include a sea trial) ordered by the MSC to test the readiness status of the RRF. In FY 1999 there were a total of 15 non-notice tests, including 13 that were no-notice activations.

TA 99-2 involved the activation of the 4- and 5-day ships the CAPE DOMINGO, CAPE ARCHWAY, CAPE ANN, CAPE BRETON, and CAPE INSCRIPTION. TA 99-3 involved the activation of the 5-day ship FLICKERTAIL STATE and the 10-day ship CAPE MENDOCINO. TA 99-4 involved the CAPE DOUGLAS, CAPE FLATTERY, CAPE HORN, CAPE KENNEDY, and CAPE KNOX. The CAPE FLATTERY is a 10-day ship, the rest are 4-day ships. All vessels were tendered ahead of required activation time.

The RO/RO ship CAPE TRINITY participated in Exercise BATTLE GRIFFIN 99 and was under MSC control for 82 days. This exercise involved two round trip voyages from the U.S. to Hommelvik, Norway, carrying a cargo of a complete military field hospital.

Two sea deployment readiness exercises (SEDRE) were held in FY 1999. The CAPE HENRY was activated in San Francisco, CA, loaded in Jacksonville, FL and sailed for Port Hueneme, CA to discharge cargo before returning to her San Francisco outport. In addition, the CAPE HORN sailed for Beaumont, TX via the Panama Canal and discharged cargo before returning to her San Francisco outport.

In April 1999 the RRF ship CURTISS (T-AVB) participated in the U.S. Marine Corps Exercise KERNEL BLITZ 99 off the coast of California; in July 1999, the EQUALITY STATE (TACS) participated in Exercise BLUE ADVANCE 99 held in Roosevelt Roads, PR; and in August 1999, the CAPE KNOX (RO/RO) was activated for Exercise TURBO INTERMODAL SURGE 00 (TIS00).

Logistics Support

MARAD significantly improved the level of RRF vessel logistics readiness in FY 1999. Supply support overhauls or upgrades were completed on 12 ships, and 3 ship overhauls were in process at year's end. Over 3,000 line items of repair parts and equipment valued at $2.9 million were procured from Federal and commercial supply sources. New OPDS outfitting allowances were developed with the U.S. Navy and implemented on the RRF ships PETERSBURG and CHESAPEAKE.

Over 5,000 line items of material valued at nearly $900,000 were screened under the auspices of the MARAD Reutilization Material (MRM) program, and added to the MARAD Shore Based Spares (SBS) inventory. It consisted of material from vessels being transferred out of the RRF, and excess material from the MSC having applicability to RRF ships. Issues of material from the shore-based spares system to RRF ships exceeded 3,000 line items, with an estimated value of $1.3 million.

Spare part support levels for 325 pieces of shipboard equipment were established under the MARAD provisioning program, thus ensuring vital repair part availability for applicable shipboard systems.

The Agency increased the effectiveness of its shipboard and shore-based logistics support management systems. A remote management capability was installed in all three MARAD Shore-Based Spares warehouses. All material formerly located at Hunters Point, CA was relocated to a new warehouse in Alameda, CA. The MARAD MRM screening program was implemented in the SBS Warehouse, Western Region.

RRF Roll-On/Roll-Off Capacity Upgrade Program

The DOD Mobility Requirements Study (MRS) established an RRF force level of 36 RO/RO ships. However, MARAD is restricted by Congressional mandate from purchasing additional foreign-built RO/ROs for the RRF. Currently 31 RO/ROs are in the RRF.

The MRS also established total lift requirements, and at the beginning of FY 1998 the aggregate capacity shortfall was 550,000 square feet. In cooperation with DOD, MARAD studied increasing the capacity of various RO/RO classes to make up the shortfall. The initial five-ship upgrade program was nearing completion at the end of FY 1999. Four ships were complete, with the last, CAPE RISE, in progress. These first five upgrades will add almost 180,000 square feet of RO/RO capacity.

The two-ship CAPE W class was identified for a follow-on program. Award of the first contract was pending at the end of FY 1999. These two ships will add an estimated 156,000 square feet of useful capacity. Additional upgrades are being evaluated to make up the remaining shortfall.

RRF Special Mission Ships

Within the RRF, a number of ships have been equipped with the features and equipment to perform specific missions. These ships include Auxiliary Crane ships, Offshore Petroleum Discharge System Tankers, Heavy Lift Ships (modified barge carriers of the LASH and SEABEE type), general cargo ships equipped with Sealift Enhancement Features, and Aviation Logistics Support Ships.

Auxiliary Crane (T-ACS) Ships

Between 1984 and 1997, MARAD converted 10 container ships, of four separate classes, into T-ACS. Crane Ships are outfitted with two or three independent twin boom, pedestal mounted, rotating heavy lift cranes, which may be operated singly or in tandem. These cranes permit the T-ACS to off-load containers and other outsize cargo from non-self sustaining cargo ships either instream (to barges), or in underdeveloped or damaged ports. One T-ACS, the GOPHER STATE, has been deployed with the Afloat Prepositioning Force (APF) since 1994.

Offshore Petroleum Discharge System (OPDS) Tankers

MARAD maintains five OPDS equipped tankers. They are capable of discharging petroleum products from four miles offshore without benefit of fixed shore facilities. During FY 1999, four of the OPDS ships were either in active service, or ROS. The POTOMAC remained deployed overseas in the APF, while the PETERSBURG replaced the AMERICAN OSPREY in APF service. The MOUNT WASHINGTON and CHESAPEAKE were in ROS.

The OPDS Utility Boats (OUB) conversion makes the ships self-sustaining when performing OPDS operations. The PETERSBURG and CHESAPEAKE completed the conversion in FY 1999. The MOUNT WASHINGTON will begin the OUB upgrade during FY 2000, with completion scheduled in FY 2001.

The AMERICAN OSPREY deactivated to RRF-30 status. The CHESAPEAKE is scheduled to relieve the POTOMAC in the APF in June 2000. The POTOMAC will be retained in RRF-10 status upon her return.

Sea Barge Clipper (SEABEE) Ships

MARAD maintains three SEABEE ships. Two are capable of carrying DOD's Joint Logistics Over the Shores (JLOTS) equipment. The JLOTS cargo includes Land Craft Air Cushion (LCAC), Side Loadable Warping Tugs (SLWT), LARC-60's, tug boats, causeway sections, and other DOD equipment to support JLOTS initiatives. Noteworthy of the SEABEE ships, the CAPE MAY successfully lifted the 110-foot U.S. Coast Guard (USCG) patrol boat BAINBRIDGE and stowed the craft onboard. Not only did this exercise prove the capability of the SEABEE, but enhanced the "One DOT" initiative between MARAD and the USCG. In FY 1999, the CAPE MENDOCINO successfully completed a no-notice activation.

LASH Vessels

MARAD maintains four LASH ships, each of which is outfitted with a 455-light ton lighterage gantry crane to handle LASH barges. The CAPE FEAR is outfitted with a self-sustaining 30-ton container crane.

Currently, all LASH ships have the capability to carry a limited amount of containers; however, in the coming fiscal years all LASH ships will be modified to carry a full complement of 20-foot equivalent units (TEUs) or containers, and will be self-sustaining. The modification includes the option for the ship to carry ammunition containers. In addition, all LASH ships will be able to support the DOD JLOTS initiatives. The remaining LASH ships, like the CAPE FAREWELL, will be outfitted with the cantilever-lifting frame (CLF) which enables the ship to lift and carry oversized DOD cargo via the gantry crane. In the future, DOD intends to exercise the CLF to lift the Navy's air cushion craft.

Sealift Enhancement Features (SEF)

SEFs are modifications to general cargo vessels to increase their military utility. Eleven RRF breakbulk cargo ships are equipped with varying SEF outfits.

Modular Cargo Delivery Stations (MCDS) enable the equipped ship to both transfer and receive cargo during Underway Replenishment (UNREP) operations. During FY1999, the first live ordnance transfer demonstration of the MCDS system was completed. The CAPE JACOB and USS ARCTIC (AOE-8) participated. The demonstration took place in November 1998 off the U.S. East Coast.

Aviation Logistics Support Ships (T-AVB)

The two T-AVBs, the WRIGHT and CURTISS, were transitioned into the RRF at the beginning of FY 1998. Funding for their maintenance was fully transitioned into the RRF maintenance and repair account in FY 1999. The WRIGHT (T-AVB 3) is outported in Baltimore, MD, and the CURTISS (T-AVB 4) in Port Hueneme, CA.

The T-AVBs are general cargo/container ships which have been modified to embark aviation Intermediate Maintenance Activity (IMA) units to support the repair of Marine Corps fixed-wing and rotary-wing aircraft. The ships were formerly maintained by MARAD in "RRF-like" status under a special agreement with the DOD.

The CURTISS participated in exercise KERNEL BLITZ 99 off the coast of Southern California in April 1999. A Marine Corps air wing activated the afloat IMA aboard the ship as part of the exercise.

Emergency Operations

RRF Command Post Exercise

MARAD Advisories rapidly disseminate information on Government policy, danger and safety issues pertaining to vessel operations and other time-sensitive maritime matters. MARAD continued to enhance its customer service by posting *MARAD Advisories* on its website to provide information more efficiently and accessibly to the shipping industry and the public.

During the fiscal year, MARAD issued five advisories to the U.S. maritime industry and other maritime interests. The *Advisories* provided information on the prevention of hostile incidents directed at merchant ships; new methods for ship reporting systems for endangered species of whales off the U.S. East Coast; the presidential proclamation of National Maritime Day; notification of a Naval Control of Shipping exercise in the Pacific Ocean area; and a worldwide anti-U.S. terrorist threat.

Special Warnings to Mariners are coordinated by the State Department with MARAD and DOD announcing official Government proclamations affecting shipping. During FY 1999, four new special warnings were placed in effect for Sudan, Eritrea, Yugoslavia, and Somalia.

MARAD Advisories and *Special Warnings to Mariners* are also published in the *Weekly Notice to Mariners* issued by the National Imaging and Mapping Agency (NIMA) to ensure the widest possible distribution to the maritime community. MARAD also responded to telephone inquiries from U.S. and foreign shipping companies for information on maritime safety issues.

In addition, MARAD provides instructions to U.S. merchant ships on emergency call-up of the U.S. Navy if under attack or faced with a hostile situation, and Ship Hostile Action Report (SHAR) procedures, through the NIMA publication "RA 117 - Radio Aids to Navigation".

Piracy and Attacks on Merchant Shipping

Oceangoing ships continue to be victims of piracy on the high seas and in ports around the world. MARAD actively participates with government and industry partners, such as the Office of Naval Intelligence and the Maritime Security Council, on sharing information, threat dissemination and incident reporting. MARAD is prepared to rapidly alert U.S. mariners to new high-danger areas, and has a *MARAD Advisory* in effect that offers advice on effective countermeasures to deter pirates from boarding vessels at sea and in port.

MARAD also participates with the Maritime Safety Council, an industry association, and promotes the use of the NIMA's "Navigation Information Network" and "Anti-Shipping Activities Message" systems to report these incidents into a computerized database available to all mariners.

State Maritime Academy Schoolship Maintenance and Repair (M&R) Program

Public Nautical Schoolships are furnished by MARAD to five state maritime academies and colleges in accordance with the provisions of the Maritime Education and Training Act of 1980. The five academies and colleges are located in California, Maine, Massachusetts, New York, and

Texas. The ships are the primary asset for training young men and women to become licensed merchant marine officers (See Chapter 7).

MARAD is responsible for maintaining the five schoolships in full regulatory compliance, and in a state of good repair. Routine and preventative maintenance is carried out by academy crew and cadets. Two of the five schoolships, the EMPIRE STATE (NY) and GOLDEN BEAR (CA), are also designated as troopships in the RRF.

The PATRIOT STATE was permanently removed from service in April 1999 as the result of a series of detailed surveys and inspections that revealed significant and extensive hull structure deterioration. The GOLDEN BEAR was nominated to succeed the PATRIOT STATE as an RRF troopship on an interim basis, pending the replacement of the PATRIOT STATE. Late in FY 1999, the RRF vessel CAPE BON was identified and approved as the replacement candidate.

Scrapping or Disposal of Obsolete Vessels

Awards were made for the scrapping of 12 vessels to two shipbreaking companies in Brownsville, TX on February 26, 1999. However, because of contract extensions, only one vessel was removed from NDRF sites in FY 1999. In addition, a five-ship disposal solicitation was issued on August 26, 1999, and two Invitations for Bid were issued on June 18, 1999, and July 9, 1999, for the sale for operation of two oilers and a heavy lift ship, pursuant to legislation. No awards have been made.

Two ships were transferred, pursuant to legislation, donating one as a memorial and the other for use as a multicultural center for the arts. One vessel was awarded to the State of Florida to be sunk as an artificial reef. At year's end, there were six pending transfers to memorial organizations, four pending competitive sales to the commercial market, and four pending transfers to States for artificial fish reefs.

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. It protects vessel operators and seafarers against losses resulting from war or warlike actions.

As of September 30, 1999, the War Risk Revolving Fund (fund) asset total was approximately $30,337,000. There were no new assureds receiving binders during FY 1999. The fund earned $1,576,000 in investment income. Program expenses for FY 1999 totaled $46,427.

As of September 30, 1999, there were 269 binders on vessels and barges providing eligibility for hull, protection and indemnity, and second seamen war risk insurance. 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.

Statutory authority covering the Title XII War Risk Insurance Program was extended 5 years, to June 30, 2005 by Public Law 106-65.

In addition to the standby war risk program, MARAD has activated the war risk program on several occasions at the request of the Secretary of Defense with the approval of the President. MARAD wrote war risk insurance on 388 vessels during Operation Desert Shield/Desert Storm. In addition, the President approved the procurement of war risk insurance by the Secretary of Defense from MARAD for 34 vessels for Operation Restore Hope in Somalia and 15 vessels for Operation Restore Democracy in Haiti.

RRF Claims Settlement

MARAD continued to act as the claim agent for Government-owned RRF vessels in FY 1999. From

the inception of Operation Desert Shield/Desert Storm in August 1990, through the end of September 1999, some 800 formal, written administrative claims for personal injury have been presented. More than 500 have resulted in monetary award. Monetary settlements from August 1990 through September 1999 totaled nearly $25.7 million. As of September 30, 1999, approximately 18 administrative claims submitted to MARAD remained pending. In addition, MARAD was assisting the U.S. Department of Justice in seeking the resolution of 50 claims where litigation against the United States was brought by or on behalf of the claimant. Among claims pending resolution as of the end of FY 1999 were those for seafarers who crewed RRF vessels used in the Army Prepositioning Stock Program and the Afloat Preposition Force Program.

Title XI and Other Insurance Compliance

MARAD monitors the contractual requirements for marine insurance coverage placed in the commercial market on all existing Title XI vessels on which MARAD holds the mortgage, together with vessels subsidized by the Government and Government-owned vessels on charter to private operators.

insurance during FY 1999 with 58 percent being placed in the American market and 42 percent being placed in foreign insurance markets. This compares with 48 percent American market placement for hull and machinery insurance during FY 1998.

One aspect of this compliance is to assure that the American marine insurance market has the opportunity to compete for placement of marine insurance on these vessels. As indicated in Table 3, MARAD approved marine hull and machinery during FY 1999, with 58 percent being placed in the American market and 42 percent being placed in the foreign insurance markets. This compares with 48 percent American market placement for hull and machinery insurance in FY 1998.

Table 3: MARINE AND WAR RISK INSURANCE APPROVED IN FY 1999

Kind of Insurance	Total Amount	Percentage	
		American	Foreign
Marine Hull & Machinery	$1,721,462,494	58	42
Protection & Indemnity [1]			
War Risk Hull and Machinery	$ 943,705,679	55	45
War Risk Protection & Indemnity	$ 943,705,679	55	45

[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.

Company	Ship Name	Ship Type	TEUs
American Ship Management, Inc.	APL KOREA	CONT C11	3,900
American Ship Management, Inc.	APL PHILIPPINES	CONT C11	3,900
American Ship Management, Inc.	APL SINGAPORE	CONT C11	3,900
American Ship Management, Inc.	APL THAILAND	CONT C11	3,900
American Ship Management, Inc.	PRESIDENT ADAMS	CONT C10	3,600
American Ship Management, Inc.	PRESIDENT JACKSON	CONT C10	3,600
American Ship Management, Inc.	PRESIDENT KENNEDY	CONT C10	3,600
American Ship Management, Inc.	PRESIDENT POLK	CONT C10	3,600
American Ship Management, Inc.	PRESIDENT TRUMAN	CONT C10	3,600
Central Gulf Lines, Inc.	GREEN LAKE	CAR CARRIER	1,458
Central Gulf Lines, Inc.	GREEN POINT	CAR CARRIER	403
Central Gulf Lines, Inc.	GREEN BAY	CAR CARRIER	1,135
Automar International Car Carrier, Inc.	FAUST	PCTC	1,537
Automar International Car Carrier, Inc.	FIDELIO	PCTC	1,772
First American Bulk Carrier Corp.	CHESAPEAKE BAY	CONT	2,409
First American Bulk Carrier Corp.	DELAWARE BAY	CONT	2,409
Farrell Lines, Inc.	ENDEAVOR	CONT	1,834
Farrell Lines, Inc.	ENDURANCE	CONT	1,834
Farrell Lines, Inc.	ENTERPRISE	CONT	1,834
First Ocean Bulk Carrier I, LLC	LYKES NAVIGATOR	CONT	2,698
First Ocean Bulk Carrier II, LLC	LYKES DISCOVERER	CONT	2,698
First Ocean Bulk Carrier III, LLC	LYKES LIBERATOR	CONT	2,698
Maersk Line Limited	MAERSK CALIFORNIA	CONT	1,400
Maersk Line Limited	MAERSK COLORADO	CONT	1,169
Maersk Line Limited	MAERSK TENNESSEE	CONT	1,325
Maersk Line Limited	MAERSK TEXAS	CONT	1,325
OSG Car Carriers, Inc.	OVERSEAS JOYCE	CAR CARRIER	1,147
Sea-Land Service, Inc.	SEALAND ENDURANCE	CONT D9J	3,606
Sea-Land Service, Inc.	SEALAND DEFENDER	CONT D9J	3,606
Sea-Land Service, Inc.	SEALAND QUALITY	CONT ACV	3,606
Sea-Land Service, Inc.	SEALAND PERFORMANCE	CONT ACV	3,606
Sea-Land Service, Inc.	SEALAND INTEGRITY	CONT ACV	3,606
Sea-Land Service, Inc.	SEALAND ATLANTIC	CONT ACV	3,606
Sea-Land Service, Inc.	SEALAND INNOVATOR	CONT D9J	2,306
Sea-Land Service, Inc.	SEALAND EXPLORER	CONT D9J	2,306
Sea-Land Service, Inc.	SEALAND PATRIOT	CONT D9J	2,306
Sea-Land Service, Inc.	OOCL INSPIRATION	CONT ACV	2,306
Sea-Land Service, Inc.	OOCL INNOVATION	CONT ACV	3,606
Sea-Land Service, Inc.	NEWARK BAY	CONT ACV	2,306
Sea-Land Service, Inc.	NEDLLOYD HOLLAND	CONT ACV	2,306
Sea-Land Service, Inc.	GALVESTON BAY	CONT ACV	3,606
Sea-Land Service, Inc.	SEALAND LIBERATOR	CONT D9J	3,606
Waterman Steamship Corp.	GREEN DALE	PCTC	1,458
Waterman Steamship Corp.	STONEWALL JACKSON	LASH	1,246
Waterman Steamship Corp.	ROBERT E. LEE	LASH	1,246
Waterman Steamship Corp.	GREEN ISLAND	LASH	1,246
			116,171

Chapter 2

Shipbuilding and Ship Conversion

Shipbuilding Initiatives

Title XI Guarantees

Title XI of the Merchant Marine Act, 1936, as amended, established the Federal Ship Financing Guarantee Program. 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.

On November 30, 1993, the National Shipbuilding and Shipyard Conversion Act of 1993 (Shipbuilding Act) was enacted (Subtitle D of the National Defense Authorization Act for Fiscal Year 1994 [Public Law 103-1601]. It expanded the existing Title XI program by authorizing the Secretary of Transportation to guarantee obligations issued to finance the construction, reconstruction, or reconditioning of eligible export vessels. It also authorized guarantee for shipyard modernization and improvement.

The Shipbuilding Act established a National Shipbuilding Initiative (NSI) program to support the industrial base for national security objectives. The NSI is expected to help reestablish the American shipbuilding industry as a self-sufficient internationally competitive industry.

Under the Title XI program, 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 or general shipyard facility.

As of September 30, 1999, Title XI guarantees in force aggregate approximately $3.7 billion, covering 602 vessels and 81 individual shipowners.

During FY 1999, Congressional authority for the Title XI program had a cap of $12 billion, with $11.15 billion allocated to MARAD and $850 million authorized to guarantee the financing of fishing vessels and fisheries facilities by the National Oceanic and Atmospheric Administration. Title XI guarantees for eligible export vessels are limited to $3.0 billion.

In FY 1999, Title XI applications totaling $1.8 billion in loan guarantees were approved. The approved projects covered construction of 39 vessels and two shipyard modernization projects. Vessels approved included one power barge, five steel deck barges, three semi-submersible drilling rigs, two 230' supply vessels, one 300' x 75' multi-purpose Dynamic Positioning (DP) vessel, two U.S.-flag cruise ships, one multi-purpose supply vessel, seven asphalt tank barges, 15 liquid tank barges, and two 180' deck barges. The cruise vessel project represented the first U.S. shipyard construction of a large oceangoing passenger vessel in approximately 50 years.

MARITECH

The NSI also contained funds for industry-initiated research and development (R&D) projects under the MARITECH program.

MARITECH was a 5-year Federal program that provided matching Government funds to encourage the shipbuilding industry to direct and lead in the development and application of advanced technology to improve its competitiveness and to preserve its industrial base. The program was industry led and jointly funded by Government and industry. Administration was provided through the Defense Advanced Research Projects Agency (DARPA) of the Department of Defense in collaboration with MARAD.

MARITECH had both near-term and long-term objectives. In the near term, it assisted industry in penetrating the international marketplace with competitive ship designs, market strategies and modern shipbuilding processes and procedures.

In the long-term, the program encouraged advanced ship and shipbuilding technology projects in promoting continuous product and process improvement in order to maintain and enlarge the U.S. share of the commercial and international market; this in turn, was designed to ensure the availability of an experienced industrial base which is vital to national security in times of crisis.

MARITECH projects awarded during FYs 1994-1998 covered a wide range of themes from the design of various types of small vessels to large oceangoing ships, shipyard technology and advanced material technology. These projects were awarded to 24 companies and their subcontractors located in 40 states, the District of Columbia, Puerto Rico and nine foreign countries.

MARAD MARITECH Projects

Since 1994, DARPA and MARAD jointly selected a total of 65 projects valued at $357 million of which 40 projects valued at $172 million were assigned to MARAD to administer. There was no funding provided for new projects in FY 1999. Several existing projects, however, were extended with follow-on work phases.

At the end of FY 1999, 14 MARITECH projects were ongoing and are being administered by MARAD. These projects range from innovative design and marketing strategies of high technology vessels to research in advanced manufacturing technology processes and procedures.

Information on MARAD-administered projects is available on MARAD's home page (**http://www.marad.dot.gov/nmrec/**). A MARITECH projects index file lists MARAD-administered projects. From this index, MARITECH project information files are available for review, including such information as project title, project consortium members, project objectives/overview, project status, and government and private sector contacts.

MARITECH Advanced Shipbuilding Enterprise

Funding for MARITECH ended in fiscal year 1998. Recognizing the need to build on MARITECH's success, the industry worked with the Navy, DARPA, Coast Guard, and MARAD to develop a successor program called MARITECH Advanced Shipbuilding Enterprise (ASE). This program, which received congressional funding in FY 1999, is strategically structured to enhance U.S. shipbuilder's international competitiveness.

National Maritime Resource and Education Center (NMREC)

To further U.S. shipyards' international competitiveness, MARAD, through NMREC, is working closely with both national and international standards developing organizations. These include the International Maritime Organization (IMO), the U.S. Coast Guard (USCG), the International Organization of Standardization (IOS), the American National Standards Institute (ANSI), and the American Society for Testing and Materials (ASTM). Our goal is to assist in the adoption of consensus ship construction and quality standards.

One of NMREC's principal missions is to promote elimination of unnecessary regulation, encourage development and use of consensus technical standards for the maritime industry, and support U.S. participation in both national and international standards writing organizations.

Since President Clinton's shipyard revitalization plan was introduced, MARAD has acted as a facilitator for the shipbuilding, ship repair, and marine supply industry with the USCG to define areas for deregulation. In this connection, MARAD holds periodic meetings with USCG to maintain close cooperation in reducing regulations and

supporting adoption of both national and international consensus standards.

The Agency also has established the Marine Industry Standards Library, in the NMREC section of MARAD's website. The library provides industry shipbuilding and shipbuilding standards information, as well as a Ship Operations Data Modeling Information Service.

MARAD serves as a member of the U.S. Technical Advisory Group (USTAG) to the ISO; heads the U.S. delegations to ISO/TC8 Subcommittees on Marine Environmental Protection, Piping and Machinery; is a member of the Executive Control Board of the National Shipbuilding Research Program (NSRP) of the Society of Naval Architects and Marine Engineers (SNAME); and is a member of the Government/Industry Advisory Board of the Gulf Coast Region Maritime Technology Center.

Support services and information available through NMREC include:

- Marine Industry Standards Library,
- conferences and seminars,
- Ship Operations Data Modeling Information Service,
- MARAD's Guideline Specifications for Merchant Ship Construction,
- MARITECH project information, and
- Title XI approved and pending lists, among other maritime related activities.

MARAD also provides an ISO 9000 field consultant, trained and available to guide and assist industry in meeting the requirements to obtain ISO 9000 certification. The Agency has participated in shipyard assessments/audits with registries such as American Bureau of Shipping, Det Norske Veritas, Lloyd's Register, and Underwriters Laboratories. In addition, ISO 9000 presentations have been given to SNAME workshops and conferences through NSRP.

Another Agency role is to engage in outreach to the shipbuilding industry by providing information and market leads to assist in increasing international sales.

In this latter connection, NMREC also sponsors conferences on international standards, international marketing, Title XI loan guarantees, competitiveness bench marking of foreign versus U.S. shipyards, cruise ship construction in the U.S., marine environmental protection, safety reform in the shipbuilding industry, and on challenges facing the ship repair industry.

Capital Construction Fund

The Capital Construction Fund (CCF) Program was established under the Merchant Marine Act of 1970. 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 1998, $447.9 million was deposited into these accounts. Since the program was initiated in 1971, fund holders have deposited $6.9 billion in CCF accounts and withdrawn $5.6 billion for the modernization and expansion of the U.S. merchant marine. As of September 30, 1998, a total of 169 companies were parties to CCF agreements.

Metrication

MARAD accomplished its goal of converting to the System International (SI) measurement (metric) by 1997. The Agency is continuing its efforts to collect information and reference material for dissemination internally and externally. The annual reports *Outlook for the U.S. Shipbuilding and Repair Industry* and *The Report on Survey of U.S.*

Shipbuilding and Repair Facilities now are published using the SI.

Shipbuilding Base

The U.S. Major Shipbuilding Base is used to track shipbuilding capability and activity in the United States. It includes privately owned shipyards that are open, with one or more shipbuilding positions consisting of an inclined way, a launching platform, or a building basin capable of accommodating a vessel 122 meters in length or over. With few exceptions, these shipbuilding facilities are also major repair facilities with drydocking capability. Using this definition, as of January 1, 1999, there were 19 major shipbuilding facilities in the United States.

Shipyard Activity

During FY 1999 shipyards in the shipbuilding base had a diverse orderbook, including both Navy and commercial construction. Navy shipbuilding included surface combatants, submarines, aircraft carriers and T-ships. A significant portion of the Navy's ship construction and conversion program is devoted to 'T' ships. The 'T' designates Government owned, civilian-manned ships which in most instances, are assigned to the Navy's Military Sealift Command.

As of September 30, 1999, 12 T-ships were on order or under construction in three privately owned U.S. shipyards. Chart 4 lists the T-ships currently under construction or conversion.

As of September 30, 1999, there were 5 commercial oceangoing vessels larger than 1,000 gross tons on order from commercial shipyards in the United States. Orders for 2 of these vessels were facilitated by MARAD's Title XI program. Ingalls Shipbuilding is constructing two 6,299 dwt (72,000 gt) passenger cruise ships.

Avondale Industries, Inc. is constructing three Millennium Class 125,000 dwt (82,545 gt) crude carriers for Arco Marine, and Alabama Shipyard is constructing two 720 dwt (4,800 gt) coastal cruise ships.

Figure 1 shows the locations of the shipyards constructing commercial vessels greater than 1,000 gross tons (gt) at the end of FY 1999. Chart 5 shows the commercial shipbuilding orderbook as of September 30, 1999.

Moreover, in FY 1999, Alabama Shipyard, Inc., delivered one chemical carrier, *Aggersborg.* Todd Pacific Shipyards Corp. completed one non-oceangoing ferry, the *Puyallup* and Newport News Shipbuilding and Drydock Co. completed five product tankers, *HMI Cape Lookout Shoals, HMI Nantucket Shoals, HMI Diamond Shoals, HMI Ambrose Channel* and the *HMI Brenton Reef.* Figure 2 shows the commercial shipbuilding order book at the end of each calendar year since 1975, and as of September 30, 1999.

Shipyard Improvements

The U.S. shipbuilding and ship repair industry invested more than $291 million in FY 1999 to upgrade and expand facilities. During the last 10 years, the industry has invested more than $2.2 billion in capital improvement projects.

Much of this investment went to improve efficiency and competitiveness, including new shipyard layouts, new under roof fabrication buildings, new pipe shops, new panel lines and the purchase of new cranes and transporters, building basins, floating drydocks, cranes, automated equipment and highly mechanized production systems. The emphasis has been on introducing modular techniques, fabrication of larger subassemblies, and pre-outfitting of ship components.

Information received by MARAD indicates that U.S. shipyards plan to spend approximately $380 million for improvements in FY 2000. The industry's capital investments since 1970 have

totaled approximately $6.8 billion. Figure 3 shows capital investments in the shipbuilding and repair industry since 1985.

ONE DOT Marine Related Activities

MARAD, in cooperation with other Department of Transportation modes, is continuing to work on a series of ship design and shipyard related programs. These programs include:

MV KINGS POINTER Alternative Fuel Demonstration: MARAD is accomplishing the necessary designs to convert the United States Merchant Marine Academy training vessel to a demonstration platform for marine alternative fuels. The Research and Special Programs Administration (RSPA), the United States Coast Guard, Federal Transit Administration (FTA), and Brookhaven Laboratories are partnering on this effort. Technical and emission results of the demonstration would be distributed throughout the industry. The vessel may also become a platform for eventual fuel cell testing.

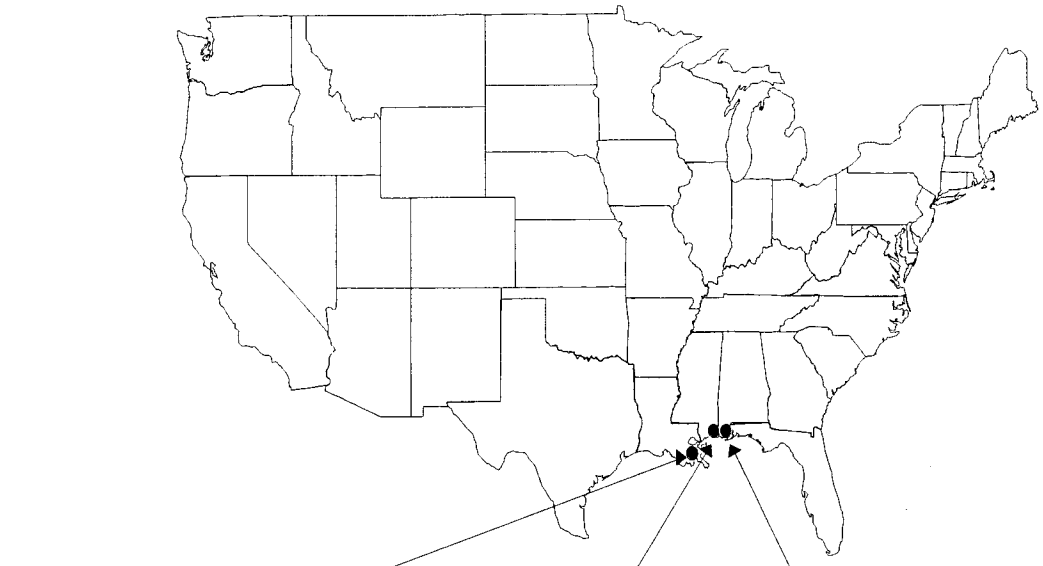
- *Golden Gate National Recreation Area (GGNRA) Ferry Feasibility Study*: The National Park Service and the Federal Highway Administration (FHWA) have asked MARAD to assist in a study determining the feasibility of a new ferry service to various National Park sites around the San Francisco Bay area, including Alcatraz, Presidio, Muir Woods, Fort Mason, and Fort Baker.

MARAD has subsequently conducted pier surveys at the various sites. GGNRA is now conducting a market analysis of potential ferry ridership. The FTA is sponsoring a separate study with MARAD to determine if such ferry service could operate using natural gas.

- *Interagency Marine Fuel Cell Programs*: MARAD is the program administrator for interagency work with the USCG, RSPA, Department of Energy, Department of Navy and the National Oceanic and Atmospheric Administration. The USCG has conducted a worldwide fuel cell market analysis for marine applications and a conceptual study of a vessel retrofit. The Navy is managing two design contracts for developing 2.5 MW marine fuel cell plants and will soon award at least one 500 kW marine fuel cell fabrication and testing contract. Separately, MARAD is working with a marine hydrogen consortium to evaluate the potential for hydrogen fuel cells aboard vessels.

- *TEA21 Ferry Study B:* FHWA is the lead agency for providing this mandated industry status and forecasting report to Congress. MARAD, FTA and the USCG are assisting. MARAD is leading the alternative fuel section of the report. Separately, MARAD is performing an analysis of emissions reductions and highway congestion mitigation that can be achieved by using commuter ferries.

Figure 1: COMMERCIAL SHIPBUILDING ORDERBOOK (1,000 GT AND OVER) SEPTEMBER 30, 1999



New Orleans, LA
Avondale Industries, Inc.
3 Crude Carriers -
Arco Marine

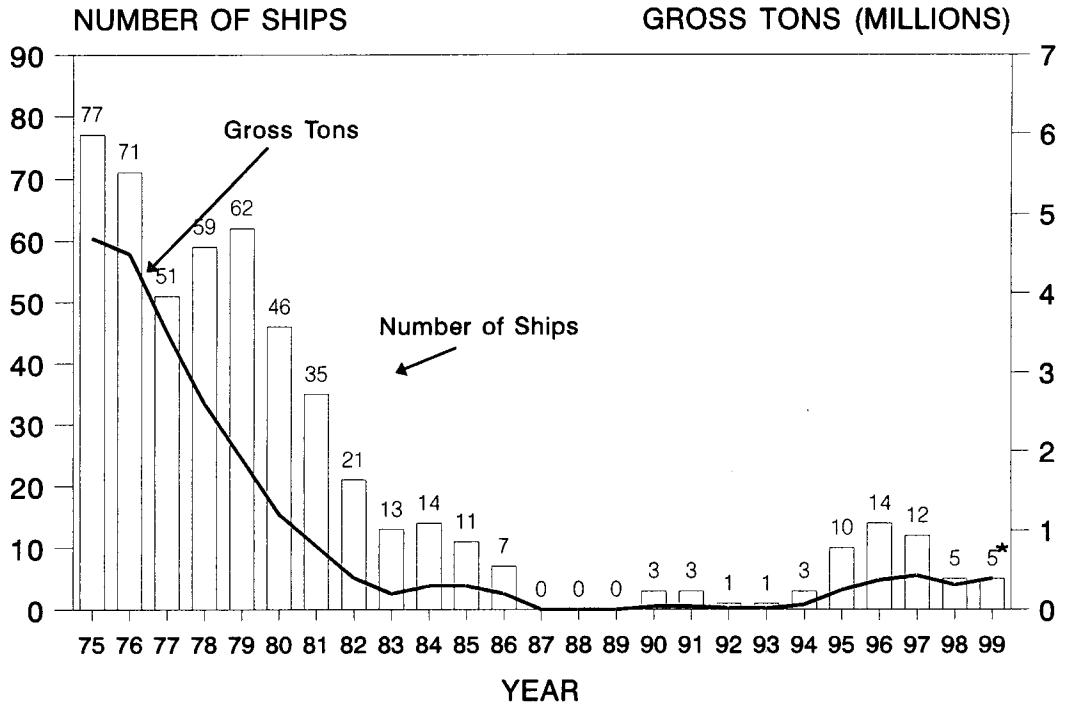
Pascagoula, MS
Ingalls Shipbuilding
2 Passenger Cruise Ships -
American Classic Cruises

Mobile, AL
Alabama Shipyard
2 Coastal Cruise Ships -
Delta Queen Steamboat Co.

Figure 2: COMMERCIAL SHIPBUILDING ORDERBOOK HISTORY

(AS OF DECEMBER 31)

SHIPS OF 1,000 GROSS TONS AND OVER



*** Data as of September 30, 1999**

Figure 3: CAPITAL INVESTMENTS

U.S. SHIPBUILDING AND REPAIR INDUSTRY

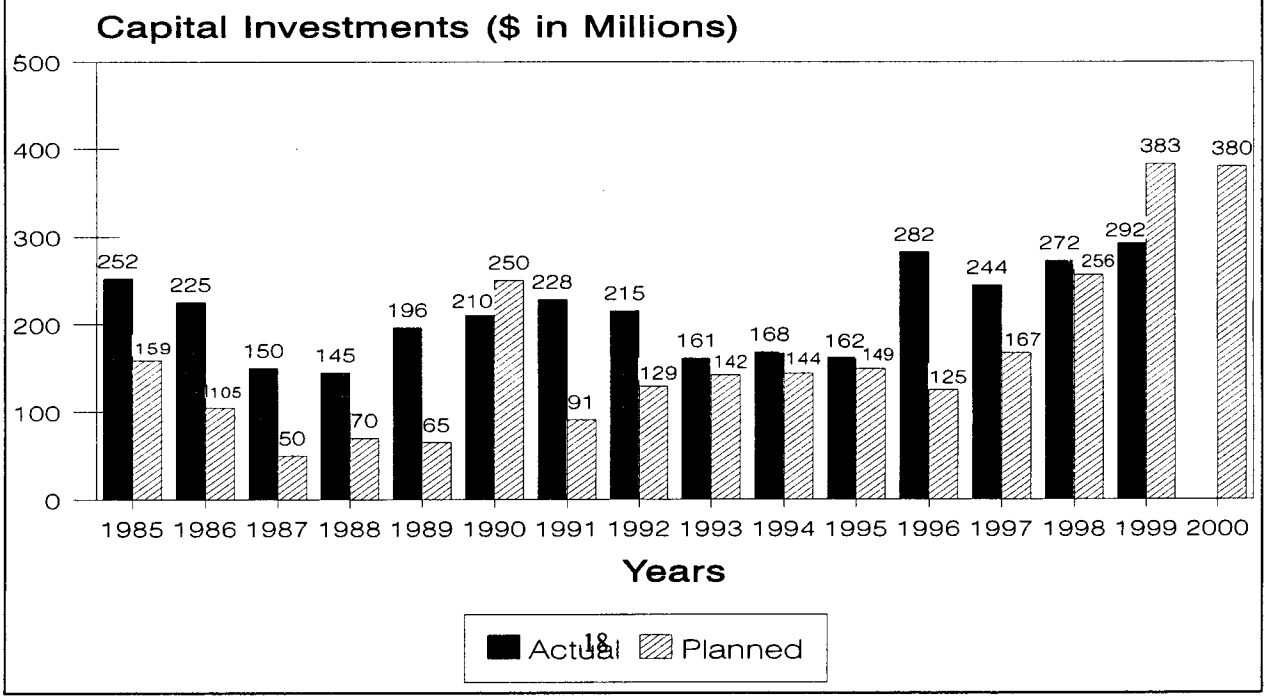


Chart 4: T-Ships On Order or under Construction as of September 30, 1999

SHIPYARD	SHIP CLASS and HULL NUMBER	VESSEL NAME	ESTIMATED DELIVERY DATE	APPROXIMATE CONTRACT PRICE (in $ millions)
Halter Marine	T-AGS 64	BRUCE C HEEZEN	01/13/2000	51.7
Halter Marine	T-AGS 65	- unnamed -	11/23/2001	53.6
Halter Marine	TAGOS 23	IMPECCABLE	02/14/2000	60.0
Avondale	T-AKR 302	SEAY	11/29/1999	210.0
Avondale	T-AKR 303	MENDONCA	05/30/2000	206.4
Avondale	T-AKR 304	PILILAAU	11/30/2000	211.1
Avondale	T-AKR 305	BRITTIN	04/30/2001	210.0
Avondale	T-AKR 306	- unnamed -	09/28/2001	163.2
National Steel	T-AKR 313	RED CLOUD	01/18/2000	207.0
National Steel	T-AKR 314	CHARLTON	05/23/2000	200.0
National Steel	T-AKR 315	WATKINS	11/07/2000	227.0
National Steel	T-AKR 316	POMEROY	06/19/2001	195.0
Total	12 Ships			1,995.0

Chart 5: Major Commercial New Construction on Order as of September 30, 1999

Contract Shipyard	Ship Type	Contract Price ($Mil)	Gross Tons	Contract Award Date	Delivery Date
Avondale	Crude Carrier	166.0	82,545	06/97	08/00
Avondale	Crude Carrier	166.0	82,545	06/97	09/01
Avondale	Crude Carrier	164.0	82,545	09/98	08/02
Ingalls	Cruise Ship	525.0	72,000	03/99	01/03
Ingalls	Cruise Ship	522.0	72,000	03/99	01/04
Alabama	Coastal Cruise Ship	30.0	4,800	05/99	01/01
Alabama	Coastal Cruise Ship	30.0	4,800	05/99	06/01
Total		$1,603.0	401,235		

Table 4: TITLE XI APPROVED GUARANTEES IN FY1999

Company	No. Vessels	Type	Guarantee Amount
Petrodrill Offshore, Inc	2	Semi-Submersible Drilling Rigs	$299,808,000.00
Empressa Energetica Corinto, Ltd	1	Power Barge	$50,000,000.00
Cashman Equipment Company	5	Steel Deck Barges	$7, 887,000.00
Canal barge Company, Inc.	7	Asphalt Tank Barges	
	15	Liquid tank Barges	$26,004,000.00
	2	180' Deck Barges	
Secunda Marine Atlantic, Ltd.	1	Multi-Purpose Supply Vessel	$23,963,000.00
Eastern Shipbuilding Group, Inc.	N/A	Shipyard Modernization	$6,360,000.00
Torch Deepwater, Inc	1	300' x 75' Multi-Purpose DP Vessel	$45,454,000.00
Trico Marine International, Inc.	2	230' Supply Vessel	$18,867,000.00
Bender Shipbuilding & Repair Co., Inc	1	Power Barge	$14,598,000.00
Ensco Offshore Company	1	Semi-submersible Drilling Rigs	$194, 736,000.00
Project America, Inc.	2	U.S.-flag Cruise Ships	$1, 079,525,000.00
TOTAL	39		$1,766,878,000.00

*Export transactions.

Table 5: MARITIME GUARANTEED LOAN PROGRAM (TITLE XI) PROGRAM SUMMARY
Principal Liability (Statutory Limit $11.25 Billion) -- SEPTEMBER 30, 1999

Vessel Type		Contracts in Force: Vessels Covered	Contracts in Force: Outstanding Amount (Millions)
Ocean Tugs & Barges		145	$252,048,762.50
Bulk		43	$743,319,999.35
Passenger		10	$1,153,062,413.00
Offshore Drilling Industry		23	$1,088,856,000.00
Inland		362	$119,967,000.00
Liner		1	$3,490,000.00
Other		*5	$57,412,000.00
Power Generating Vessels		6	$174,512,000.00
Shipyards		NSC*	$118,737,300.00
Dredging Equipment		7	$20,501,878.69
TOTALS		602	$3,731,907,353.54

*No ship count.

Table 6: WORLDWIDE SHIP DELIVERIES - CALENDAR YEAR 1999

(Note: Tonnage in Thousands)

	Total	All	Tanker		Dry Bulk		Containership		Roll-on/Roll-off		Cruise/Passenger		Other	
	No.	DWT	No.	DWT	No.	DWT	No.	DWT	No.	DWT	No.	DWT	No.	DWT
Country of Construction	797	37,737	271	19,694	184	12,602	112	2,930	64	754	10	65	156	1,693
Panama	255	12,917	80	4,948	97	6,471	29	894	17	285	2	20	30	299
Liberia	69	3,454	27	2,185	14	670	17	352	1	11	2	14	8	222
Bahamas	31	2,627	12	2,074	3	216	5	178	2	42	5	27	4	89
Singapore	39	2,331	20	1,582	9	531	8	157	-	-	-	-	2	60
Greece	20	2,109	16	1,711	4	399	-	-	-	-	-	-	-	-
Japan	20	1,347	10	992	3	308	-	-	5	34	-	-	2	12
Marshall Islands	8	1,130	8	1,130	-	-	-	-	-	-	-	-	-	-
Malta	24	1,054	11	836	2	80	3	27	-	-	-	-	8	111
Cyprus	20	927	1	301	11	570	-	-	1	3	-	-	7	53
Norway (NIS)	17	749	8	162	4	439	-	-	2	13	-	-	3	134
Denmark (DIS)	11	697	5	265	-	-	4	419	-	-	-	-	2	13
French Antarctic Territory	5	688	1	4	4	684	-	-	-	-	-	-	-	-
Hong Kong, China	10	680	3	135	6	539	-	-	-	-	-	-	1	6
Malaysia	12	659	8	502	2	147	2	10	-	-	-	-	-	-
Luxembourg	6	640	5	630	-	-	-	-	1	10	-	-	-	-
Norway	7	629	5	612	-	-	-	-	1	13	-	-	1	5
Italy	14	479	8	109	3	319	-	-	3	52	-	-	-	-
Netherlands	48	440	5	113	-	-	2	58	3	34	-	-	38	235
Iran	7	435	2	319	-	-	-	-	-	-	-	-	5	115
Germany	18	359	2	19	-	-	13	321	1	7	-	-	2	11
China, People's Republic of	16	351	2	51	1	150	6	59	-	-	-	-	7	91
India	5	329	4	327	1	2	-	-	-	-	-	-	-	-
Philippines	7	322	-	-	5	293	-	-	1	21	-	-	1	7
Unknown	6	301	2	125	3	165	1	11	-	-	-	-	-	-
Switzerland	7	239	-	-	3	219	-	-	-	-	-	-	4	20
Antigua & Barbuda	23	225	2	7	-	-	5	124	6	41	-	-	10	54
Ecuador	4	222	4	222	-	-	-	-	-	-	-	-	-	-
Turkey	12	170	1	3	3	108	5	46	-	-	-	-	3	13
China, Republic of (Taiwan)	2	161	-	-	2	161	-	-	-	-	-	-	-	-
Vanuatu	4	153	-	-	3	125	1	28	-	-	-	-	-	-
Sweden	8	128	3	44	-	-	-	-	5	84	-	-	-	-
United States	3	107	2	91	-	-	-	-	1	16	-	-	-	-
Netherlands Antilles	6	76	-	-	-	-	1	29	-	-	-	-	5	46
France	2	65	-	-	-	-	2	65	-	-	-	-	-	-
Isle of Man	7	59	-	-	-	-	2	39	4	15	-	-	1	4
Denmark	2	57	1	6	-	-	1	51	-	-	-	-	-	-
United Kingdom	5	53	-	-	-	-	2	32	1	10	-	-	2	11
Russia	4	50	3	47	-	-	-	-	-	-	-	-	1	3
New Zealand	1	47	1	47	-	-	-	-	-	-	-	-	-	-
Saint Vincent & the Grenadines	5	43	4	29	-	-	-	-	-	-	-	-	1	14
Cayman Islands	2	42	2	42	-	-	-	-	-	-	-	-	-	-
Finland	4	33	-	-	-	-	-	-	4	33	-	-	-	-
Australia	3	20	-	-	1	5	-	-	2	15	-	-	-	-
Estonia	2	18	-	-	-	-	-	-	1	6	-	-	1	12
Barbados	1	18	-	-	-	-	1	18	-	-	-	-	-	-
Canada	1	14	1	14	-	-	-	-	-	-	-	-	-	-
Portugal (MAR)	3	12	-	-	-	-	-	-	1	3	-	-	2	9
Korea (south)	2	12	1	5	-	-	-	-	-	-	-	-	1	7
Myanmar	1	12	-	-	-	-	-	-	-	-	-	-	1	12
Thailand	1	9	-	-	-	-	-	-	-	-	-	-	1	9
Spain	1	7	1	7	-	-	-	-	-	-	-	-	-	-
Qatar	1	6	-	-	-	-	1	6	-	-	-	-	-	-
Vietnam	1	6	-	-	-	-	-	-	-	-	-	-	1	6
Canary Islands	1	6	-	-	-	-	-	-	1	6	-	-	-	-
Austria	1	6	-	-	-	-	1	6	-	-	-	-	-	-
Egypt	1	6	-	-	-	-	-	-	-	-	-	-	1	6
Wallis & Futuna Islands	1	4	-	-	-	-	-	-	-	-	1	4	-	-

Table 7: CAPITAL CONSTRUCTION FUND HOLDERS -- September 30, 1999

Abdon Callais Boat Rentals, Inc.
AFFCO, Incorporated
Afram Lines (USA) Co., Ltd.
Alaska Riverways, Inc.
Alpha Marine Services, Inc.
A.M.C. Boats, Inc.
Al A. Gonsoulin
Amalgated Henway, Inc.
Amak Towing Co., Inc.
American Classic Voyagas, Co.
American President Lines, Ltd.
American Shipping, Inc.
Anderson Tug & Barge Co.
Andover Company, L.P.
Apex Marine Corporation
Aquarius Marine Co.
Aries Marine Corp.
Atlantic Richfield Co.
Atlas Marine Company
BP Oil Shipping Company, USA
Bethlehem Steel Corp.
Bigane Vessel Fueling
Binkley Co., The
Bisso Marine Company, Inc.
Bludworth, Richard W.
Blue Lines, Inc.
Brice, Inc.
C & C Boat Rentals, Inc.
C & E Boat Rentals Inc.
Campbell Towing Co.
Captain Elliott's Party Boats, Inc.
Cement Transit Co.
Citicorp Industrial Credit, Inc.
Citimarlease (Burmah I), Inc.
Citimarlease (Burmah LNG Carrier), Inc.
Citimarlease (Burmah Liquegas), Inc.
Citimarlease (Fulton), Inc.
Citimarlease (Whitney), Inc.
Clipper Navigation, Inc.
Cook Inlet Tug & Barge Co., Inc.
Coon Brothers, Inc.
Cowan Towing & Salvage Co
Crewboats Inc.
Crosby Enterprises LLC
Cross Marine, Inc.
Crowley Maritime Corp.
Danos Curole and Marine
Durocher Dock & Dredge
Edison Chouest Offshore, Inc.
Edward E. Gillen Co.
Eserman Offshore Service, Inc.
Exxon Corporation
Falcon Alpha Shipping, Inc.
Falcon Capital, Inc.
Falgout Bros., Inc.
Falgout Marine, Inc.
Farrell Lines, Inc.
First Island Company
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.
Global Industries, Ltd.
Great Lakes Towing Co.
Hannah Brothers
Hannah Marine Corp.
Hawaiian Electric Indus.
Hone Heke Corporation
Household Commercial Financial Services, Inc.
Hvide Shipping, Inc.
Iberia Crewboats & Marine Service, Inc.
Inter-Cities Navigation Corp.
International Shipholding Corp.
Interstate Towing Co.
Island Express Boat Lines, Ltd.
Jade Marine Inc.
Kenai Fjord Tours, Inc.
Kinsman Lines, Inc.
L&L Marine Services, Inc.
L & M Botruc Rental, Inc.
Leppaluoto Offshore Marine, Inc.
Lykes Bros. Steamship Co.
Madeline Island Ferry Line, Inc.
Matson Navigation Company, Inc.
Maybank Navigation Company, LLC
Middle Rock, Inc.
Miller Boat Line, Inc.
Milwaukee Bulk Terminals, Inc.
Mogul Ocean Towing, Ltd.
Milwaukee Bulk Terminals, Inc.
Mogul Ocean Towing, Ltd.
Montco Offshore, Inc.
National Steel and Shipbuilding Co.
New Transport Lines, Inc.
Newman Boat Line, Inc.
Nicor, Inc.
Northland Services, Inc.
Oceanic Fleet, Inc.
Ocean Shipholdings, Inc.
Oceanic Research Services, Inc.
O.L. Schmidt Barge Lines, Inc.
Oglebay Norton Co.
OMI Corp.
Otter Creek Company
Otto Candies, Inc.
Overseas Shipholding Group, Inc.
P. J. Brix, L.L.C.
Pacific Hawaiian Line, Inc.
Pacific Marine Supply Co., Inc.
Proteus Co.

Puget Sound Freight Lines
Rainbow Tours
Ritchie Transportation Co.
Sacramento Tugboat Company
Sause Bros. Inc.
Sause Bros. Ocean Towing Co., Inc.
Seabulk Tankers, Ltd.
Sea-Land Corp.
Sea-Mar Equipment, Inc.
Sea-Mar Operators, Inc.
Sheplers, Inc.
Siegfried Company
Silver Bay Loggings Inc.
Skansi Marine, LLC
Smith Lightening Co., Inc.
Southern States Offshore, Inc.
Stan Stephens Charters, Inc.
St. Bartholomey Corp., The
St. Bernard Boat Rental Inc.
State Boat Corporation
Steel Style Marine
The Delta Queen Steamboat Co.
Titus, Inc.
TMT Corporation
Tobias, Inc.
Torch, Inc.
Total Transportation, Inc.
Totem Resources Corp.
Union Oil Co. of California
United Tugs, Inc.
Van Ommeren Shipping (USA) LLC.
Washington Island Ferry Line, Inc.
Waveland Marine Service, Inc.
West Travel, Inc.
Western Pioneer, Inc.
WFC, Inc.
Windjammer Cruises, Inc.
Y & S Marine, Inc.
Zidell Corp.
Zita Corporation

Table 8: CONSTRUCTION RESERVE FUND HOLDERS - September 30, 1999

American Heavy LiftShipping Company
Anna Offshore, Inc.
Arthur Levy Enterprises, Inc.
P.J. Brix, L.L.C.
Central Gulf Steamship Corp.
Champion Offshore Boat Service, Inc.
Crowley Launch and Tugboat Co.
Graham Boats, Inc.
Graham Offshore, Inc.
McCall Marine Services, Inc.
Pacific Hawaiian Line, Inc.
Seacor Marine Inc.
Seacor Marine International, Inc.
Seacor Ocean Support Services, Inc.
Seacor Offshore Inc.
Seacor Worldwide, Inc.
Serodino, Inc.
Special Expeditions
Steuart Investment Co.

Chapter 3

Port, Intermodal, and Environmental Activities

The Maritime Administration (MARAD) provides technical assistance in port, intermodal, and environmental planning and operations to State and local port authorities, terminal operators, industry, agencies of the United States, and foreign governments.

In times of national emergency or contingency, MARAD plans for the use of ports and port facilities and plans for the priority use and procurement of containers and other intermodal equipment to minimize disruption of inventory distribution. (See Chapter 1.) The Agency also coordinates and provides for environmental controls and abatement of ship-generated pollution caused by vessels under its jurisdiction.

MARAD also promotes development of technologically advanced, efficient, and competitive public and private ports serving the domestic and deep ocean maritime commerce of the United States both in peace and times of national emergency. The principal fiscal year (FY) 1999 activities are summarized below.

Ports

Port Economic Impact Models

The Agency was revising the MARAD *Port Economic Impact Kit* (Port Kit) at year's end. A self-contained PC-based model, the MARAD Port Kit will enable deepdraft ports and other organizations to assess the economic impacts of maritime-related construction and ongoing activities at the national and State levels. The Port Kit will:

- Quantify the economic value of deep-draft port activities, as measured by employment, income, and tax revenues generated;
- Facilitate understanding of how deep-draft ports are linked to other industries in the surrounding area;
- Perform "what if" policy simulations; and
- Assess the economic implications of potential investments and new business activity.

An advisory committee of member ports of the American Association of Port Authorities (AAPA) is providing technical assistance and other key maritime industry associations are being consulted. The MARAD Port Kit will undergo significant beta testing at several ports prior to its release in the fall of 2000.

Ongoing maritime activities modeled in the MARAD Port Kit will include container, liquid bulk, dry bulk, breakbulk, auto transport, cruise, project cargo, and commuter ferry operations.

Port Facility Conveyance Program

By delegated authority, MARAD conveys Base Realignment and Closures (BRAC) and other surplus Federal real property to public entities for the development or operation of a port facility. The program provides a no-cost means for local entities to acquire property for use as a port facility. The program helps create jobs and revitalize communities negatively impacted by base closures or other Federal action.

Three port facility conveyance applications were approved in FY1999--one for the Port of Los Angeles, CA, and two for the Port of Long Beach, CA. Conveyances also have been completed in Richland, WA, Port Hueneme, CA, and North Kingstown, RI. Two new applications were filed--

one from the City of Key West, FL and another from the Port of Los Angeles.

CCDoTT

MARAD entered into cooperative agreements in FY 1997, with the U.S. Transportation Command (TRANSCOM) and California State University at Long Beach (CSULB) to assist in managing the Center for the Commercial Deployment of Transportation Technologies (CCDoTT). The CCDoTT program demonstrates existing, emerging, and developing technologies in cargo handling, tagging, tracking, information management systems, and high speed sealift.

These technologies, if adopted, will help the military deploy more quickly, expand the ability of commercial transportation to accommodate surges of military cargo, and minimize commercial transportation disruption.

In FY1999, CCDoTT demonstrated a number of technologies including the instrumentation and evaluation of high speed sealift platform, the INCAT 046 90-meter catamaran; simulation of an efficient marine rail concept; and cargo and equipment tracking in Europe during July-August 1999.

Philadelphia Agile Port Study

In FY 1999, MARAD entered into a cooperative agreement with the Delaware River Port Authority to assist in managing a Congressionally sponsored study and demonstration of the advanced "agile port" concept as a means to reduce transit and delivery times for seagoing shipments of military cargo. The study will evaluate existing and currently planned terminal and intermodal capabilities and compare these against demand requirements for commercial and military (surge and sustainment) cargo.

Public Port Financing

MARAD continues to maintain an extensive database of U.S. port financial data, which permits an in-depth analysis of the port industry.

In partnership with AAPA's Finance Committee, MARAD's *Public Port Financing in the United States* was being revised at year's end. It was last published in 1994.

Port Capital Expenditures

Deepdraft

The *United States Port Development Expenditure Report* analyzed the public port industry's capital expenditures for 1997 and projected expenditures for 1998-2002, including the financing methods used to fund these expenditures. Charts 8 and 9 show the public port industry's capital expenditures for 1997 and projected expenditures for 1998-2002.

Inland Shallow-draft

MARAD, the National Waterways Conference, and the Inland Rivers, Ports, and Terminals Association undertook a second joint study of capital expenditures at inland river ports. Actual 1997,1998 and historic (through 1996) expenditures will be covered, along with other types of port data.

Chart 6: U.S. Port Capital Expenditures for 1998
(Thousands of Dollars)

Region	Expenditures	Percent
North Atlantic	$126,486	8.9%
South Atlantic	306,620	21.7%
Gulf	193,101	13.7%
South Pacific	457,309	32.3%
North Pacific	244,612	17.3%
Great Lakes	28,871	2.0%
AK, HI, PR, and VI*	50,306	3.6%
Guam, Saipan	7,092	0.5%
Total	$1,414,397	100.0%

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

Chart 7

U.S. Port Capital Expenditures Projected for 1999 - 2003
(Thousands of Dollars)

Region	Expenditures	Percent
North Atlantic	$1,447,815	15.9%
South Atlantic	1,785,351	19.6%
Gulf	1,372,815	15.0%
South Pacific	3,220,704	35.3%
North Pacific	925,679	10.1%
Great Lakes	42,622	0.5%
AK, HI, PR, & VI *	293,250	3.2%
Guam, Saipan	40,500	0.4%
Total	$9,128,736	100.0%

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

Risk Management

MARAD published the revised *Port Risk Management and Insurance Guidebook* in FY 1999. The *Guidebook* resulted from a partnership between the Agency and the AAPA Finance Committee. It documents how risk management and insurance programs can be effective tools in improving port operations.

Port Readiness

In FY1999, the Agency continued to monitor the readiness of continental United States strategic commercial ports through semi-annual port readiness visits and monthly readiness reports which are provided by the commercial ports on the availability of terminal facilities that are subject to MARAD port planning orders.

MARAD is the permanent chair of the National Port Readiness Network (NPRN), an organization of nine Federal agencies that has responsibilities for support of the movement of military forces through U.S. ports. The NPRN is composed of a Steering Group, Working Group, and local Port Readiness Committees. NPRN initiatives include development of a port basic ordering agreement and the development of a port security manual that addresses terminal security issues during a military deployment. The NPRN website can be accessed at http://marad.dot.gov/nprn.

Military/Defense Liaison

MARAD worked closely with TRANSCOM to facilitate the ongoing Department of Defense (DOD) Mobility Requirements Study 2005 (MRS-05). This study is intended to validate military logistics infrastructure and support services to achieve the national military strategy for the millennium. The objectives of the MRS-05 is to consider risk and constrained resources that meet DOD force projection and sustainment requirements in the year 2005. MARAD has provided critical port infrastructure information necessary to evaluate operational impacts on the mobility force.

Port and Cargo Security

MARAD's port and cargo security program aims to reduce criminal exploitation of commercial maritime cargo, particularly drug smuggling, cargo theft, and other forms of cargo crime. Cooperative international seaport security partnerships among Government and private sectors are used to facilitate collaboration with multinational entities such as the Organization of American States (OAS), American Association of Port Authorities, Maritime Security Council, and the International Association of Airport and Seaport Police.

The program focuses on the Western Hemisphere. This activity is a functional component of the U.S. National Drug Control Strategy and is included in the Office of National Drug Control Policy's National Drug Intelligence Architecture review as both a consumer and producer of counterdrug intelligence.

The activities are intended to decrease drug smuggling and cargo crimes through commercial maritime conveyance. MARAD supports improved seaport security measures as a means of constricting access to commercial cargoes by drug smugglers.

Features of the program include:

- Research and reports (e.g., *Maritime Security Report*);
- International training (e.g., Inter-American Port Security Training Program) in cooperation with the OAS;
- Government/industry partnerships (e.g., an Inter-American seaport security strategy currently under development in collaboration with the Council on Foreign Relations, the USCG, and the OAS);

- Chairing the *Federal Ad Hoc Working Group on Maritime Security Awareness*. This is a working-level interagency network represented by law enforcement and intelligence elements of some 15 Federal agencies. It focuses on domestic and international criminal activity and security issues that pose a threat to U.S. commercial maritime interests and the movement of U.S. civilian cargoes and passengers in foreign trade.

MARAD, the U.S. Customs Service, and the Justice Department co-chair the Interagency Commission on Crime and Security in U.S. Seaports. A Presidential Memorandum created the Commission on April 27, 1999. The Commission is charged with undertaking a comprehensive study of the nature and extent of the problem of crime in U.S. seaports, as well as the ways in which governments at all levels are responding. It will complete its work in April 2000.

Technical Assistance to Foreign Ports

MARAD continued to provide technical assistance to foreign governments for improving harbor and terminal operations, training of human resources, and improvement of cargo security.

Training

The Inter-American Port Security Training Program provides port security training courses for commercial port authority police and security personnel and was developed through the OAS Permanent Technical Committee on Ports. The 1999 training program consisted of one course conducted in Spanish in Ecuador.

Port Security Agreement

MARAD and the National Port Authority of Argentina signed an agreement on port security. This agreement is designed to promote improved security of seaports and waterways, to exchange information in matters related to crime and security in seaports and waterways, and to develop and coordinate training programs for personnel responsible for seaport operations and security.

Inter-American Committee on Ports

MARAD serves as the U.S. delegate to the newly created OAS Inter-American Committee on Ports. This Committee is a permanent inter-American forum of national governmental authorities in port matters, for strengthening port cooperation, with the active participation of the private sector

MARAD is a member of the fifteen member Executive Board and its First Vice Chair. MARAD also is chair of the Technical Advisory Group on Port Security and chair of the Subcommittee on Training.

Asia-Pacific Economic Cooperation (APEC)

MARAD, in cooperation with the APEC Port Experts Group, completed a dredging needs study of the APEC economies, including the United States. This effort identified the major dredging issues facing APEC ports.

Port Assessments

MARAD conducted initial assessments of the ports in Honduras and Nicaragua damaged by Hurricane Mitch at the request of both governments, in coordination with the Government of Guatemala. MARAD also established a multiagency team composed of the U.S. Coast Guard, U.S. Army Corps of Engineers, Federal Highway Administration, U.S. Geological Survey, and the National Oceanic and Atmospheric Administration (NOAA), along with port industry experts from the Ports of New Orleans and Miami. The team will conduct on-site port assessments and develop a near- and long-term port recovery and improvement action plan that will restore high productivity ports to fully operational status for maximum throughput capability.

MARAD, along with industry and government representatives from ports, roads, aviation, and rail, was a member of the DOT transport assessment team that visited Nigeria in July 1999.

Transport Ministerial

MARAD participated in the U.S.-Africa Transport Ministerial hosted by the Secretary of Transportation Rodney E. Slater in Atlanta, GA, in September 1999. The Agency also participated in subsequent bilateral meetings with several of the African countries.

Intermodal Freight Infrastructure

Maritime Intermodal Model

In FY 1999, MARAD completed the design for an interactive database, Maritime Intermodal Model. It supports the Agency's strategic goal on intermodalism and DOT's strategic goal on mobility.

Data on ports and terminals, landside and waterside access impediments and intermodal projects are included. Future refinements to this comprehensive database will enable MARAD to provide analysis for national and regional areas as well as selective analysis for critical intermodal issues. This effort enhances MARAD's ability to work cooperatively with other DOT operating administrations in addressing departmental policy, funding, and maritime intermodal challenges and opportunities.

Financing Intermodal Freight Infrastructure

MARAD led a One DOT innovative finance team which reviewed and provided recommendations on the "PennPlus" initiative. PennPlus is a State innovative finance initiative, sponsored by the Pennsylvania House of Representatives, to investigate the feasibility of establishing a State program to finance air, rail, port and intermodal yard freight related projects, currently not eligible under State and Federal programs.

Fifteen million dollars in DOT funds was requested to assist in the initial capitalization plan for the PennPlus. Although current legislation prevents DOT from supporting a single PennPlus multi-modal loan fund, MARAD continues to work within DOT in innovative financing concepts that could support broader range of transportation infrastructure.

Transportation Livability Initiative

MARAD worked with the Office of the Secretary of Transportation and other modal administrations on the Transportation Livability Initiative.

This One DOT initiative will assist communities in using the transportation planning process to link growth and development strategies. One DOT regions will partner with communities to build on existing transportation livability efforts. These partnerships are expected to demonstrate the effective use of the transportation planning process by offering technical assistance to help communities address concerns such as land use and transportation linkages, safety, accessibility, community revitalization, environmental quality, environmental justice, and economic development.

The University Transportation Centers (UTC) Program

MARAD participated in the OneDOT interagency team to review and award grants to each of the 33 University Centers authorized in TEA-21to assure that educational and research agendas meet national transportation goals. The goal is to advance U.S. technology and expertise in the many disciplines comprising transportation through the mechanisms of education, research and technology transfer at university-based centers of excellence.

Safe Communities Initiative

MARAD is among nine DOT modal administrations working to promote and implement a safer national transportation system by combining the best injury prevention practices into the Safe

Communities approach to serve as a model throughout the Nation.

DOT established the Safe Communities Service Center to serve as an information and technical assistance marketplace to advance Safe Communities nationwide. The Center provides one-stop shopping for local community needs for materials and resources related to building and strengthening Safe Communities.

Design For Transportation National Awards 2000

MARAD participated in the One DOT interagency Year 2000 Design For Transportation National Awards team. The awards will honor those facilities and activities that exemplify the highest standards of design and have made an outstanding contribution to the nation's transportation systems and the people they serve.

American Heritage Rivers Initiative

MARAD has a cooperative agreement with the American Heritage Rivers Initiative that will integrate the economic, environmental, and historic preservation programs and services of Federal agencies to benefit communities engaged in efforts to protect their rivers. The initiative supports the Clinton Administration's executive order establishing the American Heritage Rivers Initiative, to help communities restore and revitalize waters and waterfronts.

The objectives of the American Heritage Rivers Initiative include: economic revitalization; natural resource and environmental protection; and historic and cultural preservation.

Once selected, a single contact or "River Navigator," is available to help facilitate Federal assistance to complement existing project resources and help in achieving the goals of their self-designed plan.

Federal field staff also are available to each American Heritage River community to help match community needs with available resources from current programs.

Communities along American Heritage Rivers also receive improved access to technical and financial assistance from Federal agencies. These agencies work with community members and act as "good neighbors" by informing the community of Federal actions and opportunities in the area and working to complement these activities with community goals.

Intermodal Systems and Technology

In FY 1999, the scope, focus, and membership of the Cargo Handling Cooperative Program (CHCP) continued to expand under MARAD sponsorship. The 15-member cooperative currently focuses on industry-driven priorities.

Four projects currently being developed include chassis tags, chassis of the future, hazardous materials tracking with smart cards, and Global Positioning/Global Location Systems. These projects have an overall intermodal focus.

The CHCP mission was expanded to include innovations in maritime container cargo handling through identification, development, and application of methods, and facilities.

It also includes equipment and technologies with organizations and companies that are involved with marine cargo handling; productivity enhancements through cargo handling research and development; introduction of innovative technology in new systems, facilities, and equipment that is consistent with national defense needs; and training requirements for the adoption of new technology through cooperation with transportation companies from all modes.

MARAD, in cooperation with TRANSCOM and CCDoTT, is expected to begin a multiyear project that could increase terminal throughput by as much as 300 percent using technology to create the next generation terminal. An agile port concept, the Marine-Rail Project, consists of an efficient marine terminal and an Intermodal Interface Center. In addition, a rail corridor is included, designed to move cargo directly from the side of the ship to an inland area, thereby eliminating terminal congestion

and increasing port efficiency. This project is seeking CCDoTT funding to get it underway.

Intelligent Transportation Systems

MARAD continued to be a participant in the Intermodal Freight Technology Working Group (IFTWG), which was chartered in September 1998. The IFTWG continued work to employ information technology system (ITS) technologies to improve the safety and efficiency of freight movement and cargo.

The IFTWG is developing a freight event tracking database to track freight throughout the intermodal transportation process. Identifying destination and movement, the database will improve customer service and process management. This also will quantifiably improve reporting capability. This cargo tracking system can have both commercial and military benefits.

Standards and Facilitation

MARAD continued to become more involved in international standard and facilitation activities related to intermodal transportation. A major objective for the Agency's participation in these forums is to be involved in establishing international standards for containerized cargo which will help U.S. companies compete in the international arena.

International Organization for Standardization

In suppport of the International Organization for Standardization (ISO) MARAD assumed sponsorship of Working Advisory Group 4 (WAG4) to Technical Committee 204 (TC 204). TC 204's WAG4's area of concern is automatic vehicle identification and automatic equipment identification, both of which dovetail with other MARAD efforts.

ITS America

MARAD is also working as a member of the ITS American Interoperability Subcommittee. The goal of this subcommittee is to identify areas of nonconformance to the national ITS architecture. It also is to ensure interoperability between systems, analyze potential solutions, and provide guidelines on the solutions.

International Maritime Organization

The Agency also participated in the International Maritime Organization's Facilitation of Maritime Traffic Committee . This committee facilitates simplification of maritime transport by minimizing procedures and documentation associated with the arrival, stay, and departure of ships engaged on international voyages.

Intermodal Issues

MARAD is working with other DOT agencies on the problem of intermodal chassis that do not meet all highway safety standards. Concerns have been raised because of the increased number of truck driver tickets and the accompanying reduction of productivity and increased potential safety hazards. Under the Cargo Handling Cooperative Program, MARAD is looking at technologies that can alert the driver and maintenance personnel to potential problems and create a safer highway environment for the general public.

The Agency continues to follow the impact of container ship design on the intermodal industry. The forecast of vessel design calls for post-Panamax (larger than 4,000 TEUs) vessels to handle 33 percent of U.S. containerized tonnage by 2010, up from 12 percent in 1995. Currently 50 such vessels are on order. They have the potential to discharge large numbers of containers which could cause a backlog of freight moving along the interstate highway system. MARAD is working with other DOT agencies and the intermodal industry to find ways to reduce congestion and truck traffic in port areas.

Environmental Activities

The MARAD environmental protection program seeks to enhance environmental protection and sustainable development in MARAD programs and in the U.S. maritime industry.

Dredging

MARAD continued to address dredging and dredged material management issues that face many of the Nation's ports and harbors. The Agency remains an active participant in the activities of the National Dredging Team (NDT) and Regional Dredging Teams (RDTs).

The NDT seeks to facilitate communication, coordination, and resolution of dredging issues among participating federal agencies and to assure that dredging of U.S. harbors and channels is conducted in a timely and cost-effective manner, while ensuring environmental protection.

The RDTs seek to resolve regional dredging issues. The NDT is co-chaired by the U.S. Army Corps of Engineers (COE) and the U.S. Environmental Protection Agency (EPA). In addition to MARAD, other participating agencies are the NOAA and the U.S. Fish and Wildlife Service.

The NDT serves as a forum for promoting implementation of the National Dredging Policy and the 18 recommendations contained in the December 1994 Report to the Secretary of Transportation, *The Dredging Process in the United States: An Action Plan for Improvement*. Most of the recommendations in the report have been fully implemented or action is ongoing to complete implementation.

Findings and principles outlined in the December 1994 Action Plan remain valid. The NDT has made progress in providing a timely, efficient, and predictable dredging process, which also ensures meeting environmental goals. Some examples of activities over the last several years include:

- eight RDTs were established based upon guidance issued by the NDT;
- stakeholder outreach meetings were conducted;
- an NDT/RDT national meeting was held;
- a major workshop on dredged material management plans and State coastal management programs was conducted, which will serve as the foundation for future actions by the NDT on beneficial use of dredged material;
- NDT guidance was issued on the creation of local planning groups and the development of dredged material management plans;
- NDT guidance was issued on procedures for elevating issues from RDTs and local planning groups to the NDT; and
- special sessions on dredged material management planning and beneficial use of dredged material were sponsored by the NDT at Coastal Zone Conferences.

An updated Action Plan for the NDT is being developed. It will build on past accomplishments and provide a heightened focus on benefits of dredged material and a holistic approach to dredged material management. Key focus areas included in the updated Action Plan are:

- promotion of beneficial use of dredged material;
- promotion of development of dredged material management plans; and
- improvement of coordination, communications, issue resolution, and outreach to stakeholders.

In September 1999, Secretary of Transportation Slater transmitted *An Assessment of the U.S. Marine Transportation System Report to Congress*. The report was the result of a highly collaborative effort among public sector agencies, private sector organizations, and other stakeholders in the MTS. The MTS consists of waterways, ports, and their intermodal connections, vessels, vehicles, and system users. Among its many provisions, it

provides a comprehensive review of dredging and dredged material management issues within the context of the MTS. This report, along with other major Clinton Administration initiatives, refined the proposed updated NDT Action Plan.

The NDT will establish a liaison on dredging issues with the MTS National Advisory Council. Together, the NDT, RDTs, and the MTS National Advisory Council can address the issues of sediment management and beneficial use within the watershed context. The new MTS National Advisory Council is expected to provide recommendations to the NDT for action to improve the dredging process.

Great Lakes Dredging Team

MARAD is a member of the Great Lakes Dredging Team, which is composed of representatives of the Great Lakes states and six Federal agencies. It includes three-work groups, which focus on the beneficial use of dredged materials, the Dredge Material Management Plan, watershed planning and public outreach.

During the year, the Public Outreach Workgroup developed an illustrated brochure, "Dredging and the Great Lakes" and a website. In addition, an informational video is being developed.

Environmental Compliance and Compliance Management

MARAD seeks to protect the environment by ensuring that its facilities and programs are conducted in compliance with environmental laws, regulations, orders, and treaties. Since the inception of the internal environmental compliance review program in 1992, MARAD has conducted several rounds of compliance reviews at key Agency facilities. As a result of these reviews, MARAD has taken significant steps toward improving facility environmental compliance and enhancing environmental stewardship.

The Agency continues to reduce the amount of regulated hazardous substances and materials that are used or found at its facilities and aboard its vessels and to implement Presidential executive orders dealing with pollution prevention, recycling, and environmental justice. Also during the year, the Agency completed environmental compliance reviews at the Great Lakes Fire Training Center, the U.S. Merchant Marine Academy, and the Suisun Bay Reserve Fleet.

The Agency also continued its efforts to assure that Title XI loan guarantee projects and ship disposal sales are in compliance with applicable environmental laws, regulations, and treaties. The Agency pursued a multi-disciplinary approach to the resolution of environmental issues related to management of obsolete vessels and ship scrapping. Actions included:

- continuing development and implementation of environmental, business, operational, and health and safety requirements for the Technical Compliance Plans (TCP) submitted by bidders for scrapping of MARAD obsolete ships, and continued review of TCPs submitted by prospective scrappers;

- monitoring domestic vessel scrapping operations through periodic site visits and regular status reports to assure compliance with the terms of then TCP;

- pursuing, with the U.S. Navy, EPA, and U.S. Occupational Safety and Health Administration (OSHA), additional measures to improve the ship scrapping process, such as the development of a guidebook for the ship scrapping industry; and

- providing guidance for minimizing hazardous waste on vessels before the vessels enter the National Defense Reserve Fleet (NDRF).

With regard to other NDRF and Ready Reserve Force (RRF) vessels, MARAD provided guidance for proper disposal of oily waste from Reduced Operating Status (ROS) vessels of the RRF. The

Agency also is developing a biological assessment of MARAD vessel operations in the Atlantic Ocean and the Gulf of Mexico as part of the consultation process with NOAA. It is being conducted under Section 7 of the Endangered Species Act. MARAD is developing a long-range plan to address reducing ship strikes of the northern right whale, thereby increasing the survival of this endangered species. The Agency also provided guidance and technical assistance for mitigation of an entrance channel to the Suisun Bay Reserve Fleet, which is being adversely affected by the construction of a new Benicia-Martinez Highway Bridge.

MARAD also fulfilled its legal, financial, and technical responsibilities for evaluating and implementing plans and actions involving contaminated sites in California that were World War II shipyards which performed work on American U.S. Government vessels, as well as at other U.S. facilities.

Environmental Standards

MARAD continued to support development of national and international environmental standards.

The Agency serves on the International Organization for Standardization Technical Committee on Ships and Marine Technology (TC8), where MARAD is the U.S. delegate to the Marine Environmental Protection Subcommittee (SC2) and the convener for the Subcommittee's working group on environmental response.

MARAD participated on the National Shipbuilding Research Program's (NSRP's) Environmental Panel. In addition, the Agency actively served in Departmental and interagency forums involved in environmental justice and brownfields redevelopment.

MARAD also engaged in the activities of the U.S. Shipping Coordinating Committee (SHC) and related interagency working groups. The SHC and its subcommittees and working groups, which are generally chaired by the USCG, prepare the U.S. positions for meetings of the Assembly, Council, committees, and subcommittees, as well as for special international conferences, of the International Maritime Organization (IMO) .

The IMO is the United Nations agency responsible for improving maritime safety and preventing pollution from ships. Significant IMO environmental activities of particular interest to MARAD during FY 1999 included harmful effects of the use of anti-fouling paints for ships; prevention of air pollution from ships; harmful aquatic organisms in ships' ballast water; and environmental impacts of ship scrapping.

Industry Support

MARAD continued to assist the U.S. shipbuilding and ship repair industry with its efforts to comply with environmental laws and regulations. This activity included establishing and maintaining working relationships with Federal and State regulatory agencies to foster the development of economically and environmentally sound regulatory policies and practices.

For example, MARAD, the EPA and U.S. shipyards developed a workshop with the shipyards on storm-water management EPA and MARAD also are organizing a regional forum among shipyards, EPA, and State environmental agencies to facilitate a multi-level dialog on shipyard environmental challenges and to develop shipyard environmental compliance assistance tools. One such tool, to be developed through a MARAD-EPA-shipyard partnership, is an environmental compliance matrix for shipyard operations.

MARAD participated on interagency working groups concerned with international measures for controlling air pollution from ships; adverse effects of anti-fouling paints used for ships; and aquatic nuisance organisms in ships' ballast water. With regard to controlling air polluting emissions from ships, MARAD is engaged in several public/private partnerships related to the development and deployment of clean engine, clean fuel, and fuel cell technologies for shipboard applications.

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The Agency continued working to advance port-related programs to assist U.S. commercial ports expand and modernize to meet the Nation's future commercial and military needs. Significant environmental issues for ports include dredging and dredged material management, Federal facility conveyance, environmental management, and brownfields redevelopment.

U.S. ports are vital economic engines for the Nation's commerce and employment. They are uniquely located in industrial and commercial areas, which are environmentally sensitive and provide opportunities for important sustainable development.

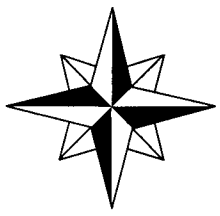
For example, brownfields, i.e., abandoned, idled, or underused industrial and commercial properties where expansion or redevelopment is complicated by real or perceived contamination, are frequently located in port areas. Some of these areas may provide opportunities for port redevelopment, expansion, and modernization at considerable economic and environmental advantage to ports and other sectors of the maritime industry, as well as to the local community.

Furthermore, dredged material from harbors and channels may be suitable for reclamation of brownfields sites, as well as for numerous other beneficial uses.

MARAD assisted the AAPA in the development of an *Environmental Management Handbook for Ports*. As with the shipyards, MARAD is working with the ports and EPA to facilitate a dialog on port environmental compliance issues and is supporting an effort to develop a model environmental management system for ports.

In addition, MARAD initiated an effort to work more closely with U.S.-flag vessel owners and operators. The Agency is cooperating with the Chamber of Shipping of America to develop, under an EPA grant, an environmental management handbook for vessel owners and operators. MARAD also is working with the Chamber to resolve environmental issues related to shipboard ballast water management and anti-fouling paints on ships.

Also during FY 1999, MARAD prepared and distributed its quarterly *Report on Port and Shipping Safety and Environmental Protection* (reports 49-52). These reports summarized activities at the international and national levels concerning safety and environmental protection matters related to ports and shipping. Of particular importance were the summaries of activities of the IMO.



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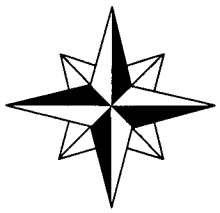

Chapter 4

Domestic Operations

The Maritime Administration (MARAD) actively promotes and develops the domestic merchant marine in support of the Department of Transportation's (DOT) strategic goal of "*advancing America's economic growth and competitiveness domestically and internationally through efficient and flexible transportation.*"

The domestic shipping operations of the American merchant marine provide essential services to 41 States reaching 90 percent of the national population. During FY 1999, this environmentally friendly form of surface transportation handled a combined total of over 1.1 billion[1] short tons of cargo, which is about 23 percent[2] of the ton-miles of all domestic surface transportation traffic. Domestic waterborne transportation contributes $7.7 billion[3] to the gross domestic product annually in the form of freight revenue.

In FY 1999, the Maritime Administration (MARAD) supported the national strategic goals by actively participating in the Secretary's Marine Transportation System (MTS) initiative.

Marine Transportation System Initiative

MARAD and eleven other Federal agencies inaugurated a program to improve the marine portion of the national transportation system. The MTS initiative is a program to ensure a safe and environmentally sound world class marine transportation system that improves the global competitiveness and national security of the United States.

After holding a series of regional listening sessions on the MTS, DOT hosted a National Conference in November 1998. Executives from industry, labor and Government addressed critical issues facing the MTS, and the Congress simultaneously passed legislation[4] directing the Secretary to prepare a report to Congress on the MTS.

MTS National Task Force

Congress directed the Secretary of Transportation to form a Task Force to assess the adequacy of the Nation's marine transportation system to operate in a safe, efficient, secure, and environmentally sound manner.

The national task force was composed of industry associations, shipper groups, and other stakeholders. Through cooperative efforts between Government and private sector partners, the MTS assessment was completed and transmitted to Congress on September 9, 1999.

MTS Task Force Report to Congress

An Assessment of the U.S. Marine Transportation System was the culmination of 2 years of unprecedented dialogue between the public and private sector to address issues in the MTS. The report contained several key recommendations:

[1] COE, Waterborne Commerce Statistics Center, 1999
[2] Transportation in America, Eno Transportation Foundation, 1998, pp.11
[3] Transportation in America, Eno Transportation Foundation, 1998, pp.40
[4] Section 308, U.S. Coast Guard Authorization Act of 1998

- Creation of an MTS National Advisory Council (MTSNAC), to provide a coordinated approach for non-Federal stakeholders to provide input to national issues and to advise the Secretary of Transportation on the needs of the MTS. The MTSNAC will be composed of senior-level representatives from non-Federal organizations including the private sector and state and local agencies.

- Establishment of a new Interagency Committee for the Marine Transportation System (ICMTS), which will serve as the national coordinating body for all Federal agencies responsible for one or more aspects of the MTS to discuss strategies and ideas to improve our transportation system.

- Enhancement of local and regional level coordination so that results can be channeled to both the National Advisory Council and the Federal Interagency Committee.

- A proactive role by DOT in implementing the three MTS report's recommendations, including sponsorship of an MTS Research and Development Conference.

According to the Executive Summary of the report:

"The U.S. Marine Transportation System consists of waterways, ports and their intermodal connections, vessels, vehicles, and system users. Each component is a complex system within itself and is closely linked with the other components. It is primarily an aggregation of State, local, or privately owned facilities and private companies. As with the U.S. economy as a whole, decision making and investment are primarily driven by the marketplace. In addition, national, State, and local governments participate in the management, financing, and operation of the MTS.

More than 1,000 harbor channels and 25,000 miles of inland, intracoastal, and coastal waterways in the United States serve over 300 ports, with more than 3,700 terminals that handle passenger and cargo movements. The waterways and ports link to 152,000 miles of rail, 460,000 miles of pipelines, and 45,000 miles of interstate highways. Vessels and vehicles transport goods and people through the system. The MTS also contains shipyards and repair facilities crucial to maritime activity.

As the world's leading maritime and trading nation, the United States relies on an efficient and effective MTS to maintain its role as a global power. The MTS provides American businesses with competitive access to suppliers and markets in an increasingly global economy. The MTS transports people to work; provides them with recreation and vacation opportunities, puts food on their tables; and delivers many of the items they need in their professional and personal lives. Within the United States, the MTS provides a cost-effective means for moving major bulk commodities, such as grain, coal, and petroleum. It is a key element of State and local government economic development and job-creation efforts and the source of profits for private companies. With its vast resources and access, the MTS is an essential element in maintaining economic competitiveness and national security.

Annually, the U.S. marine transportation system:

- Moves more than 2 billion tons of domestic and international freight;

- Imports 3.3 billion barrels of oil to meet U.S. energy demands;

- Transports 134 million passengers by ferry;

- Serves 78 million Americans engaged in recreational boating;

- Hosts more than 5 million cruise ship passengers; and

- Supports 110,000 commercial fishing vessels and recreational fishing that contribute $111 billion to State economies.

The MTS provides economic value by affording efficient, effective, and dependable all-weather transportation for the movement of people and goods. Waterborne cargo alone contributes more than $742 billion to U.S. gross domestic product and creates employment for more than 13 million citizens.

The MTS provides national security value by supporting the swift mobilization and sustainment of America's military. As an example, 90 percent of all equipment and supplies for Desert Storm were shipped from U.S. strategic ports using our inland and coastal waterways.

The MTS provides environmental value by being an environmentally responsible method of transportation. Ships and barges have the fewest accidental spills or collisions of all forms of transportation. Waterways are an attractive alternative transportation mode for relieving congestion on roads and rails. The impact of increased MTS activity on the environment, however, has been an increasing concern.

The MTS provides recreational value to millions of Americans who participate in recreational boating and fishing or take sightseeing, excursion, dining, gaming, windjamming, whale watching, or nature cruises."

Marine Transportation System Research and Development Conference

A conference on MTS R&D coordination was held November 2-4, 1999 in Washington, DC. Hosted by MARAD, this multi-agency conference was the first following release of the MTS report. Its goal was to examine the state of research and technology and to consider ideas that could lead to development of a national cooperative MTS R&D program.

Many domestic and international transportation leaders and researchers participated in panel and technical sessions.

Technical Assistance

In addition to the MTS initiative, MARAD provided other technical and promotional assistance to the domestic shipping industry throughout FY 1999.

One of the most far-reaching efforts is the market research project to examine the development of a coastwise shipping system for the advancement of waterborne trade along our coasts to relieve congested highways.

The first phase of the multi-phase study, *High Speed Ferries and Coastwise Vessels: Evaluation of Parameters and Markets for Application*, was completed in January of 1999. It provided a framework for future research to improve coastwise trade.

In a separate action, in early 1999 the states of Illinois, Iowa, and Missouri passed legislation which formed a Tri-state Port Authority to plan and operate a new inland port on the Mississippi River. MARAD provided initial guidance and technical assistance to the Authority, enabling the planned project to proceed.

Each State has named commissioners to the proposed authority, and bylaws are now being prepared. The next step will be a study on location options.

Rural Transportation Initiative

In May of 1999, the Secretary of Transportation announced the DOT's *Rural Transportation Initiative*. MARAD was a key player in the startup of this ongoing project and is an active team member with other DOT agencies. The primary objective of this initiative is to help ensure rural areas and small communities share in the mobility as well as the economic and social benefits that DOT programs provide.

MARAD gained valuable insight on the needs of the rural transportation community during the MTS

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initiative. Consequently, the Agency is increasing its assistance to rural domestic operators. Specifically, MARAD plans to propose a program, which will identify ways to increase America's export of rural products (freight) through transportation innovations and improvements. This project will directly support the initiative. The Memorandum of Understanding signed by the Department of Agriculture and DOT will address long term agricultural and rural passenger and freight mobility challenges.

Also during the reporting period, MARAD assisted DOT in developing a *Rural Program Guide* and a *Rural Program Directory* to assist State and local officials with Federal Programs that might prove of assistance.

Jones Act

The Clinton Administration supports the Jones Act as a means to promote a domestic maritime industry available in times of national emergency.

The Jones Act embodies America's coastwise cabotage laws, and other related acts; it requires that maritime cargoes and passengers moving between U.S. ports be transported in vessels built and maintained in the United States, owned by American citizens, and crewed by U.S. mariners.

MARAD provides assistance to shippers in need of qualified, U.S.-flag vessels. Typically, and throughout the year, shippers call the MARAD when there is a question concerning the applicability of the Jones Act, or if they need assistance locating a qualified vessel to meet their transportation needs.

MARAD responds to questions and provides possible shipping sources to help resolve their domestic transportation problems. The Agency is required to respond within 48 hours to formal Jones Act waiver requests. There were no waivers to the Jones Act granted for commercial operation of foreign vessels in U.S. domestic trade in FY 1999.

Assistance for Shippers

During FY 1999, MARAD responded to several requests for assistance in complying with U.S. cabotage laws:

Hurricane Floyd - September 1999: MARAD worked with shippers and U.S. carriers to provide information on vessel operators capable of transporting grain to hog and turkey farms in North Carolina in the aftermath of Hurricane Floyd.

The Agency also assisted a shipper locate suitable U.S.-flag service to transport a 250-ton chemical waste incinerator from Mississippi to Johnston Island in the Pacific. In addition, MARAD helped the MSC locate qualified tankers for domestic petroleum shipments.

Small Passenger Vessel Waiver Authority

On April 28, 1997, legislation was introduced to provide for an administrative process to permit waivers of the U.S.-build requirement for the smallest of passenger vessels when there is no adverse effect on U.S business. The new process is expected to alleviate the burden on the Congress. In the most recent legislative session, 60 waivers were approved using this procedure.

On November 13, 1998, Public Law 105-383 was enacted allowing the Secretary of Transportation to provide waivers of the U.S.-build requirement of the coastwise laws for these small passenger vessels. MARAD was developing formal processing procedures at year's end.

Industry Trends and Profile

There are three major sectors of U.S. domestic shipping: the Great Lakes, the inland waterways, and the domestic deep-sea trades. The major

products moving in the domestic trade are crude petroleum, crude materials, coal, chemicals and farm products. Traditional liner cargoes and manufactured products, move between the contiguous 48 states and Alaska, Hawaii, and Puerto Rico.

Great Lakes

The U.S.-flag Great Lakes fleet includes of self-propelled vessels and integrated tug/barge units of lengths up to 1013.5 feet. Thirteen 1,000-foot vessels are included in the mostly self-unloading fleet of 69 vessels over 1000 gross registered tons. The cargoes of these vessels and non-self-propelled vessels totaled more than 111 million metric tons of cargo during the 1998 season, according the Lake Carriers Association. (See Table 9.)

The slight decrease from the previous year is contributed to the vast influx of foreign steel that continues to impact the domestic steel industry. The demand for construction industry stone and western low sulfur coal partially filled the gap caused by imported steel.

The Great Lakes trade includes of eleven American companies operating U.S.-flag ships and integrated tug-barge units ranging in length from 383 to 1,013 feet. In recent years cargo movement has steadily climbed to more than 111 million tons during the 10-month Great Lakes shipping season. Iron ore, coal and limestone are the primary commodities carried by Great Lakes carriers. Other cargoes include cement, salt, sand, grain and liquid-bulk products

The vast majority of cargoes carried by U.S.-flag Lakers move between U.S. ports. Current production figures are still considered excellent and are on a par with the Great Lakes' peak industry year of 1980.

Inland Waterways

The U.S. inland waterway system comprises some 12,000 miles of commercially navigable channels that handle over 60 percent of our Nation's grain exports, 25 percent of its chemical and petroleum movements, and over 20 percent of its domestic coal shipments. Approximately 82 percent of the corn, 77 percent of the soybeans, and 32 percent of the wheat grown in the United States are produced in the ten Midwestern states that rely greatly on barge transportation.

One-third of the plants that manufacture chemicals and related products are located in areas with easy access to barge transportation, and coal-fired power plants in river states generate approximately 75 percent of the Nation's total electric power.

Our inland waterways are a vital part of our Nation's transportation infrastructure and extremely important to our competitive advantage in international trade by minimizing shipping costs for bulk commodities and general cargo. Twenty of the 50 largest metropolitan areas are located on the inland waterways, and approximately 15 percent of the Nation's commercial traffic moves between cities on the inland waterways.

In 1998, 649 million metric tons moved on the U.S. inland waterways (includes intraport shipments). Most of it (96 percent) moved by barge. The primary commodities were coal (27 percent), petroleum (27 percent), crude materials (19 percent) and farm products (12 percent). However in terms of ton-miles (demand for transport services), farm products accounted for 28 percent of in land waterways traffic in 1998. The average haul of farm products was 978 miles, compared to 337 miles for all other inland shipments.

At the end of 1998, there were about 3,300 tank barges with a total capacity of 6.7 million metric tons available for operation on the U.S. inland waterways. About 70 percent of these have double hulls. The Oil Pollution Act of 1990 prohibits the

non-double-hull segment of the fleet from operating in U.S. navigable waters after year 2015.

Inland tank barge capacity has not changed significantly in the 1990s. That is, new barges have generally replaced older vessels. The average capacity of tank barges added to the fleet from 1993 to 1998 was about 40 percent larger than those removed from the fleet over the same period.

At the end of calendar year 1998, there were approximately 26,000 dry cargo barges with a total capacity of 35 million metric tons available for operation on the inland waterways. In the late 1990's, growth of inland dry cargo barge capacity was significantly above the growth in dry cargo traffic contributing to a decline in freight rates. Inland dry cargo barge capacity increased by 7.3 percent from 1995 to 1996, the largest annual increase since 1980-81. The 1996 increase was largely a function of a temporary surge in freight rates (grain exports) in the mid 1990's that limited dry cargo barge scrapping and led to a sharp increase in orders of new dry cargo barges for delivery in 1996 and 1997.

Deep-Sea

The major segments of the domestic deep-sea trade are the *contiguous* and *noncontiguous* trades. The major *noncontiguous* trades are between the mainland and Alaska, Hawaii, Puerto Rico, Guam, Wake, and Midway Islands. The *contiguous* routes consist of the coastwise trade traffic along the Atlantic, Gulf, and Pacific Coasts.

Of the 233 million tons moved in domestic deep-sea trade in 1998, petroleum products accounted for 47 percent, crude petroleum accounted for 25 percent, crude materials accounted for 7 percent, chemicals accounted for 6 percent, coal accounted for 6 percent, manufactured products which move primarily in noncontiguous trades accounted for 6 percent, and food products accounted for the remainder.

On July 1, 1999, the fleets serving U.S. domestic ocean trades included 85 dry cargo vessels (0.7 million cap. tons.), 97 tankers (5.8 million cap. tons), 1,937 dry cargo barges (3.2 million cap. tons) and 477 tank barges (3.6 million cap. tons). (See Table 10). Self-propelled vessels are generally preferred in long-haul, time sensitive trades because they are faster than tug/barge units (15-20 knots v. 8-12 knots) and are not as likely as barges to get weatherbound. In 1998, barges carried approximately 85 percent of the metric tons in domestic deep sea trades less than 500 miles; self-propelled vessels carries approximately 89 percent of the metric tons moved in domestic deep sea trades greater than 1,500 miles.

Offshore Supply Vessels

Offshore supply vessels (OSVs) are used primarily for the transportation of drillwater, potable water, fuel, cement, barite, casings, drillpipe, personnel and provisions to offshore drill rigs and/or production platforms.

At the end of 1998, the U.S. OSV fleet, which operates primarily in the U.S. Gulf, amounted to 356 vessels. Forty-six of these were large (1,500 plus dwt.) OSV's. Forty of the 46 large OSV's were built from since 1995.

In the mid to late 1990's oil and gas drilling contractors ventured further offshore into deeper waters generating demand for large OSV services. The growth in deepwater drilling has been due primarily to technological advances such as dynamic positioning (anchorless) systems and 3-dimensional seismic geological surveys have substantially reduced the costs of finding and developing deepwater oil reservoirs; and the Deepwater Royalty Relief Act of 1995 significantly reduced royalties payable on production from deepwater leases in the U.S. Gulf.

Ferry Services

Section 1207(c) of the Transportation Equity Act for the 21st Century directs the Secretary of Transportation to conduct a study of ferry transportation in the United States and its possessions. In addition to collecting data on existing ferry services (Volpe Center), the statute also requires that the study look at the potential for new ferry services, in particular fast-ferry (25 plus knot) services.

To evaluate the potential for new ferry services, MARAD, FHWA, and FTA are convening three focus groups in 2000, which will examine regulatory, financial and market-related issues facing existing /potential ferry services. The results of the focus groups will be summarized in the congressional study.

Significant Activities

The USCG and COE have taken the lead in waterway management as a spin-off of the MTS initiative. The Great Lakes Forum was created in May 1999 with partnership signatures from U.S. and Canadian Federal agencies, representatives from ports, recreational boaters, state boating officials, domestic vessel operators and salt water vessel agents.

It has five major areas of activity or goals for improving services in the region for all types of vessel operators. They are waterway dredging, user fees, communications, outreach – promotion of the waterway, and automated information systems.

The Great Lakes Commission is urging Congress to secure construction funding and their own member states to obtain the non-federal cost share for a second large lock at Sault Ste. Marie, MI. The Water Resources Development Act of 1999 waived the interest on the non-Federal cost share of the proposed new lock. The estimated total cost to the states is $63.8 million with a payback period extended to 50 years.

After a long absence from the Great Lakes, luxury-passenger vessels are making a rejuvenated debut in U.S. and Canadian ports. The German vessel C. COLUMBUS returned for its third successive and profitable season. In addition, a new French vessel, LE LEVANT, which accommodates 97 passengers, has a crew of 47, and 45 outside cabins, large lounge, 95-seat panoramic restaurant, and other luxury provisions, entered service during the year.

Also during the year, the St. Lawrence Seaway celebrated its 40th anniversary during ceremonies which marked its successes, including marking its best result of 39.2 million metric tons this year. In addition, a new, state-of-the art- traffic control system designed to furnish Seaway users with a coordinated source of vessel transit information covering U.S. and Canadian locks was unveiled.

Another major issue for Great Lakes shipping is the effect of invasive species. Invasive species, with regard to the Lakes, refers to the unwanted pests that originate in foreign waters and are brought to inland lakes from ballast water discharged before loading cargo.

Invasive species have troubled the lakes for years. This year the International Joint Commission on the Great Lakes held a Water Quality Forum in Milwaukee. As part of that forum, there was a 1-day workshop on exotic species. Carriers are focusing on ship design, ship systems, shipping economics, and ship operations to address areas of major concern.

MARAD is committed to assisting in preventing the introduction and spread of non-indigenous species. The U.S. lake carriers have instituted voluntary ballast exchange programs for their ships and moved forward on their own with a $1.7 million Ballast Technology Demonstration Project. These measures are expected to enhance controlling the invasive species problem.

Prototype Mooring Buoy II

An innovative prototype mooring buoy for use above and below locks on the inland waterways that will have more of an environmental impact than any of the traditional round buoys used in the past, was partially funded by MARAD. The Agency, in cooperation with the COE, and the River Industry Action Committee, modified the original prototype-mooring buy design to make it more stable and safer for deck crews.

The second prototype-mooring buoy will be placed near locks and dams on the inland navigation system to allow tows to wait in close proximity to the locks for their turn to lock through.

The second prototype barge will be placed below Lock 25 for a 1-year test. This is the same location that the original mooring buoy was placed last year. Should the second mooring buoy work as expected the COE plans to place them throughout the inland navigation system.

The current plan, formulated in cooperation with the Missouri Department of Conservation will place the buoy below Lock 22, near the bank, over a mussel bed. The buoy will be in approximately 15 to 20 feet of water and will be moored to the bank with a floating anchor line. This will prevent the tows from pushing into the bank over this mussel bed while waiting for their turn to lock.

Table 9: Employment of U.S. Great Lakes Fleet

Self-Propelled Vessels of 1000 GRT and over

Quarterly Report - October 1, 1999

	Vessels	Gross Registered Tons	Deadweight in Tons
TANKERS			(in barrels)
Active	-	-	-
Temporarily inactive	2	9758	123,000
Inactive, laid up, long term	-	-	-
TOTAL	2	9758	123,000
ITB TANKERS			(in barrels)
Active	2	8,150	135,000
Temporarily inactive	-	-	-
Inactive, laid up, long term	-	-	-
TOTAL	2	8,150	135,000
ITB BULK			
Active	7	76,247	153,100
Temporarily inactive	1	5,631	9,400
Inactive, laid up, long term	-	-	-
TOTAL	8	81,878	162,500
BULK			
Active	48	873,290	1,724,800
Temporarily inactive	3	27,613	55,450
Inactive, laid up, long term	6	59,468	110,390
TOTAL	57	960,371	1,890,640
GRAND TOTAL	69	1,060,157	2,053,140
		Barrels	258,000

Note: The method of recognizing the fleet was changed in 1997 to reflect the emergence of the integrated tug/barge (ITB) on the Great Lakes. The car ferry category was dropped in order to provide a more precise picture of cargo carriers.