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Fall 2008



The **COAST GUARD** Journal of Safety
& Security at Sea

PROCEEDINGS

of the Marine Safety & Security Council

Focus on the Mariner

**Careers in the Merchant Marine
Training and Education**

**Special Update:
U.S. Coast Guard Mariner Licensing & Documentation Program**

PROCEEDINGS



Fall 2008

Vol. 65, Number 3

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Lessons Learned



from **Casualty
Investigations**

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Assistant Commandant's Perspective

By RADM BRIAN M. SALERNO
U.S. Coast Guard Assistant Commandant for Marine Safety, Security and Stewardship

Throughout our nation's history, the maritime industry has benefited from the Coast Guard's multi-mission nature and ability to maintain the safety and security of our nation's ports, waterways, and coastal areas. Continuing in this tradition, the Coast Guard will work to sustain efficient, consistent, high-quality services to mariners and maritime organizations in all of our mission areas.

We must continue to leverage our multi-mission structure and culture through appropriate allocation of our resources while also partnering with industry, labor, and other maritime stakeholders. This includes our ongoing efforts to revitalize our marine safety missions. We are aggressively working to increase our capacity and our capability, such as by increasing the numbers of marine safety professionals, including civilians recruited from industry. Our success will be measured by the extent we meet the needs of industry in delivering our services. Arguably, our ultimate stakeholder is the mariner, without whom our nation's ports and waterways would come to a standstill.

By supporting our marine transportation system, the mariner's service contributes immeasurably to our nation's economy and to our way of life. The movement of waterborne cargo contributes billions of dollars annually to the nation's gross domestic product and sustains millions of jobs. As we rely on our mariners to "drive" this economic engine, they, in turn, rely on us to keep them at the helm by, among other services, efficiently and appropriately processing their applications for credentials.

As a part of that effort, we have been taking aggressive steps to improve the Mariner Licensing and Documentation (MLD) program, administered by the Coast Guard's National Maritime Center (NMC). The restructuring, centralization, and relocation of the NMC from Arlington, Va., to a new 60,000-square-foot facility in Martinsburg, W.Va., was completed at the end of 2007.

Centralization began with transferring certain licensing evaluation and issuance functions from Regional Examination Centers to the NMC. This centralization of effort has provided a greater opportunity to gain economies of scale while reducing backlogs, ensuring that credentials are only issued to qualified persons, reducing the time it takes for mariners to receive their credentials, providing uniformity in interpretation of regulations, and improving customer service.

Growing demand for merchant mariner credentials will continue to test the MLD program's ability to improve efficiency and provide timely service. With a renewed and sustained focus, the Coast Guard men and women who make up the Mariner Licensing and Documentation program will continue to rise to this challenge and deliver tangible results.

ADM Thad Allen
Commandant
U.S. Coast Guard

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Champion's Point of View



By CAPT DAVID C. STALFORT
Commanding Officer

U.S. Coast Guard National Maritime Center

Honor the Mariner

Mariners are essential elements of a safe, secure, economically efficient, and environmentally sound marine transportation system. Every time the National Maritime Center processes an application, provides information, completes an evaluation, produces and administers an examination, approves a course or an instructor, or prints a credential, a mariner is able to work. When mariners work, this nation's economy works.

In this edition of *Proceedings*, we focus on the mariner. Our intent is to provide readers with information to begin, continue, and advance a career in the maritime industry. We will also focus on the many ways the Mariner Licensing and Documentation (MLD) program serves the mariner—our customer. We can never forget that people's livelihood and the safety of others depends on all of us working together as a team to issue credentials to fully qualified mariners in the most effective and efficient manner possible.

The MLD program has taken audacious steps over the past several months to not only meet, but exceed mariner expectations throughout the credentialing process. With a renewed commitment to making significant improvements to the program, the momentum with the centralization efforts across the nation has started, and we are fully engaged. Several initiatives have already been accomplished using a three-pronged strategy of increasing throughput, reducing inventory, and improving quality, including:

- a "live person" help desk, toll-free phone number, and e-mail center established to assist mariners with their inquiries;
- capabilities for mariners to submit applications in electronic format, pay fees, and check the status of their applications online;
- electronic fingerprinting technology for processing criminal records checks, which has been employed by all of the Coast Guard's RECs since early 2005.

Mariners have told us that they want consistent results with an efficient program that produces credentials in a timely manner, at low cost. In just a few short months, we've already moved toward faster, more efficient operations and improved customer service, as evidenced by testimonials we've received from delighted mariners and marine industry representatives. Their comments are a sure sign that the centralization of the MLD program is working!

I would like to thank our dozens of authors and contributors, many who have worked with the National Maritime Center for years and have valuable first-hand "before and after" insights to share. We hope you will enjoy this issue of *Proceedings*, and, as a result, better understand our commitment to making the Mariner Licensing and Documentation program a world-class operation.

CAREERS



Not Just Another Day at the Office

Careers in the tugboat, towboat, and barge industry.

by Ms. KRISTA REDDINGTON
*former Government Affairs Associate
The American Waterways Operators*

Picture yourself on a towboat, transporting barges full of grain toward New Orleans. As you pass under a bridge, the children fishing on the shore wave to you. Now picture yourself on a tugboat that is approaching a huge aircraft carrier. You look up to see the sailors standing at attention on deck. They are trying not to smile, but it is obvious they are happy to be home. Your boat helps to push the carrier into her berth in the harbor, bringing the sailors home to their families.

Perhaps you can see yourself in the galley (kitchen) of a tugboat, slinging hash and poaching eggs for the hungry crew while passing under the Brooklyn Bridge in New York City, admiring the beauty of Mt. Rainier in Washington, or floating down the Mississippi River. These are all examples of the desk job alternatives enjoyed by crewmembers in the maritime industry.

The tugboat, towboat, and barge industry is one of the most diverse in today's transportation environment. Consisting of approximately 4,000 towing vessels and 27,000 barges, the fleet plies American waterways from the New York harbor to the port of Los Angeles, from the Mississippi River to the Great Lakes.

This industry allows us to take advantage of some of our greatest natural resources and adds billions of dollars a year to the U.S. economy. Waterway transportation contributes to the American quality of life by moving goods off congested roads and rails and away from crowded population centers.

Tugboats and Towboats

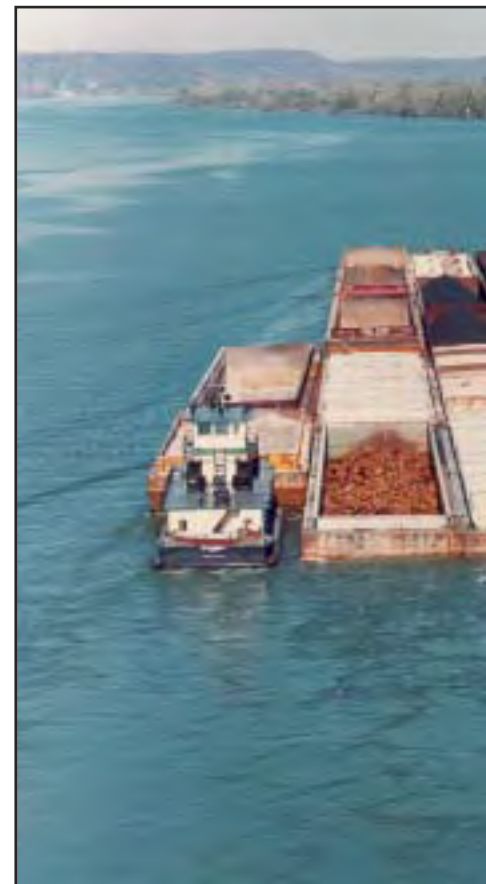
The towing vessel fleet includes tugboats and towboats. Tugboats are used to pull or tow barges on ocean or open

water routes. Ocean towing involves long towlines between the tugboat and tow to provide the necessary slack to accommodate rough water and varied weather conditions.

Harbor tugs are essential in every port to help maneuver large ships through narrow harbors and assist them in docking and undocking from confined spaces. Harbor tugs use short towlines and the physical force of pushing the large ships with their rubber-fendered bows and sterns to guide them.

The articulated tug barge (ATB) was built to increase efficiency and safety in ocean towing by eliminating the long towline. Instead, the tugboat fits into a specifically designed notch in the barge's stern and the two units are tightly connected. This allows for more control in steering the barge. ATBs are often mistaken for tank ships by the casual observer.

A towboat is a powerful boat with a flat front that pushes barges on rivers.



Towboats typically have flat hulls to accommodate the shallower depths of inland waterways. Barging is the most economical mode of cargo transportation, moving bulk commodities like grain, coal, petroleum, and salt for a fraction of the cost of transporting them by truck or rail.



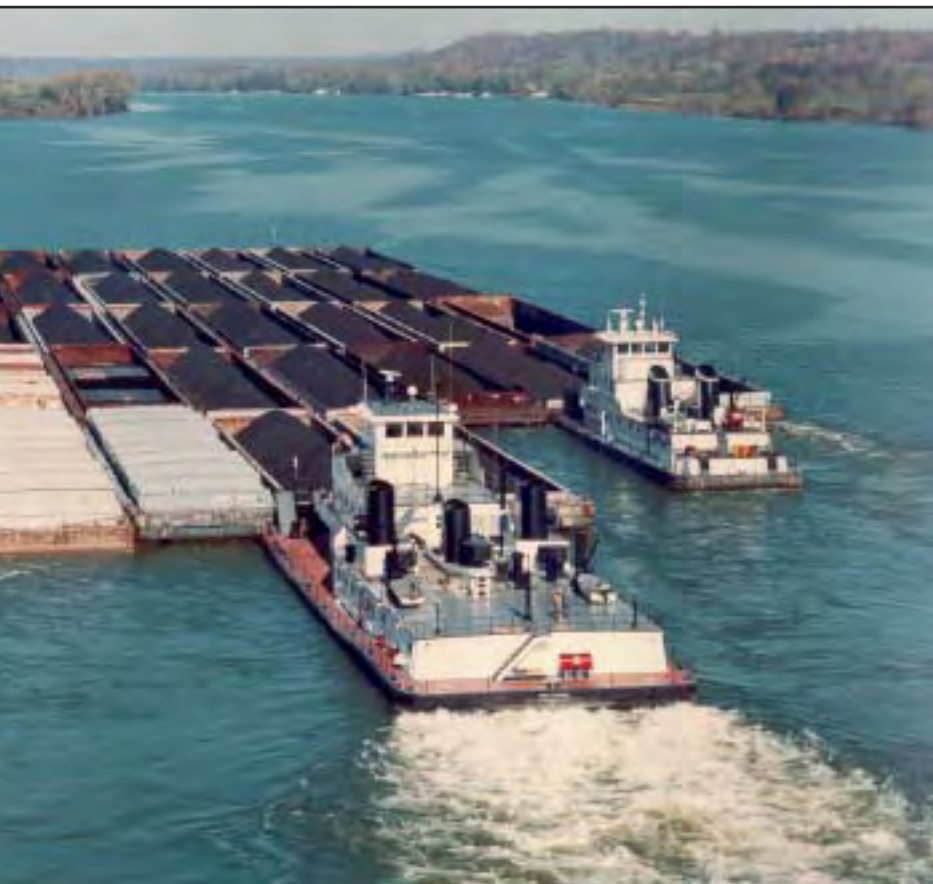
A towboat pushes a barge under the Hellgate Bridge in New York. Photo courtesy of Mr. Don Sutherland.

Careers in the Tugboat, Towboat, and Barge Industry

There are many positions on towing vessels, and the vessels' smooth operation depends upon the teamwork of the diversified crew. Each position is essential to the task at hand, and advancement is readily available for hard-working, drug-free individuals.

Deckhand or ordinary seaman. The entry-level position on a towing vessel is called a "deckhand" on inland towboats, an "ordinary seaman" on coastal tugboats. These crewmembers prepare barges for loading and unloading cargo, build tows, and perform basic vessel maintenance and housekeeping duties. More experienced deckhands may be called "lead deckhands" (or

A barge just below Twelve Mile Island on the Ohio River. Photo courtesy of The American Waterways Operators.



"mates") in the inland towing industry and have leadership duties as well.

Experienced ordinary seamen on coastal tugboats graduate to "able-bodied seamen." On most towing vessels except those operating on rivers, deckhands re-

quire a Coast Guard-issued Merchant Mariner's Document, or MMD.

Cook. The cook buys and prepares food for the crew. Some cooks also work on deck between meal preparations, in which case they may be called cook/deckhands. Cooks on towing vessels (with the exception of those working on rivers) require a Merchant Mariner's Document.

Tankermen. These mariners work on towing vessels that move liquid cargo in tank barges, and are specially trained for the environmentally sensitive job of transferring oil or chemical cargoes between barges and tanks on shore. Tankermen require a Merchant Mariner's Document with a tankerman endorsement, which entails training and experience in handling liquid cargoes.

Engineer. The engineer is in charge of the operation and maintenance of the boat's engines and machinery and the barge cargo pumps. A deck engineer is an engineer who also performs deckhand duties. Engineers are trained, experienced personnel who may or may not be required to hold a Coast Guard-issued license, depending on the size and location of the vessels on which they work.

Masters, mates, and pilots. The crewmember who drives a towing vessel is the "master" (or "captain"), and his or her second-in-command is known as a "mate" on coastal tugboats or a "pilot" on inland towboats. Unlike the independent contractors who typically guide larger vessels in and out of coastal ports, this type of pilot is a crewmember. The master and mate or pilot alternate shifts nav-





Tugboats provide a “ship assist” to a container ship arriving in the Port of Seattle. Photo courtesy of The American Waterways Operators.

igating the vessel. The master is the manager of the vessel, responsible not only for operating the boat safely and efficiently, but for managing the crew as well.

Nearly all towing vessel masters, mates, and pilots started their careers as deckhands and worked their way into the wheelhouse, obtaining the necessary training and Coast Guard licenses along the way.

Obtaining a Coast Guard license as a master of towing vessels is normally a three-step process requiring a written examination, four years of experience, and a practical demonstration of navigation skills. Individuals working their way up to master first obtain an apprentice mate (steersman) license—in effect, a learner’s permit that allows for practice in the wheelhouse under the supervision of an experienced mariner. The next step is mate, and, finally, master.

Responsible Carrier Program

Barges and towing vessels are subject to strict regulations regarding the discharge of oil and solid waste into the marine environment; members of The American Waterways Operators support vigorous enforcement of these laws and penalties for violators.

Working closely with the Coast Guard, AWO members not only comply with stringent safety and environmental regulations, but have demonstrated their strong commitment to environmental protection by creating the industry’s own code of safety best practices: the Responsible Carrier Program. This Coast Guard-recognized, award-winning program sets a higher standard by which all AWO members must operate, or forfeit their membership.



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www.americanwaterways.com
AWO jobs portal: www.awojobs.com

Shoreside Jobs

In addition to careers aboard vessels, tugboat and towboat crews are also supported by staff on land. These positions vary widely by company, but some of the most important include:

- **port captain (usually a former vessel master)**—works with the captains to supervise and manage boat crews;
- **port engineer**—responsible for keeping boats and barges on a regular maintenance schedule;
- **mechanic**—performs inspections and repairs on the vessel, and reports to the port engineer;
- **dispatcher**—assigns boats to barges or ships, and also assigns crews to man the boats;
- **safety manager**—oversees training programs, vessel inspections, and compliance with regulations.

The Industry

Jobs in the maritime industry provide a secure and stable career path for those who are ready to be a part of the maritime family. These positions present the opportunity to make a good living with family wages and great benefits.

The maritime field enables those who do not have a college degree to engage in a skilled and rewarding profession with an unrivaled chance to learn a unique trade. The industry is an exciting alternative to a 9-to-5 job.

So why be stuck behind a desk in a windowless office when you can enjoy the freedom of sailing down the Mississippi River? Those who become part of a tugboat or towboat team can also take pride in being a part of an industry that is vital to the economic well-being of our country.

About the author:

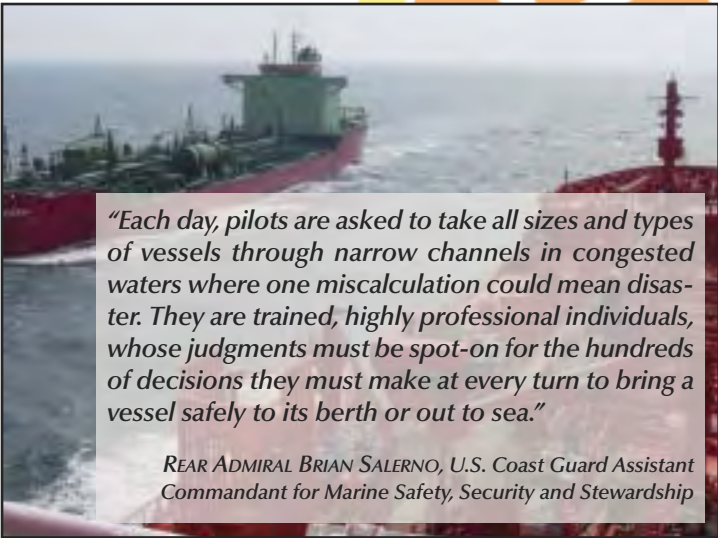
Ms. Krista Reddington is a former government affairs associate for The American Waterways Operators. AWO is the national trade association representing the owners and operators of tugboats, towboats, and barges serving the waterborne commerce of the United States.

A Career as a Ship Pilot

by MR. PAUL G. KIRCHNER

Executive Director and General Counsel
American Pilots' Association

CAREERS



"Each day, pilots are asked to take all sizes and types of vessels through narrow channels in congested waters where one miscalculation could mean disaster. They are trained, highly professional individuals, whose judgments must be spot-on for the hundreds of decisions they must make at every turn to bring a vessel safely to its berth or out to sea."

REAR ADMIRAL BRIAN SALERNO, U.S. Coast Guard Assistant Commandant for Marine Safety, Security and Stewardship

Many people who watch a large oceangoing (typically foreign) ship moving in one of this nation's ports or waterways have no idea that a local citizen is on the bridge of that ship assisting its navigation. That person is a ship pilot, an individual occupying one of the most important but least-known positions in the maritime industry. Pilots are highly trained experts in ship navigation in confined waters and possess extensive knowledge of local conditions. Their role is to protect the people, economy, and environment of their area by guiding ships safely and expeditiously through the waters of their regions.

This is a difficult, demanding, and dangerous job with heavy responsibilities. It is, however, rewarding and highly respected. Pilots are considered the elite of the mariner profession.

What Is a Ship Pilot?

There are many uses of the term "pilot," even within the maritime industry. The type addressed in this article is the traditional and most common use of the term—an individual who is not a member of a vessel's crew, but one who comes aboard to help navigate the vessel in or out of port.

The pilot typically boards an inbound vessel by transferring from a pilot boat at a designated point at sea and climbing a ladder rigged over the side of the vessel. On an outbound vessel, the pilot will board at the dock and then disembark at the designated point at sea via the ladder to a waiting pilot boat below. In some places today, pilots may use a helicopter for boarding and disembarking. Whether by pilot boat or by helicopter, the pilot transfer can be a dangerous operation, particularly in severe weather conditions.

When the pilot arrives on the bridge of a vessel, he or she conducts a conference with the ship's master, exchanging information about the ship and the upcoming voyage through the pilotage area. The pilot then directs the navigation of the vessel, typically giving helm and engine commands directly to the bridge crew, subject to the master's overall command of the vessel and ultimate responsibility for its safety. The pilot is independent of the vessel and its owner but must work with the people on the vessel to ensure a safe voyage. In this regard, pilots must balance their public responsibilities with the need to provide good service to the vessels.

Pilots often serve on vessels they have never or rarely encountered before and must work closely with foreign crews with cultural differences and limited English language skills. Despite those challenges, pilots must quickly establish a smooth, cooperative working relationship with the people they encounter on the bridge and must project a calm, reassuring command presence. This is considered part of the "art" of piloting.

Life as a Pilot

Pilotage is a service performed by a licensed professional. Pilots are independent contractors, but belong to an association with other pilots in the port or pilotage region. The typical association maintains and operates one or more offices and pilot stations, pilot boats, dispatch systems, electronic equipment, administrative





Puget Sound Pilot Captain Norman Werner at the conn. The ship's master is on the left. Photo courtesy of the American Pilots' Association.



Captain Mike Lupton, Pascagoula Bar Pilots, makes the transfer from pilot boat to ship's ladder. Photo courtesy of the American Pilots' Association.

services, and other features of a modern pilotage operation. Pilots earn fees paid by the vessels that use them according to published tariff rates. The fees are billed and collected by the association, which then pays the joint expenses of the pilotage operation and divides the remainder among the pilots.

Each pilot works in a rotation administered by the association. The rotation is designed to ensure that the work is divided equally, so that each pilot gets adequate rest and experience in all types of piloting assignments. A pilot can be dispatched to a job at any time of night or day, and pilot associations are required to make a pilot available to every vessel that requires a pilot without delay or discrimination. This means that pilots work irregular hours, often at night and on weekends and holidays.

After receiving notice of an assignment from the dispatch service, pilots make their way to vessels, carry

out a piloting assignment, and then, depending on the rotation and work rules, either take a return assignment or go home or to a pilot station to rest and await the next assignment.

Professional Prerequisites

The pilotage of international trade vessels, both foreign-flag and U.S.-flag, is regulated by the coastal states, each of which maintains a pilotage system suited to the needs and circumstances of its own waters. Pilots who operate under such a system are known as state pilots. Pilots of international trade ships in the Great Lakes are regulated by the Coast Guard, because sharing the system with Canada precludes individual state regulation. The Great Lakes pilotage system is modeled after the state system, featuring a "registration" issued to a pilot by the Coast Guard as the rough equivalent of a state pilot license.

Each state pilot holds two pilot licenses—one issued by the state, and one issued by the federal government (Coast Guard). For state pilots, the federal license acts as the national minimum standard. In many states, it is a requirement for admission to a state training program. In other states, particularly those with longer training programs, the individual earns a federal license as one step in the state training program.

How to Become a Pilot

Each state maintains its own process for soliciting and accepting applications for new pilot positions and selecting among the applicants. In addition, each state limits the number of pilot positions so that all pilots get sufficient experience, and the pilot association can be assured of the revenues needed to maintain a modern public service pilotage operation.

A state pilot license requires considerably more experience and training over and above the federal license. Pilot trainees under both the state and Great Lakes systems learn in a traditional apprenticeship-type format with hands-on training under the direction of senior pilots. A trainee may make hundreds or, in some cases, thousands of instructional trips before being allowed to pilot "solo."

At some point in most programs, the trainee will receive a deputy pilot license, allowing the individual to pilot vessels of limited size or type. The deputy will continue to make instructional trips with senior pilots on vessels outside of the limits of the deputy license while gradually upgrading the deputy license for work on larger and different types of vessels.

The length and content of the training program varies from state to state and, in some places, from pilotage area to pilotage area within a state. This is generally a function of the prior experience, background, and qualifications required for admission to the program. Variations in those requirements, in turn, are a function of the particular needs and demands of pilotage in an area.

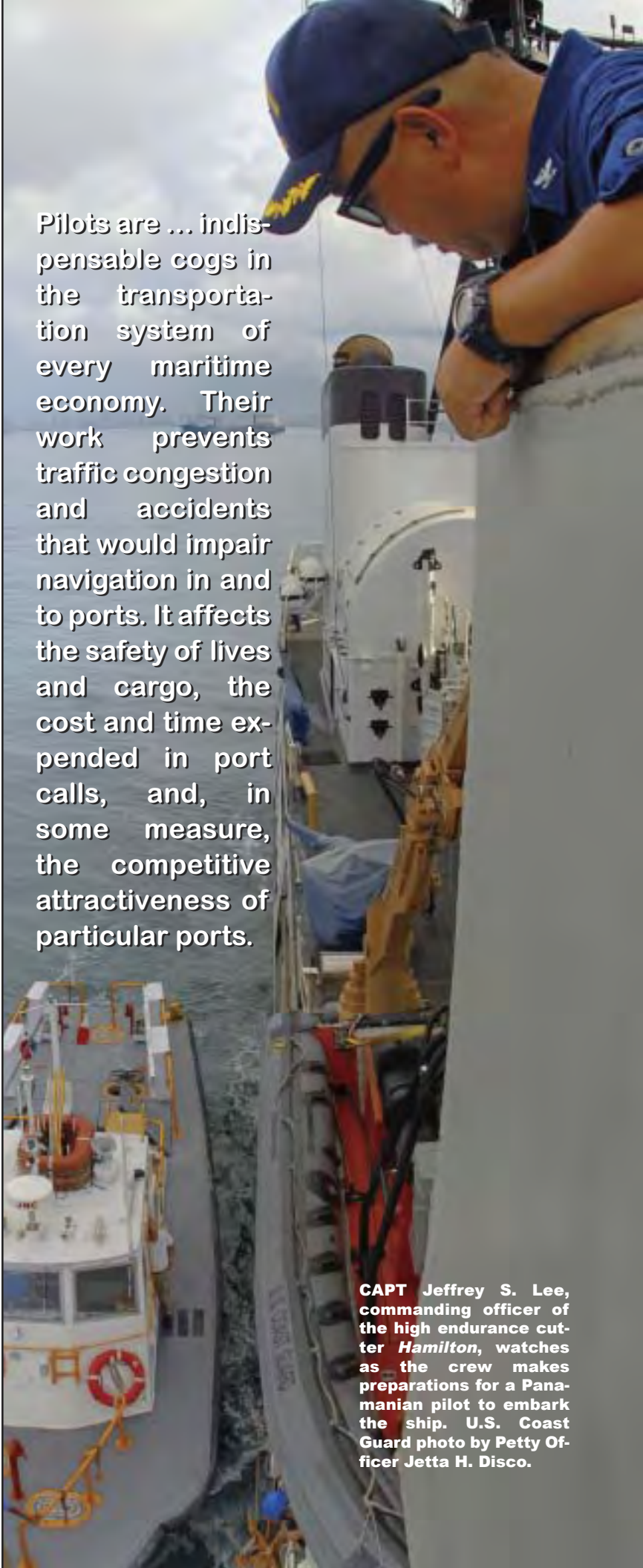
Some states require prior experience as an officer—or even as a master—on oceangoing vessels. Some states require service on a towing vessel or allow that as an option. Some states will accept individuals without any prior mariner experience. As can be expected, those states that accept individuals with little or no prior vessel service experience have longer training programs. The time it takes to complete a state training program and become a full pilot may range from one to two years, if the candidate meets that area’s considerable prior vessel experience requirements. In places that train pilots “from the ground up,” this process may take up to nine years.

The traditional hands-on training of new pilots is supplemented by modern classroom and simulation instruction. In addition, state pilots and Great Lakes pilots must also meet rigorous continuing training and professional development requirements throughout their careers. Training, both initial and continuing, features courses in bridge resource management (approved by the American Pilots’ Association), electronic navigation, emergency shiphandling, legal aspects of pilotage, and a number of other subjects. Simulation training is offered on manned models, full mission or partial bridge simulators, and personal computers.

A Look to the Future

The piloting profession is committed to staying in the forefront of advanced navigation technology. Pilots are trained in the latest types of navigation equipment and have first-hand experience using advanced technology and incorporating it into their piloting practices. Some of the most innovative uses of modern electronic navigation today are being handled by pilots. Pilots, therefore, are expected to remain current in the latest navigation technology and practices.

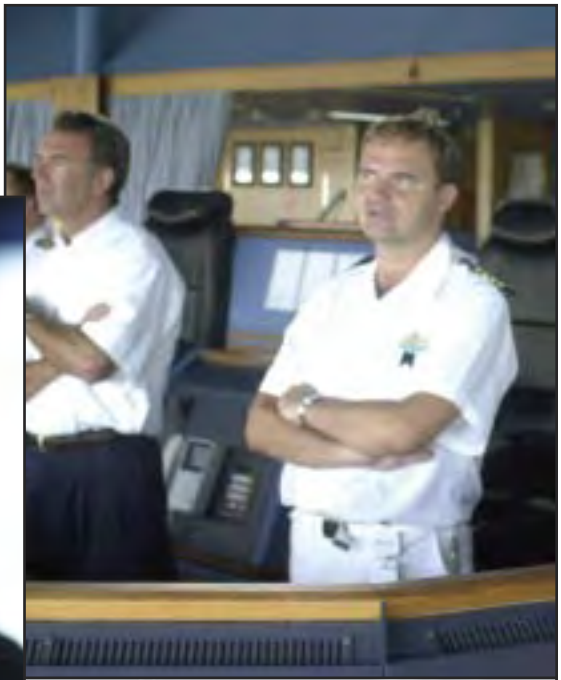
The operations of state pilots, as well as their training and piloting activities, are regulated closely by the applicable state pilotage authority for the specific pilotage region. In all coastal states but one, this authority is a pilot commission, which is a governmental entity established under the state pilotage statute.



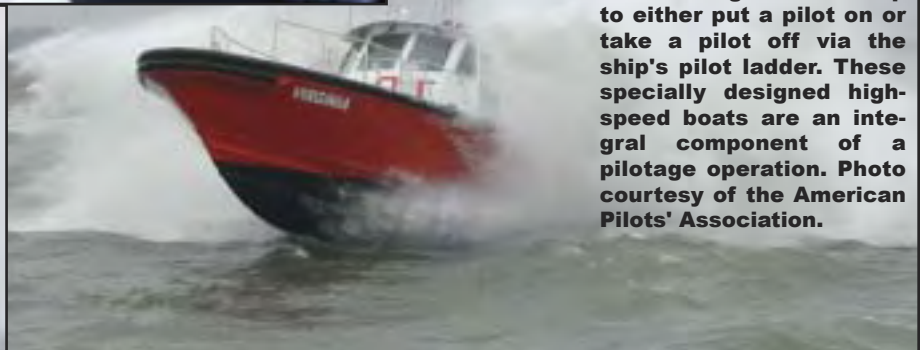
Pilots are ... indispensable cogs in the transportation system of every maritime economy. Their work prevents traffic congestion and accidents that would impair navigation in and to ports. It affects the safety of lives and cargo, the cost and time expended in port calls, and, in some measure, the competitive attractiveness of particular ports.

CAPT Jeffrey S. Lee, commanding officer of the high endurance cutter *Hamilton*, watches as the crew makes preparations for a Panamanian pilot to embark the ship. U.S. Coast Guard photo by Petty Officer Jetta H. Disco.

Harbor pilot Michael Jaccoma, left in both pictures, brings an inbound cruise ship through the port of Miami. USCG photos by Mr. Telfair Brown, Sr.



Pilots commute to work via a pilot boat, which will come alongside the ship to either put a pilot on or take a pilot off via the ship's pilot ladder. These specially designed high-speed boats are an integral component of a pilotage operation. Photo courtesy of the American Pilots' Association.



An essential feature of new pilot training is traditional "hands-on" instruction from a senior pilot during actual piloting assignments. Here, Houston Pilot Captain Paul Bartholomey (in red shirt) passes on local knowledge to deputy pilot Captain Gilbert Martinez. Photo courtesy of Mr. Lou Vest.

Most pilot commissions have a mixed membership, composed of representatives of ship operators, port interests, environmental groups, pilots, government agencies, and the public. The commission selects individuals for admission to a training program, oversees the training program, issues licenses, investigates accidents involving pilots or complaints filed against pilots, and oversees the various aspects of the pilotage operation.

State pilots are also subject to considerable regulation and oversight by the Coast Guard, primarily through the standards for maintaining the federal pilot license

and federal and international navigation regulations. In addition, pilots work closely with the local Coast Guard commands to best achieve their respective responsibilities for navigation safety and to assist the Coast Guard in its security missions.

About the author:

Mr. Paul Kirchner is the executive director and general counsel of the American Pilots' Association in Washington, D.C. He has been an attorney in Washington, specializing in maritime law, since graduating from the University of Virginia School of Law. He was in private practice from 1978 to 1992, when he moved to his present position in-house with the American Pilots' Association. He is a frequent speaker and writer on various aspects of the piloting profession.

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Military Sealift Command

*Civil service careers
for merchant mariners.*

by CAPTAIN THOMAS FINGER
U.S. Navy Military Sealift Command

The U.S. Navy's Military Sealift Command (MSC) provides ocean transportation services for the Department of Defense and delivers equipment, fuel, supplies, and ammunition to sustain U.S. forces worldwide. In addition to providing point-to-point ocean transportation of Department of Defense cargo, MSC provides prepositioning ships readied with U.S. military supplies and equipment, special mission ships to support DOD agencies, and combat logistics vessels offering support to U.S. Navy ships at sea.

MSC has a diversified fleet of government-owned and -operated ships involved in a variety of missions. This growing fleet includes:

- ammunition ships that provide Navy combatants with ammunition;
- combat stores ships that transport supplies including food, dry provisions, repair parts, and mail;
- dry cargo/ammunition ships, which are multi-product ships that deliver ammunition, food, fuel, repair parts, and expendable supplies to combatants;
- fast combat support ships, which are high-speed vessels designed to carry fuel, ammunition, and supplies;
- underway replenishment oilers that deliver fuel to Navy combat ships and jet fuel for aircraft aboard carriers at sea;
- fleet ocean tugs that provide towing services and operate as platforms for Navy divers;

CAREERS



At the engine room consol, Third Assistant Engineer Breide Charbonnet has responsibility for the engine watch section. Engineers within MSC's civil service mariner cadre have unique opportunities to gain experience across a broad range of power plants. All photos courtesy of Military Sealift Fleet Support Command.

- hospital ships that serve as emergency onsite trauma centers for the care of combatant forces and, as required, for humanitarian relief;
- rescue/salvage ships that assist in rescue and salvage missions;
- cable ships that install ocean cables and provide advanced remotely operated vehicle capability to U.S. Navy agencies.

CIVMARs

Seafarers aboard this diverse range of ships have careers as civil service mariners (CIVMARs) of the federal government. CIVMARs have excellent job security, oppor-





Chief Mate Mike Keller at the helm of one of two launch boats assigned to USNS *Mercy*, one of two U.S. Navy hospital ships crewed by civil service mariners.

tunities for merchant marine license and document upgrades, promotion potential, and good pay. Benefits include health and life insurance, retirement plans, and annual and sick leave programs commensurate with their civil service counterparts ashore.

With respect to leave, civil service mariners earn, on average, two to three weeks vacation time per four-month tour aboard ship.¹ CIVMARs, uniquely, also accrue shore

With an afloat CIVMAR workforce of approximately 5,000, there are a wide variety of positions and promotion opportunities available to the mariner. To apply for employment with the Military Sealift Command, all candidates must be:

- at least 18 years of age;
- a United States citizen with a valid U.S. passport;
- capable of speaking, understanding, reading, and writing the English language;
- able to obtain a merchant mariner's document issued by the United States Coast Guard to mariners sailing aboard all U.S.-flagged vessels;
- able to obtain a Transportation Worker's Identification Credential issued by the Transportation Security Administration;
- capable of passing a Military Sealift Command-administered physical examination;²
- drug-free (must submit to urinalysis in accordance with the Department of Health and Human Services guidelines);
- able to obtain and maintain a security clearance.

How to Apply

Individuals interested in applying to MSC for a civil service mariner position should peruse MSC's recruiting website, www.sealiftcommand.com. A one-stop shop, the website provides information about upcoming job fairs, current vacancy announcements, and application assistance.

Once a mariner has been hired, MSC provides initial training, which is conducted at Military Sealift Command schools in Freehold, N.J., or San Diego, Calif. Additional paid training and upgrade opportunities are based on position held, ship requirements, initiative, and the ability to advance to the next higher-rated position through the merit promotion process.

Once Aboard

Living conditions on MSC ships generally meet or exceed current maritime industry standards. CIVMARs generally have private or semi-private staterooms and three meals a day prepared by a staff of highly trained food service personnel. The majority of Military Sealift Command ships also have lounge, library, and weight room facilities to use during leisure hours. E-mail is also available.



Third Mate Tim Christensen enjoys a unique opportunity to stand bridge watch on a variety of ships with diverse missions while pursuing his civil service career.

leave. Shore leave is accrued at a rate of one day for every 15 calendar days on one or more extended voyages on MSC oceangoing ships. The combination of annual and shore leave provides for vacation periods between assignments.

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Military Sealift Command Shipboard Departments

Deck

Members of the deck department are responsible for the underway replenishment rigs, dry/liquid cargo handling, forklift operations, and helicopter flight deck operations. They also stand watch while in port or at sea, and perform routine deck maintenance such as cleaning, painting, chipping, and preserving the ship. All watchstanding positions in the deck department require Standards of Training, Certification & Watchkeeping (STCW 95) with Rating Forming Part of a Navigational Watch (RFPNW).

Licensed positions:

- second officer
- third officer

Unlicensed positions:

- able seaman
- ordinary seaman

Engine

Engine department members are responsible for the maintenance and repair of the ship's machinery, including material-handling equipment, elevators, and winches. They also fabricate replacement parts utilizing various types of machinery and stand watch in the engine room. All watchstanding positions in the engine department require Standards of Training, Certification & Watchkeeping (STCW 95) with Rating Forming Part of an Engineering Watch (RFPEW). Possession of a Qualified Member of the Engine Department (QMED) Any Rating endorsement meets basic eligibility for all unlicensed positions in the engine department.

Licensed positions:

- second assistant engineer
- third assistant engineer

Unlicensed positions:

- unlicensed junior engineer
- refrigeration engineer
- electronics technician
- electrician
- second electrician
- engine utilityman
- pumpman

- deck engineer machinist
- wiper

Supply

Members are responsible for the daily provisions of food and supplies; for cooking, baking, and food preparation; for performing inventory; and for storekeeping duties such as cargo handling, recordkeeping receipt, and stowage and issuance of all stores. The supply department also cleans and maintains the staterooms and passageways, and is responsible for the ship's laundry. All positions in the supply department require entry-level endorsements¹ only.

Positions:

- junior supply officer
- yeoman storekeeper
- assistant yeoman storekeeper
- steward cook
- chief cook
- second cook
- cook/baker
- assistant cook
- supply utilityman

Communications

Members are responsible for the operation and maintenance of the ship's military communication suites and for communications planning, administration, and watch. All positions in the communications department and other shipboard positions listed require entry-level endorsements only.

Positions:

- first radio electronics technician
- second radio electronics technician

Other shipboard positions:

- medical services officer
- purser

In addition to one's primary position, MSC offers interested applicants an opportunity to serve in the surface rescue swimmer program as a collateral duty. Contact a recruiter for additional requirements/qualifications.

Endnote:

¹ See www.uscg.mil/nmc for information.



A shipboard tour is a minimum of four months. At the completion of the four-month tour, CIVMARs may elect to continue their assignment aboard, transfer to another ship, take a training class, or go on earned leave. Civil service mariners are paid a base salary and earned overtime. Overtime is earned for work performed in excess of eight hours per day and for work performed on weekends and holidays.

With a diverse range of ships and missions, interesting work, opportunities for further training and upward mobility, and a federal government career providing benefits such as health insurance and retirement packages, CIVMARs have interesting and secure careers at sea, and are an important part of today's Navy. If you'd like to learn more about MSC, please visit www.msc.navy.mil.



Chief Cook Simie Dollano (right) and Second Cook Floyd McCleave prepare lunch for the crew. Civil service mariner-crewed ships offer nutritious meals, including those featured in "healthy heart" programs.

About the author:

Captain Thomas Finger has been a Military Sealift Command civil service mariner for 29 years. Master of 14 ships during his career, Captain Finger is temporarily working ashore at Military Sealift Fleet Support Command's Norfolk, Va., headquarters, where he serves as the liaison between the command's leadership and Atlantic-based afloat masters.

Endnotes:

- ¹ Annual leave is earned based upon years of service. CIVMARs with fewer than three years of service accrue 13 days annual leave per year, 20 days annually are earned by CIVMARs with at least three but less than 15 years of service, and CIVMARs with 15 or more years of service earn 26 days of annual leave per year.
- ² Due to strenuous shipboard duties and extended periods at sea, all applicants must meet MSC medical requirements.

FOR MORE INFORMATION:

Military Sealift Command
CIVMAR Support Center
6353 Center Drive, Building 8
Suite 202
Norfolk, VA 23502
(866) 562-7672
www.sealiftcommand.com

Public Affairs
Military Sealift Fleet Support Command
Bldg SP 312, 518 A Street
Norfolk, VA 23511
(757) 443-2710

Marine Employment Opportunities:
(877) JOBS-MSC

U.S. Coast Guard
National Maritime Center
100 Forbes Blvd.
Martinsburg, WV 25404
(304) 433-3400
Help Desk (888) 427-5662
www.uscg.mil/nmc

Careers Afloat

Professions in the U.S. Merchant Marine.

by Ms. ANNE DOUGHERTY

Director of the Office of Maritime Workforce Development
U.S. Department of Transportation Maritime Administration

Our nation has a large pool of highly trained licensed and unlicensed mariners, but the demand continues to outpace supply. Major recapitalization in practically every segment of the U.S. merchant fleet has created tight labor markets nationwide and drawn mariners ashore. Additionally, mariners are retiring or leaving the workforce due, in part, to the rising costs imposed on them to upgrade or advance their documents or to simply remain in a heavily regulated industry.

Sailing, whether in the deep sea, Great Lakes, or inland/river trade, is not for everyone. The physical labor involved in making and breaking an inland tow, or in mooring a 65,000-ton tanker, or tying up to an offshore drill rig is demanding, and the work is done without regard to time of day or weather. If your vessel is out of range of the cellular phone network, calling home is very expensive, if it can be done at all. And "What's for dinner?" is generally answered by "Dinner is what's on the menu."

Opportunities Abound

On the other hand, the opportunities at sea are almost unlimited. A young person starting at sea can be a skilled unlicensed mariner in a year afloat and a master (captain) or chief engineer in not much more than a decade. How far an individual goes largely depends on his or her drive and ability to learn. Plus, those who work afloat never have cause to complain about sitting at a desk from nine to five! Additionally, mariners on vacation usually have anywhere from

"Salaries are up and many seafarers are receiving multiple job offers. Employment opportunities are particularly robust in the offshore energy industry, the inland river system, and in the coastwise trades. The largest single employer of American mariners, the Military Sealift Command, is also aggressively seeking seafarers."

MARITIME ADMINISTRATOR SEAN CONNAUGHTON
U.S. Department of Transportation Maritime Administration

two weeks to a few months off to pursue shoreside interests and spend quality time with their families and friends.

People who go to sea and stay at sea are a unique breed, so it's worthwhile to make every effort to retain them. It's also worthwhile to recruit more young men and women for what can be a very rewarding career afloat.

Getting Started

The U.S. merchant marine consists of privately owned, U.S.-registered merchant ships and a variety of towing, offshore supply, and passenger vessels that provide waterborne transportation for passengers and cargo. Employment on these vessels is the responsibility of the owners, and is handled by maritime labor organizations or through direct employment by the company.

FOR MORE INFORMATION:

U.S. Department of Transportation
Maritime Administration
West Building
Southeast Federal Center
1200 New Jersey Avenue, SE
Washington, DC 20590
(800) 996-2723

Office of Workforce Development
(202) 366-5737
www.marad.dot.gov

CAREERS

in the
MERCHANT MARINE



YOU'RE NEVER TOO YOUNG TO START

The Maritime Administration, through a joint effort with the Propeller Club of the United States, runs the Adopt-A-Ship program. The program is an effective way to inform young Americans about the maritime industry and the need for educated merchant marines, embracing not only the fleet of the ocean and the coastal vessels, but also those on the navigable rivers, lakes, bays, and sounds. Students gain maritime industry learning experience by communicating with ships via e-mail or written correspondence. They learn about the movements and the activities of the vessels at sea, which fosters interest in geography, history, transportation (foreign and domestic trade), science, math, and English.

Maritime programs are offered in various middle and high schools around the country. These programs provide rigorous academic programs with a focus on maritime studies, science, and technology. They also provide students the opportunity to enter maritime careers upon graduation or to pursue more advanced maritime education at a vocational school, community college, service academy, or maritime academy.

Contact the U.S. Department of Education or the Association for Career and Technical Education for information regarding maritime-themed schools. A list of high schools or associations with maritime-oriented programs can also be found at www.marad.dot.gov/acareerafloat/highschools.htm. See also related article in this edition.

While there is no requirement for graduates of such schools to enter the industry, the Maritime Administration expects these young men and women to have a good understanding of the rewards of a career afloat.

Part-time or summer employment is available in some sectors of the maritime industry, such as the passenger vessel industry. The level of seafaring employment is determined by the state of U.S. and world business conditions and improvements in ship technology.

Basic information on becoming a mariner can be found in the recently revised informational guide "Information Concerning Training and Employment in the U.S. Merchant Marine." It is available for free from the U.S. Department of Transportation's Maritime Administration. This guide provides information on shipboard employment and related maritime education and training programs. Primary shipboard employment categories include high seas, Great Lakes, inland and coastal waters, and offshore and mineral operations. Other areas of employment in the maritime industry include shipbuilding and ship repair, longshoring (cargo handling), port terminal administration, and intermodal logistics.

Getting the Word Out

Spreading the word about careers afloat is a challenging task. Most Americans have little exposure to the maritime industry. Informing the public about the opportunities available is one of the responsibilities of the Maritime Administration.

In cooperation with various partners, the Maritime Administration has produced public service announcements and supported research and various maritime careers programs. These programs are designed to raise the awareness of careers in the maritime industry and the important role these careers play in ensuring that our nation has adequately trained, reliable crews for our sealift support in times of peace and national emergency.

Improving Opportunities

These efforts come at a time when opportunities in the maritime industry are good—and improving. The demand for skilled mariners is high and the towing, passenger, and offshore operators are reporting shortages of mariners who are qualified and willing to work in these sectors of the industry.

Opportunities are also growing for U.S. mariners aboard LNG (liquefied natural gas) vessels. As the cost of petroleum soars and citizens pressure governments to encourage the use of cleaner-burning fuels, the future of importing liquefied natural gas has emerged as a major issue. Ports for LNG ships are now operating on the East Coast and in the Gulf of Mexico, and more

are projected. The Maritime Administration has developed a voluntary deepwater port manning initiative to encourage the employment of skilled U.S. mariners to meet the forecasted demand.

Rapid growth in global trade has dramatically increased the worldwide demand for seafarers. Some industry associations estimate that the licensed officer shortage is currently at 10,000 and will grow as more ships enter the marketplace. This international demand provides new opportunities for U.S. mariners, but at the same time can attract U.S. mariners away from domestic employment.

The United States is currently the world's leading producer of third mates and third assistant engineers. This tremendous responsibility of graduating highly educated and skilled merchant marine officers is being successfully accomplished by, among other institutions, the six state maritime academies and the U.S. Merchant Marine Academy.

The state academies and the Merchant Marine Academy graduate between 600 and 700 U.S. Coast Guard-licensed merchant marine officers annually. The number of graduates is steadily increasing, which replenishes the pool of new merchant mariners in the maritime industry. Many of the state maritime academies are expanding their campuses to accommodate the growth of their cadet population, but students need sailing time on working vessels to obtain the necessary licenses, and there are not enough opportunities currently available on U.S. ships. Consequently, the Maritime Administration has initiated a number of public/private agreements with various vessel operating companies, which have opened up new opportunities to cadets and active mariners aboard carefully selected foreign flag vessels.

A Maritime Nation

The future of our nation depends upon our ability to transport the goods and raw materials that are the lifeblood of our country's economy. The success of our nation's marine transportation system requires recruiting, training, and retaining professional mariners to ensure that our country's waterborne commerce flows with the highest levels of safety, security, and efficiency.

The United States has always been a maritime nation. To continue, we will need dedicated, high-quality people to sail the myriad ships, boats, barges, and other vessels that make up America's merchant marine.

About the author:

Ms. Anne Dougherty is the director of the Office of Maritime Workforce Development at the U.S. Department of Transportation Maritime Administration. She is a Texas A&M University at Galveston graduate and sailed eight years as a licensed deck officer aboard numerous commercial vessels. She subsequently spent six years working ashore for the U.S. Navy Military Sealift Command prior to joining the Maritime Administration.



Federal Service Academy

U.S. Merchant Marine Academy
Kings Point, N.Y.
www.usmma.edu

State Maritime Academies

California Maritime Academy
Vallejo, Calif.
www.csum.edu

Great Lakes Maritime Academy
Traverse City, Mich.
www.nmc.edu/maritime

Maine Maritime Academy
Castine, Maine
www.mainemaritime.edu

Massachusetts Maritime Academy
Buzzards Bay, Mass.
www.maritime.edu

State University of New York
Maritime College
Bronx, N.Y.
www.sunymaritime.edu

Texas Maritime Academy
Galveston, Texas
www.tamug.edu



CAREERS



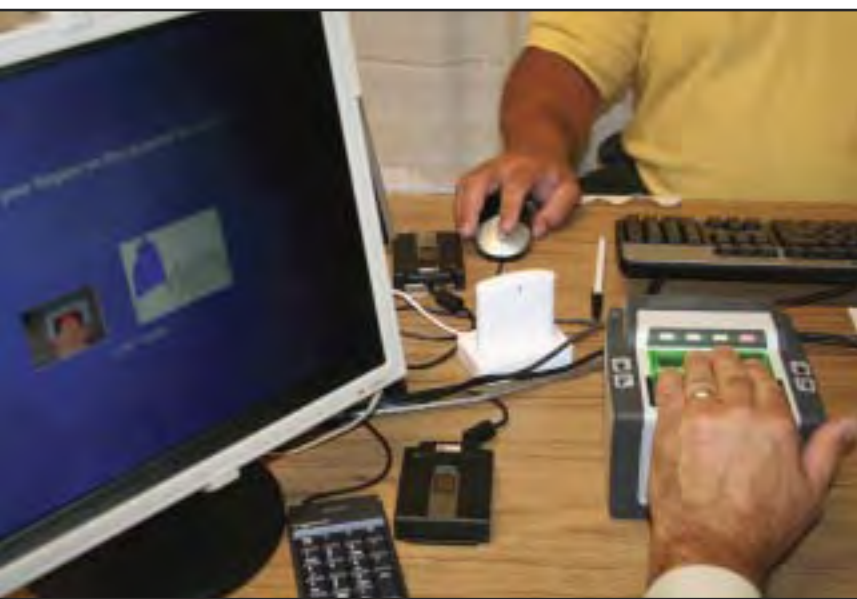
Mariner Credentialing

by MR. JAMES W. CRATTY

Marine Transportation Specialist

U.S. Coast Guard Mariner Credentialing Policy Division

The Coast Guard issues mariner credentials to individuals found qualified as to age, experience, professional qualifications, physical fitness, character, and lifestyle habits.



Every application for an original credential must be submitted to a regional exam center, and the applicant must also appear there for fingerprinting and identification. USCG photo.

We strive to make the credentialing transaction as simple and fast as possible while ensuring the quality, competence, and professionalism of the U.S. merchant mariner.¹

Evaluation Standards

All applications for a mariner credential must be submitted to a Coast Guard regional exam center (REC). Evaluation of these applications is performed at the

Coast Guard's National Maritime Center (NMC). There, applications are reviewed for:

Age—An applicant must have attained the minimum age required for the holder of the requested credential. For most licenses and certificates of registry (CORs), the minimum age is 21 (in some instances 18). A merchant mariner document (MMD) may be issued to a person at age 16 with parental consent; however, by law an able seaman must be at least 18 years old. There is no minimum age for any other qualified rating.

Citizenship—Licenses may be issued only to U.S. citizens with the lone exception of a license as operator of uninspected, undocumented passenger vessels. This license is limited to domestic near coastal waters not more than 100 miles offshore. An MMD may be issued to a U.S. citizen or to a foreign national who has been lawfully admitted to the United States for permanent residence. Citizenship and age are usually proved by presenting an original birth certificate or a certified copy issued by a state's Department of Vital Statistics (or equivalent body). Citizenship and age may also be proved by presenting a valid, current U.S. passport. A naturalized citizen should present his or her certificate of naturalization. Other proofs of citizenship and age are available but seldom used.

Character—The Coast Guard must assure that the holder of a mariner's credential can be entrusted with its inherent duties. All applicants are fingerprinted at a regional examination center, and the results are reviewed through national databases to determine if they have criminal backgrounds or terrorist affiliations. In addition, the national driver register is reviewed to see if the

applicant has been convicted of certain vehicular offenses within the three years preceding application. Congress mandated this review following the grounding of the *Exxon Valdez* because evidence of alcohol or drug abuse is often first visible through driving convictions. An applicant with a recent criminal conviction may be assigned an assessment period during which he or she is required to demonstrate evidence of good character before a credential will be issued.

Physical competence —

Mariners must be in good health and physically able to perform the duties required by their licenses or MMD endorsements for a rating (such as able seaman, qualified member of the engine department, or tankerman).² All applicants for these positions must submit a report of a physical examination. A person applying for an “entry rating” as an ordinary seaman, wiper, or member of the steward’s department does not need to undergo a full physical examination. Deck officers and able seaman must be able to distinguish colors to identify aids to navigation, colored lights that provide information about the course of a nearby vessel, and colors printed on navigational charts. Engineering officers, qualified members of the engine department, and tankermen are only required to distinguish between the colors red, green, blue, and yellow.

If an applicant for a mariner’s credential is unable to meet the physical examination standards for that credential, that person may qualify for a medical waiver after further review of the medical issue(s). Persons who do not qualify for a medical waiver will be issued a denial letter. This letter will contain their appeal rights.

Training and experience—Applicants must provide proof that they have completed the required training and/or assessments to qualify for a credential. The trainee must present a course completion certificate as proof of successful completion of the course(s). The trainee should present that certificate to the REC as part

DEFINITIONS

Merchant mariner document—Merchant mariner documents (MMDs) are issued to the crewmembers of commercial vessels for two purposes. The MMD serves as an identity document by depicting the photograph and other personal information about the mariner. It also serves as a qualification document by noting the unlicensed capacities in which the mariner is qualified to serve. Because service on vessels of more than 100 gross tons on other than inland waters requires an identity document, license holders engaged in such service must also have an MMD. This rather confusing array of credential requirements means that some mariners have only a license record, some have only an MMD record, and some have both.

License—Licenses are issued to people responsible for the safe navigation and propulsion of a vessel. The license certifies that the holder has the experience and knowledge to serve in a specified position of a particular vessel.

Certificate of registry—A certificate of registry (COR) as a staff officer is a mariner credential issued to individuals who serve aboard vessels as a purser, medical doctor (formerly surgeon), or professional nurse. For a COR as a medical doctor or professional nurse, that person must hold a valid medical license issued under the authority of a state or territory of the United States, the Commonwealth of Puerto Rico, or the District of Columbia.

Radio officer’s license—This mariner’s credential is issued to an individual who serves aboard a vessel to operate the shipboard radio equipment. That person must hold a valid first- or second-class radiotelegraph operator’s license issued by the Federal Communications Commission.

Merchant mariner credential—This is a general term that may refer to a merchant mariner document, license, certificate of registry, STCW certificate, or radio officer’s license.

of the application package. It will be verified and returned to the applicant.

Many licenses, CORs, and qualified ratings require the applicant to present evidence of seagoing service. This may be submitted as certificates of discharge, letters, or other documents certifying the vessel’s name, amount and type of experience, tonnage, route, and horsepower and propulsion type. Foreign and military sea service may be acceptable.

Fees—User fees are required to process mariner credentials, and are divided into three areas: evaluation, testing, and issuance. The typical fee for most license and merchant mariner document transactions is either \$50.00 or \$100.00. Checks, money orders, and credit cards are accepted. Applicants may also pay online at www.pay.gov.

The Evaluation Process

When the evaluator completes the review, several outcomes are possible:

- If the applicant is qualified for the credential



and a test is required, the applicant will then be required to successfully pass an examination.

- If no test is required, the credential is issued.
- Applications that are substantially complete but lacking minor pieces of information will be held in pending status until the applicant can produce the missing information.
- Incomplete applications, such as those lacking major pieces of information, will be denied and returned to the applicant.

Once an application is approved, it is valid for one year, during which time the applicant must pass any required examination. After one year, the application becomes invalid. Then, if the applicant again wishes to apply, he or she must submit another application and pay the user fee. An issuance fee is due when the credential is issued.

Original Credential

Every application for an original credential must be submitted to a regional exam center, and the applicant must also appear there for fingerprinting and identification.

General requirements—Applicants must prove they possess all requirements for the credential they are seeking, as provided for in the credentialing regulations.

Proof of identity—For an original mariner credential, two current forms of identification are required. One of these must contain a photo of the applicant.

Proof of citizenship—Applicants for mariner credentials must provide acceptable proof of nationality and, if applicable, immigration status.

Fingerprinting—Applicants are fingerprinted and a background check is conducted. In addition, a national driver register check is conducted.

Physical requirements—A completed physical examination report must attest that the applicant is fit for the rating for which he or she is applying.

Chemical test for dangerous drugs—The applicant must provide evidence of having passed a chemical test for dangerous drugs or that he or she is participating in an approved random drug testing program.

Verification of sea service—Individuals must present certificates of discharge, letters, or other official documents that certify their sea service aboard vessels. Foreign or military sea service is acceptable. This information should include the vessel's name, capacity in which sea service was obtained, official or state number, tonnage, waters sailed, type of horsepower, and type of propulsion.

Recency—Applicants for a mariner license (deck or engine) must have at least 90 days of qualifying service on vessels of appropriate tonnage or horsepower within the three years immediately preceding the date of application.

Radar certificate (deck license only)—Individuals applying for a deck license that authorizes service on radar-equipped vessels of 300 gross registered tons or more or towing vessels of 26 feet

or more in length must present a valid radar certificate from a U.S. Coast Guard-approved course.

Radio officer—Applicants must present an original of a currently valid first- or second-class radiotelegraph operator's license issued by the Federal Communications Commission.

Certificate of registry (medical doctor or professional nurse only)—Applicants must hold a currently valid, appropriate license as a physician, surgeon, or registered nurse issued under the authority of a state or territory of the United States, the Commonwealth of Puerto Rico, or the District of Columbia.

Transportation Worker Identification Credential
The Coast Guard has a pending regulatory project related to the implementation of the TWIC in the maritime sector.

You should keep well informed of the requirements, implementation schedule, and application process to obtain a TWIC.

All holders of merchant mariner credentials will be required to obtain a TWIC from the Transportation Security Administration.

After the implementation date, you may not operate under the authority of a mariner credential without a valid TWIC, and failure to obtain or hold a TWIC may serve as the basis for suspension or revocation of the mariner credential.

Information pertaining to the TWIC may be found at www.tsa.gov/twic.



STCW—People to be employed on vessels seaward of the boundary line specified in Title 46 CFR, Part 7, aboard vessels of greater than 200 gross registered tons (domestic tonnage) or 500 gross tons (ITC tonnage) must meet STCW training and assessment requirements.³

Credential Renewals

All mariner licenses, MMDs, CORs, and radio officer licenses are issued for a period of five years. At the end of this five-year period, if the mariner has not had a credential raise of grade (explained later) the credential must be renewed.

A credential may be renewed up to one year before its expiration date. There is a one-year grace period to renew the credential past its printed expiration date with no penalty. However, the mariner may not serve under the authority of an expired credential.

Beyond one year after the expiration date, the mariner must demonstrate continued professional knowledge (by completing a course approved for this purpose, or by passing the complete examination for that license) before the credential will be renewed.

Mariners may conduct an “inactive credential renewal” if they are unwilling or otherwise unable to meet certain requirements (i.e. professional or physical requirements). The following restrictive endorsement will be placed on the back of the credential: “License renewed for continuity purposes only; service under the authority of this license is prohibited.” Holders of licenses with this continuity endorsement may have it rescinded at any time by satisfying all the credential renewal requirements.

The renewal process is similar to applying for the original credential. Applications must be submitted to an REC, and applicants appear at an REC for fingerprinting and identification. Requirements and necessary documents are the same as for original credential applications. Some differences:

- Individuals renewing a tankerman endorsement must present proof of two transfers in the last five years or completion of a Coast Guard-approved course.
- Individuals having a radar endorsement on their license must present a valid radar observer certificate from a Coast Guard-ap-

FOR MORE INFORMATION:

Additional information about mariner credentialing may be found at www.uscg.mil/nmc or <http://homeport.uscg.mil> under “merchant mariners” in the list of missions.

proved course for service on radar-equipped vessels of 300 gross registered tons or more or vessels 26 feet or more in length.

Raise of Grade

As a mariner advances to a higher level of authority and responsibility associated with a license, MMD, or COR (for example, from mate to master, ordinary seaman to able seaman, assistant engineer to chief engineer, wiper to qualified member of the engine department, or junior assistant purser to senior assistant purser), he or she must obtain a credential for this raise in grade.

Applicants must prove they possess all the requirements for the credential raise of grade they are seeking, as provided for in the credentialing regulations. The process is the same as that for obtaining a credential renewal, so this new credential will be valid for five years.

Appeals

If an application is denied, the applicant will be given the reason for the denial in writing. The applicant will also be given a copy of his or her appeal rights. Any applicant may submit an appeal following the procedures specified by the regulations contained in 46 CFR Part 1.03.

About the author:

James W. Cratty is a marine transportation specialist in the mariner credentialing program policy division at Coast Guard headquarters and is a licensed mariner.

Endnotes:

- ¹ The National Maritime Center and regional examination centers directly impact the credentialing functions contained in Title 46, Code of Federal Regulations, Parts 10, 12, 13, 14, 15, and 16; Navigation and Vessel Inspection Circulars; policy and guidance documents; and the Marine Safety Manual Volume III, Marine Industry Personnel.
- ² The physical regulatory requirements for the credential sought should be reviewed by an applicant to determine if he or she meets the physical standards. Mariners subject to the International Convention on Standards of Training, Certification and Watchstanding for Seafarers, 1978, as amended in 1995 (STCW), must also demonstrate that they have the strength, coordination, flexibility, and agility to perform their expected duties. This includes applicants for an MMD with entry-level ratings when the applicant will be serving on seagoing vessels to which STCW applies.
- ³ STCW information may be found at www.uscg.mil/nmc. Mariners on vessels that do not proceed seaward of the boundary or operate on the Great Lakes are not required to have an STCW certificate.

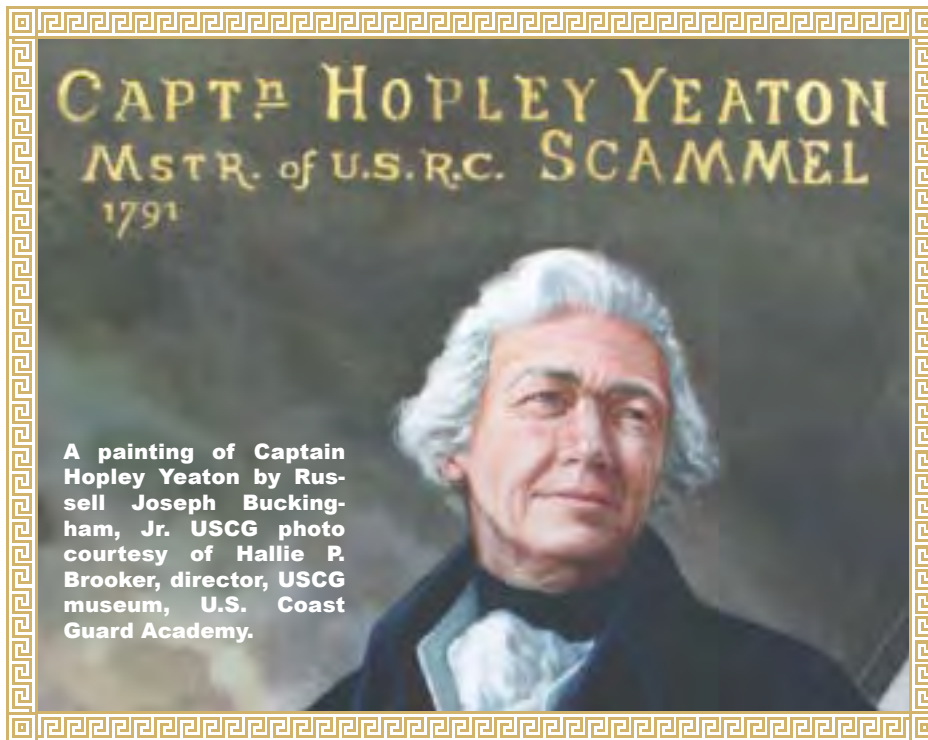


CAREERS



Merchant Marine Officer Contributions

by CAPTAIN ROBERT STANLEY BATES
U.S. Merchant Marine



A painting of Captain Hopley Yeaton by Russell Joseph Buckingham, Jr. USCG photo courtesy of Hallie P. Brooker, director, USCG museum, U.S. Coast Guard Academy.

When he was master of the commercial brig *Olive*, merchant marine Captain Hopley Yeaton was the first of many to come from the sailing industry, abruptly change his career path, and enter the Revenue Marine. Captain Yeaton has the honored place in Coast Guard history that John Paul Jones has in naval history.¹ He and those merchant marine masters, mates, and engineers of the Revenue Cutter Service, the Steamboat Inspection Service,² and the Bureau of Navigation are the commercial mariners that comprise the very taproot of this part of Coast Guard history. Even in more recent Coast Guard history, merchant mariners played a very big and important role in the Coast Guard's development into the service it is today.

In the merchant marine there are as many individual career paths as there are ships, companies, private enterprises, and governmental agencies. To look at a com-

plete history of these careers would fill volumes. Years ago, there were estimates that graduates of the U.S. Merchant Marine Academy went to sea for an average of only a half-dozen years before going ashore to numerous positions once they had sufficiently upgraded their Coast Guard-issued licenses.

Some of the most interesting maritime careers that merchant mariners followed led into the Coast Guard, with especially valuable contributions to merchant marine safety. It is from that perspective that these stories of past careers may suggest a viable alternative career path for

current members of industry, whether afloat or ashore.

From Merchant Mariner to Coast Guard Officer

When the Coast Guard was given the authority to enforce merchant shipping laws and regulations in 1942, many of the senior Department of Commerce masters and engineers from the predecessor authority, the Bureau of Marine Inspection and Navigation (BMIN), were made commissioned officers in the Coast Guard.

In order to encourage mariners to change their career paths abruptly and entice them to transfer into the Coast Guard, a number of concessions were made. Some of those concessions included exemption from permanent change of station orders during their Coast Guard careers, better retirement benefits, active duty perks, and some unofficial promises. The unofficial promises were lost along the way as the BMIN officers

retired and Coast Guard Academy graduates, school-ship graduates, warrant officers, and OCS officers filled the billets at marine inspection offices (MIOs).

During those early decades in Coast Guard marine inspection offices, seasoned merchant marine captains and engineers from the Bureau of Marine Inspection and Navigation contributed an immense amount of knowledge and experience. These seasoned veterans, who had sailed the seven seas in merchant vessels and who came ashore to administer the laws, brought an impressive depth of expertise on how to carry out the various enforcement duties associated with the laws governing marine inspection. They were the teachers—they came from the culture, they knew how to talk to ships' officers and managing owners, and some of them were federally and state-licensed pilots who knew their inspection zones better than anyone else.

They stayed at one office for their tenure, providing a continuity that gave the industry a sense of stability in each port. Officers who entered the Coast Guard from other sources learned invaluable lessons from these keepers of the legacy upon assignment to marine inspection offices. It is interesting to note that when the transfer of function from the BMIN to the Coast Guard was made permanent after World War II, there was an unofficial promise that at least half of the USCG officers in any marine inspection office would be licensed merchant marine officers.

The Next Generation

Another group of career merchant marine officers flourished in the Coast Guard during the next twenty years (1960-1980), composed of those that served during WWII or shortly thereafter, but who were too young to have served in the Bureau of Marine Inspection and Navigation. As their merchant sailing careers wound down, an opportunity for a second career presented itself in the Coast Guard marine safety field. They became the officers in charge, marine inspection in a number of offices and were as dedicated and as knowledgeable as the generation of licensed merchant marine officers from the BMIN. Unlike the preceding generation, they did not homestead in one office, and were assigned to sea duty on Coast Guard cutters.

From the 1960s, as the service demographics in this area began to change dramatically, some of the old-timers lamented that the Coast Guard's unofficial promise was not kept. Rather than keeping the marine inspection of-

fices at least half-staffed by licensed merchant mariners, the MIOs were staffed with greater numbers of Coast Guard personnel that had neither merchant marine licenses nor documents.

In 1967, after the formation of the Department of Transportation, the functions of vessel admeasurement and documentation were transferred into the Coast Guard. The Treasury Department admeasurers and documentation officers were transferred as civilian em-

ployees into the Coast Guard because they had the knowledge and expertise, much like how Bureau of Marine Inspection and Navigation personnel were integrated into the service. Regular Coast Guard service personnel were indoctrinated in these new functions at MIOs, knowing full well that soon they would be on their own to perform duties associated with this new set of complicated laws and regulations.

The Career Path Changes

In the 1970s the function of shipping commissioner, a legacy from the Bureau of Navigation, was eliminated as maritime unions took over many of those functions. Most notably, the comprehensive professional examinations for licenses envisioned by the predecessor authorities, a legacy from the Steamboat Inspection Service, became multiple-choice tests. By the 1980s there were fewer and fewer of those senior merchant mariners in Coast Guard uniform, and there were some overt indicators that the Coast Guard would welcome being relieved of all the duties associated with merchant marine safety. Some of those functions were successfully relegated to the American Bureau of Shipping, but the majority of the duties remained, and few merchant mariners made a career change to the Coast Guard.

It was during that next period, with the appearance of the 17 regional exam centers, that MIOs discontinued officer licensing and the documentation of seamen. When marine safety offices (MSOs) were established, marine inspection functions were merged with port security functions, leading to large organizational changes that would preclude the necessity to attract experienced merchant mariners into the Coast Guard.



U.S. Revenue Cutter Service logo. Courtesy of the U.S. Coast Guard historian's office.



For the most part, their career paths stayed in the industry at that time, but their absence was being felt in the merchant marine safety field. The main influence from the industry came with the schoolship graduates, who had chosen to accept a reserve commission and an ostensibly different career path from their classmates at the maritime academies. Billets were stripped away from the marine inspectors' bullpens, and some commanding officers of MSOs had no previous experience in merchant marine safety, having spent the preceding years in billets such as Coast Guard aviators or lawyers.

The further folding of this function into larger operational units placed the enforcement of the laws governing marine inspection even more directly under the auspices of the operational Coast Guard, an armed force. Interestingly enough, such an issue was addressed in 1883.

Those Who Do Not Learn From History ...

During the years 1882-1883 there was an unsuccessful attempt to transfer all maritime-related services under the Treasury Department to the U.S. Navy in a new department that was to be called the Bureau of Mercantile Marine. The targeted departments under Treasury were the Steamboat Inspection Service, the Coast and Geodetic Survey, the Marine-Hospital Service, the Life-Saving Service, the Lighthouse Board, and the Revenue Cutter Service.

On January 2, 1883, a bill affecting transfers was introduced in the House of Representatives upon the recommendation of the secretary of the Navy. The bureau heads soundly rejected it, and the bill was defeated for several reasons, but primarily because the concerned bureau heads said that they



Photo of a building sculpture relief. Courtesy of the U.S. Coast Guard historian's office.

did not want to entrust the administration of civil law to one of the armed forces.

The reason the fighting Coast Guard was able to prove the exception in 1942 was through its ability to assimilate experienced, licensed merchant mariners into the officer corps. That historical perspective alone suggests that the administration of merchant marine safety programs today might better involve some senior merchant marine officers who wish to follow a career path in the Coast Guard, as they did during the decades after World War II. With some of the old perks to entice them and minimal indoctrination to assimilate them, a valuable human resource could be revitalized and that career path reopened.

Involving more merchant marine officers might lessen much of the current opposition by legislators and the industry for merchant marine safety to remain in the Coast Guard, and at the same time free up other Coast Guard officers to move from administrative duties to operational units.

Looking Forward

At the other end of the pipeline, there is another potential benefit to reintroducing experienced, career merchant marine officers into the Coast Guard. Part of this perspective suggests retooling a small part of the curriculum at the Coast Guard Academy. A recent task force report chartered by the Chief of Staff, VADM Robert Papp, suggests, in part, that the Coast Guard Academy not just turn out college graduates, but rather, emphasize training toward becoming Coast Guard officers.

That report and the recent hearings held by Rep. James Oberstar, D-Minn., chairman of the full Transportation Committee, strongly indicate that the Academy's Cadet Maritime Department, in cooperation with other departments, could play an important role. The dormitory facilities are under expansion, and Coast Guard personnel from sources other than the academy already train at the academy. With half of the Coast Guard officers in merchant marine safety and related programs, the suggestion is that more emphasis be placed on maritime studies, with an academic standing for those destined to become marine safety personnel.

Title 46 of the Code of Federal Regulations Chapter I, Subchapter B has already authorized the eligibility of a Coast Guard Academy graduate for a maritime license, either third mate or third assistant engineer. Few graduates are aware of this opportunity, and few could pass



**Photo of the author, who is also the co-creator of the Coast Guard Museum exhibit “Regulating the Merchant Marine.”
USCG photo by CDR Craig S. Swirbliss.**

through the Coast Guard license gates without independent study. A combination of the types of courses taught at merchant marine academies, maritime union schools, civilian colleges with maritime degrees, and the USCG Training Center in Yorktown, Va., together with summer programs similar to what is known as “industry training” in the Coast Guard, may point to such a specialized basis of training and academic courses for a degree.

It is critical to make the distinction that the Coast Guard Academy’s mission is quite different from merchant marine academies, maritime union schools, and civilian universities offering maritime studies. The curriculum committee for the Coast Guard Academy would have to be acutely aware of that distinction, but courses at other accredited institutions could be applied, and more student exchange programs initiated.

As in the days before, seasoned merchant veterans could be brought aboard to teach and mentor cadets who would receive initial assignments to MSO and National Maritime Center billets. License preparation, merchant ship design and layout, history of regulating the U.S Merchant Marine, marine law and policies, ocean and coastal operations, port control, shipboard terrorism and piracy, maritime casualty studies, and

other professional studies leading to a degree, a commission, and a license is a goal to which cadets could aspire. Without much preparation in this regard, the Coast Guard Academy Class of 2004 was the first to send its graduates directly to merchant marine safety billets.

Another possibility would be for merchant mariners to be commissioned officers in the U.S. Merchant Service, like faculty and staff at the U.S. Merchant Marine Academy. It would enrich and enhance the function if key officers assigned to merchant marine safety had senior licenses and merchant marine experience, and gave deserving merchant marine men and women one of many satisfying career paths.

About the author:

Captain Robert S. Bates is a 1960 U.S. Coast Guard Academy graduate. He spent 22 years as a Coast Guard officer (14 as a marine inspector) and 25 years as a merchant marine officer. He has taught at the U.S. Coast Guard Academy, University of Connecticut, and at the RTM Simulation, Training, Assessment, and Research Center.

Endnotes:

1. “Biography of Captain Hopley Yeaton” by R.W. Gerald D. Foss, First Senior Steward of the Grand Lodge of New Hampshire (unpublished manuscript), courtesy U. S. Coast Guard Academy, New London, CT.
2. “Steamboat Inspection Service, Its History, Activities, and Organization, Institute for Government Research, Service Monographs of the United States Government No. 8,” by Lloyd M. Short, D. Appleton, and Company, New York-London, 1922.



CAREERS

in the
MERCHANT MARINE



Credentialed Mariner Demographics as of December 31, 2007

by MR. R. JON FURUKAWA

former Chief, U.S. Coast Guard National Maritime Center Records Management Branch

The U.S. Coast Guard has been responsible for administering U.S. merchant mariners since 1937. As of December 31, 2007, the USCG had custody of 2,138,460 mariner service records held throughout the country at Regional Examination Centers, federal record centers, and the National Maritime Center.

In the past, the U.S. Coast Guard National Maritime Center provided a breakdown of the U.S. merchant marine population and qualifications (i.e., 46 deck licenses, 26 engine licenses, eight certificates of registry and radio licenses, 28 document ratings). This is a complex program with innumerable alternative combinations of credentials.

The following tables are provided to show general demographics of U.S. merchant mariners with active (less than five years old) U.S. Coast Guard-issued credentials as of December 31, 2007.

Statistics courtesy of Mr. David Dill, Ms. Jenny Henry, and Mr. Joseph Bentz of the Operations Systems Center Merchant Mariner Licensing and Documentation Customer Support, and Ms. Christina Washburn, USCG National Maritime Center.

U.S. Merchant Marine Summary Statistics

| DESCRIPTION | TOTAL | With STCW |
|----------------------|----------------|---------------|
| MMD only | 72,179 | 16,262 |
| License only | 97,235 | 2,712 |
| Both License and MMD | 44,489 | 27,639 |
| TOTALS | 213,903 | 46,613 |

Residence

| STATE | NUMBER OF MARINERS |
|-------------------------|--------------------|
| AK Alaska | 5,994 |
| AL Alabama | 3,939 |
| AR Arkansas | 948 |
| AZ Arizona | 860 |
| CA California | 17,208 |
| CO Colorado | 923 |
| CT Connecticut | 2,743 |
| DC District of Columbia | 106 |
| DE Delaware | 908 |
| FL Florida | 33,077 |
| GA Georgia | 2,555 |
| HI Hawaii | 4,977 |
| IA Iowa | 332 |
| ID Idaho | 472 |
| IL Illinois | 2,560 |
| IN Indiana | 1,173 |
| KS Kansas | 193 |
| KY Kentucky | 1,582 |
| LA Louisiana | 17,184 |
| MA Massachusetts | 8,032 |
| MD Maryland | 4,968 |
| ME Maine | 3,819 |
| MI Michigan | 5,599 |
| MN Minnesota | 1,127 |
| MO Missouri | 1,422 |
| MS Mississippi | 4,806 |
| MT Montana | 289 |
| NC North Carolina | 5,188 |
| ND North Dakota | 43 |
| NE Nebraska | 108 |
| NH New Hampshire | 1,275 |
| NJ New Jersey | 6,131 |
| NM New Mexico | 218 |
| NV Nevada | 1,080 |
| NY New York | 11,668 |
| OH Ohio | 3,449 |

Residence (cont.)

| | |
|----------------------|----------------|
| OK Oklahoma | 404 |
| OR Oregon | 3,214 |
| PA Pennsylvania | 3,139 |
| RI Rhode Island | 1,826 |
| SC South Carolina | 3,651 |
| SD South Dakota | 85 |
| TN Tennessee | 1,536 |
| TX Texas | 14,572 |
| UT Utah | 225 |
| VA Virginia | 7,744 |
| VT Vermont | 399 |
| WA Washington | 11,759 |
| WI Wisconsin | 1,811 |
| WV West Virginia | 676 |
| WY Wyoming | 122 |
| AA APO/FPO | 27 |
| AB Alberta | 1 |
| AE APOP/FPO | 38 |
| AP APO/FPO | 225 |
| AS American Samoa | 50 |
| BC British Columbia | 17 |
| BT FPO | 1 |
| CZ Canal Zone | 1 |
| FM Fed St Micronesia | 1 |
| GU Guam | 1,791 |
| MH Marshall Islands | 1 |
| MP N Mariana Islands | 221 |
| NB New Brunswick | 2 |
| NS Nova Scotia | 6 |
| ON Ontario | 8 |
| PM Palau Island | 3 |
| PR Puerto Rico | 1,366 |
| QU Quebec | 1 |
| VI Virgin Islands | 885 |
| Incorrectly entered | 1 |
| Foreign | 1,138 |
| TOTAL | 213,903 |

Age

| AGE | NUMBER OF MARINERS |
|--------------|--------------------|
| <19 | 1,639 |
| 20-29 | 36,023 |
| 30-39 | 38,285 |
| 40-49 | 51,607 |
| 50-59 | 53,869 |
| 60-69 | 27,003 |
| >70 | 5,471 |
| Unrecorded | 6 |
| TOTAL | 213,903 |

Citizenship

| CITIZENSHIP | NUMBER OF MARINERS |
|--------------|--------------------|
| U.S. | 207,817 |
| Non-U.S. | 6,086 |
| TOTAL | 213,903 |

Customer Service to Mariners

| DESCRIPTION | TOTAL |
|--|----------------|
| MMDs issued | 29,865 |
| Licenses issued | 32,276 |
| STCW endorsements issued | 15,379 |
| Mariners denied credentials | 1,417 |
| Certificates of discharge (sea service) entered | 64,678 |
| World War II DD Form 214 issued | 1,059 |
| Correspondence answered | 1,900 |
| Service records accessed | 117,809 |
| Certificates verified | 1,440 |
| TOTAL | 265,823 |





Mariners Qualified to Sail on >1600 GRT, Oceangoing US Flag Vessels

As of Jan 2008

| | Sailed in | | Qualified | Sailed in last 2 yrs | % of total mariners Sailing | |
|-----------------------------|----------------|---------------|--------------|----------------------|-----------------------------|-------------------------------|
| | Qualified | last 2 yrs | | | | |
| Total Mariners | 100,455 | 22,148 | | | | |
| Total Licensed | 13,846 | 7,268 | 2,454 | 1,381 | 40% | Master |
| Total Unlicensed | 86,609 | 14,881 | 623 | 439 | 13% | Chief Mate |
| | | | 1,472 | 830 | 24% | Second Mate |
| | | | 2,338 | 777 | 23% | Third Mate |
| Licensed Deck | 6,887 | 3,426 | 6,887 | 3,426 | | |
| Able Seaman | 12,068 | 5,723 | | | | |
| Total | 18,955 | 9,149 | | | | |
| Licensed Engine | 6,959 | 3,841 | 2,521 | 1,515 | 39% | Chief Engineer |
| QMED | 7,504 | 2,960 | 971 | 681 | 18% | 1st Assistant Engineer |
| Total | 14,463 | 6,802 | 1,231 | 782 | 20% | 2nd Assistant Engineer |
| | | | 2,236 | 863 | 22% | 3rd Assistant Engineer |
| AB & QMED | 503 | 151 | 6,959 | 3,841 | | |
| Entry Level Mariners | 67,037 | 6,198 | | | | |
| NOT Included | 14,490 | | | | | |



Mariner Supply

(Mariners Qualified for oceangoing, unlimited horsepower/tonnage vessels)

Age
As of January 2008

| | Average | | Sailed in last 2 yrs | |
|-------------------------------|---------------|-------------|----------------------|-------------------------------|
| | Qualified | Age | | |
| Master | 2,454 | 51.1 | 1,329 | Master |
| Chief Mate | 623 | 46.0 | 362 | Chief Mate |
| Second Mate | 1,472 | 39.3 | 735 | Second Mate |
| Third Mate | 2,338 | 33.6 | 675 | Third Mate |
| ABs | 12,068 | 46.6 | 4,295 | ABs |
| Chief Engineer | 2,521 | 50.6 | 1,462 | Chief Engineer |
| 1st Assistant Engineer | 971 | 45.9 | 628 | 1st Assistant Engineer |
| 2nd Assistant Engineer | 1,231 | 40.6 | 694 | 2nd Assistant Engineer |
| 3rd Assistant Engineer | 2,236 | 35.2 | 682 | 3rd Assistant Engineer |
| QMEDs | 7,504 | 47.7 | 2,296 | QMEDs |
| Entry Level Mariners | 67,037 | 39.1 | 6,198 | Entry Level Mariners |

Excluding CIVMAs



Mariners Not Included

As of Jan 2008

| | |
|-------------------------------|---------------|
| Total Mariners | 14,490 |
| Total Licensed | 2,060 |
| Total Unlicensed | 12,430 |
| Licensed Deck | 1,014 |
| Licensed Engine | 1,045 |
| AB (No STCW) | 10,399 |
| Unlicensed¹ | 2,031 |

| License Only (No STCW) | |
|------------------------|-------------------------------|
| 282 | Master |
| 89 | Chief Mate |
| 162 | Second Mate |
| 481 | Third Mate |
| 329 | Chief Engineer |
| 121 | 1st Assistant Engineer |
| 199 | 2nd Assistant Engineer |
| 397 | 3rd Assistant Engineer |

1. 66% = Cadet/Student Observer

Tables courtesy of Ms. Anne Dougherty, director, MARAD Office of Workforce Development.

have a valid merchant mariner document and then categorizing based on their ability to sail in positions aboard the surge vessels.

Because the surge vessels require licensed officers with unlimited tonnage/horsepower qualifications, mariners with only a limited tonnage license are included in the AB or QMED categories, as this is the only billet they would be qualified for on these vessels.

About the author:

Mr. Furukawa is a captain, USNR, and a licensed mariner with 12 years combined active duty and merchant marine sea service. He holds a B.S. from the California Maritime Academy and an M.S. from the World Maritime University. He is currently a marine accident investigator at the National Transportation Safety Board.



Creating a New Generation of Mariners

Primary and secondary maritime education in America.

by CAPTAIN ARTHUR H. SULZER (U.S. NAVY, RET.)
Maritime Academy Charter High School

Most people are familiar with the image of the cabin boy serving tea to the passengers on the *Titanic* or the “powder monkey” passing shot to the gunners in movies like “Master and Commander.” These are accurate portrayals of how marine education had been conducted for hundreds of years. It was very much a hands-on experience learned aboard ships.

This system changed as ships evolved from sail to steam and became more sophisticated. The U.S. Naval Academy and the first civilian maritime school in New York City opened in the late 1800s. Others followed over the years. In 1946, the War Shipping Administration transferred the Liberty ship SS *John Brown* to the New York City Board of Education. The *John Brown* served as a vocational high school until 1982.

In 1966, the Marine Engineers Beneficial Association (MEBA) opened a mariner school in the Southern Hotel in Baltimore, Md. In 1967, the Seaman’s International Union (SIU) created the Paul Hall Center for Maritime Training in Piney Point, Md. Attached to the center is the Seafarers Harry Lundeberg School of Seamanship that trains entry-level seamen. (See related article.)

In addition to the maritime academies and Lundberg School, all of the maritime unions, MEBA, SIU, American Maritime Officers, Sailors’ Union of the Pacific, and Masters Mates & Pilots operate state-of-the-art training facilities supported by their contracted shipping com-



panies. These schools provide continuing education and upgrading courses for the union’s members.

Declining Mariner Numbers

Several combining factors have accelerated the present-day need to create a new generation to follow the sea as a profession. These factors include an aging workforce, declining compensation as compared to shoreside jobs, and the additional administrative efforts required to maintain mariner credentials.

Traditionally, America’s seafarers came from countries or families with a seafaring tradition. At the entry level, mariners were often first-generation immigrants. This supply of individuals has decreased due to the immigration policies of the 1990s and heightened security concerns and requirements for mariners to have citizenship.

The American public has largely forgotten that we are a nation dependent on waterborne commerce for our daily needs. Most people are unaware of how far their cameras, bottles of wine, or pairs of pants had to travel to arrive on their store shelves.

Maritime Education Is Needed at the Primary and Secondary School Level

With fewer immigrants and children of mariners, we need to create a new generation of mariners from a new source of individuals through education and awareness. That group may be the underserved urban students

continued on page 33



Overview of Maritime Elementary and High Schools

New York Harbor School (Grades 9-12) Brooklyn, N.Y.

Started in 2003, the school is a part of the N.Y. Department of Education. It was initially funded by New Visions for Public Schools, a non-profit that attracts foundation money to start small, theme-based schools. There are currently 96 "new vision" schools in New York City. The school is one of four theme schools housed in an existing city high school in an economically depressed area of Brooklyn. The school demographics are 50 percent African American and 50 percent Hispanic. The school has a relationship with South Street Seaport Museum, located on the Manhattan waterfront, and uses its facility and sail training vessel. It has also developed a partnership/mentoring program with SUNY Maritime College in the Bronx. The college provides maritime course material, visiting instructors, and various academic and leadership opportunities to the school. Additional information on the school can be found at www.nyharborschool.org.

Palm Beach Maritime Academy (Grades K-8) West Palm Beach, Fla.

Started in 1999, this is a primary school with 400 students. It is a tuition-free charter school operated by the Palm Beach Maritime Museum under a performance contract with the local school district. The school's focus is on maritime studies, science, and technology. Character education and life skills are also an integral part of the curriculum. The former USCG facility on Peanut Island is used for training, along with various historical facilities operated by the museum. The school has a uniform policy and a unique requirement that parents invest a minimum of 20 volunteer hours with the school. In 2006 the school earned an "A" for achieving annual yearly progress under "No Child Left Behind" legislation. Additional information on the school can be found at www.pbmm.org.

Maritime Academy Charter High School (Grades 5-12) Philadelphia, Pa.

This school opened in 2003 with 125 students, grades 5-7, in temporary facilities. In 2006 it moved to a permanent location at the Army's former Frankfort Arsenal site. The school presently has more than 700 students, with the first class graduating in 2008. Its demographic mix is 70% African American and the balance a mix of Latino, Caucasian, and Asian students. The school operates as a traditional middle and high school and is developing a model apprentice program with K-Sea Shipping (a national tug and barge operator) and a partnering/mentor program with SUNY Maritime College. Long-term plans include a program of maritime studies offering vocational, apprentice, and academic tracks. Additional information on the school can be found at www.maritimecharter.org.

Bayfront Center for Maritime Studies (Grades K-12) Erie, Pa.

This is a non-profit, community-based organization that opened in 1998. Its mission is to design and deliver hands-

on maritime educational, vocational, and recreational opportunities to members of the community. The center has provided these experiences to more than 10,000 students from the surrounding township school districts. The center works with school districts or individual teachers to provide a maritime learning experience that fits into whatever curriculum they are using. Programs include environmental studies, maritime history, boat building, sailing, and navigation. The center operates a 41-foot sail training vessel. Additional information on the center can be found at www.bayfrontcenter.org.

Maritime Industries Academy (Grades 9-12) Baltimore, Md.

This private school opened in 2003 in inner-city Baltimore. The school is funded by the Baltimore Public School District under a special program and is under central administration control. It operates a Navy Jr. ROTC unit and has had a Navy career focus option. In 2007 it developed an industry partnering curriculum with local maritime companies, such as Vane Brothers, Moran Towing, the Maryland Port Authority, and others. The school has been working with faculty at the Maritime Institute of Technology and Graduate Studies and the Master Mates and Pilots union training school to utilize school facilities for their students. Additional information can be obtained by calling 443-324-0790.

Mar Vista High School (Grades 9-12) Imperial Beach, Calif.

This high school, in partnership with the Navy's Military Sealift Command (MSC), started a program in 2002. The program is funded under California's Regional Occupation Program, which provides funds to schools for vocational training and funds from the Navy. Since opening, over 250 students have completed training, and many have gone into the maritime industry. The program is designed to have students secure entry-level USCG documents as wiper for the engine room or ordinary seaman for the deck department. The students in 11th and 12th grade follow a regular high school course of study. They use their elective courses to take the U.S. Coast Guard-mandated training provided by an outside contractor, Training Resources, Ltd, that carries the necessary course approvals. The partnership with Military Sealift Command, under its Cadet Shipping Program, is designed to provide prospective MSC employees the required sea service and is the same program used by the maritime academies. The school sends groups of 10 students with a school instructor to a MSC ship in the summer of their senior year for several weeks. Students who complete the program become eligible for hire by the Military Sealift Command upon graduation, and several are currently working for MSC. Additional information on the school can be found at www.suhsd.k12.ca.us/mvh or by contacting the MSFSC Cadet Shipping coordinator at (757) 417-4223.

from our cities. A maritime education can provide a gateway to a career that offers steady employment, excellent pay, further education, and a solid future.

In 2003, I had the opportunity as a founding board member to start the Maritime Academy Charter High School in Philadelphia. The school opened with 125 students and has expanded to more than 700 students. At present there are approximately 16 marine or maritime-themed elementary, middle, and high schools open or opening in the United States. The average size of each school is about 350 students. These schools are located around the country in major U.S. ports on the Atlantic, Gulf, and Pacific coasts, as well as on the Great Lakes.

It is important to note that there is a difference between “marine” and “maritime” schools. Marine schools have programs that deal with oceanography, biology, and marine sciences. These schools have generally been in operation since the 1990s. The maritime schools deal with the subjects, training, and skills required to work as a crewmember on a documented vessel. In addition, there are several that offer training to work in the maritime industry ashore, such as at a marina, shipyard, or port facility.

Outcome of Maritime Education

Early research has shown a number of positive trends in primary and secondary maritime education programs around the country. When presented with information about maritime education and its benefits, students and their parents show strong interest in the programs, and all the schools have full enrollment and a long waiting list.

While there is not yet a large amount of data, since the programs are all fairly new, it appears that students who enroll in the maritime programs are sticking with them. In addition, the quasi-military nature of the maritime industry, with its requirements of command, responsibility, accountability, scheduling, uniforms, and required training is being transferred to the students. This has had a positive effect on the manner in which they behave among their peers and others.

There are strict attendance and academic standards—merely showing up in class will not earn a passing grade. Once students realize this, they attend classes, study the material, and earn passing or high grades. For many, this is a new experience. The wonderful result of this is that by learning how to study and bring up their grades in other academic classes, they gain overall confidence and pride in their accomplishments.

So far, from the data available it appears that employment will be strong. Many schools report offers of summer internship programs and offers of employment for their graduates.

On the Horizon

In April of 2008 the Ship Operations Cooperative Program (SOCP), MARAD, and USCG sponsored a two-day conference titled “Maritime and Intermodal Education for Primary and Secondary Schools in America, Onboard to a Future Career.”

As a follow-on, SOCP and MARAD have held meetings around the country to develop curriculum and educational materials for the schools. Congressman Elijah Cummings has formed the Maritime Education for Primary and Secondary Education Coalition. The congressman was a keynote speaker at the conference in April and has a maritime high school in his district. This coalition will work to foster and develop maritime K-12 programs and education in America.

Many years ago our nation built a network of lighthouses in our seaports to guide mariners from sea to a safe haven. I hope that a network of “education lighthouses” can be established to shine the light for urban students to find their way to a maritime career.

About the author:

Captain Arthur H. Sulzer, a graduate of SUNY Maritime College, is an actively sailing mariner who holds a USCG master’s unlimited license and third assistant engineer’s license (steam motor and gas turbine). He also completed 30 years of active and reserve duty with the U.S. Navy. He holds an M.S. in transportation from SUNY Maritime College, an MBA in finance from Hofstra University, and is completing his Ed.D. from the University of Pennsylvania. In addition to his involvement in maritime education, he is a professional marine surveyor and consultant in the Port of Philadelphia.



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A School Within a School

Preparing high school students for employment in the merchant marine.

by CAPTAIN RAY ADDICOTT, (U.S. NAVY, RET.)
Training Resources, Ltd. Inc.



“Shaun Pomerleau stood on the deck of the USNS Henry J. Kaiser, a Military Sealift Command underway replenishment tanker, traveling at 13 knots in the ocean off Coronado, Calif.

He braced his steel-toe-booted feet, lifted an M-14 rifle, pointed it at a nearby ship, and fired.

A cord from the gun sailed through the air, hitting a Navy cruiser 200 feet away. Crewmembers used the line to guide a hose from the tanker to the cruiser for refueling.

Pomerleau is a student at Mar Vista High School, Imperial Beach, Calif., enrolled in one of San Diego County’s most unusual high school vocational courses—a maritime academy for unlicensed mariners within a high school. When he graduates from high school he will have a diploma in his left hand and a merchant marine document in his right.”¹



Training Resources, Ltd. Inc. (TRL) is affiliated with the Sailors’ Union of the Pacific and is a provider of Coast Guard-approved training courses. In 2000, TRL began looking into the possibility of bringing maritime training programs to high school districts in the area to give students access to U.S. Coast Guard-certified training—at no cost—to prepare them for employment in the merchant marine.

They held several meetings with different school districts within San Diego County and found that most

were not interested. The school districts felt that their primary goal was to prepare each student for a college education. Finally, one school, Mar Vista High School in the Sweetwater Union School District, just south of San Diego in the small town of Imperial Beach, indicated it might have an interest.

Why Offer Maritime Training in High School?

The Maritime Training Program at Mar Vista High School began with a series of meetings with school district officials over a period of two years. The key par-





Mar Vista intern Christina Ramirez takes a turn on the helm of the USNS *Tippecanoe* while operating in the mid-Pacific. Photo by Mr. Rick Nichols. All photos courtesy of Training Resources, Ltd. Inc.



Mar Vista intern Bert Leuluai works on his “rating forming part of a navigational watch” competencies under the watchful eye of the USNS *Tippecanoe* bosun. Photo by Mr. Rick Nichols.

ticipants were Training Resources, Ltd.; Sailors’ Union of the Pacific; the director of Sweetwater Union School District’s regional occupation programs; and the school principal and staff.

Early on it was apparent there was little understanding of the maritime industry and its career opportunities for students, so the primary purpose of the meetings turned out to be discussions about the industry. Organizers explained the potential job opportunities available to students, especially those who didn’t have the resources (or inclination) to pursue higher education upon graduation.

Once consensus was reached, a 10-member advisory board comprised of educators, unions, government and commercial employers, and the U.S. Coast Guard was put in place to oversee the program and provide advice and support.

The proposed training curriculum included maritime industry familiarization and U.S. Coast Guard-certified courses of instruction. It consisted of four separate modules, all of which tied in a marine-centric focus:

- basic first aid and CPR,
- basic firefighting,
- personal safety,
- social responsibility and personal survival.

In addition, the students attend either an able seaman course or a qualified member of the engineering department course.

The California Regional Occupation Program reviewed and approved the curriculum. After that, the instructors (all TRL, Coast Guard-approved instructors) had to be screened and cleared to access the campus.

The next steps were to identify classrooms and workshops for the classes, then tackle the toughest step of all—

finding funding to support the program. Initially, TRL refurbished two modular classrooms dedicated to the maritime program. Through the efforts of the Sailors’ Union of the Pacific, a California State Governor’s Work Force Initiative Act grant was obtained to fund the first 18 months of the program. The program has been funded by the Sweetwater Union School District regional occupation programs since the grant expired in 2003.

An MMD, a Passport, and a Bank Account

Once the infrastructure was in place, officials began recruiting students. This entailed educating school career counselors and scheduling lunchtime briefings in the school library for interested students and evening briefings for parents. The goal was to achieve a commitment from each student and his or her parents.

The maritime program has been a great success since established in 2002. The successful student graduates

What’s In It For Me?

Graduates typically earn salaries comparable to college graduates.

There have been many success stories from graduates working in the industry. This program has changed the lives of many students and their families.

In one case, a young lady recently graduating from the program, now sailing as a merchant marine, was able to buy a home for her single-parent mother and family. In another case a young man, abandoned by his family several years ago, successfully completed the program, and is achieving great success in the merchant marine, working toward his third assistant engineer’s license.



Interns enjoy a topside break aboard USNS *Tippecanoe*. From left: Luis Berrelleza, Ruben Torres, Geraldo Valdez, David Sanchez, Michael Rosignolo, and Luis Mar-malejo. Photo by David Alvarez, Mar Vista intern.



Interns prepare for alongside refueling of a U.S. Navy combatant while serving aboard the *Tippecanoe*. Photo by Mr. Rick Nichols.

with a merchant marine document in hand, a passport, and a bank account. Thanks to the Military Sealift Command (MSC), during the summer many students sail as paid interns aboard MSC ships operating in Southern California and Hawaii.

In addition to the paycheck, they obtain valuable experience and the opportunity to satisfy sea time requirements and complete competencies for a rating forming part of a navigational/engineering watch. Students who excel in the program learn exactly what going to sea is like and become confident employees who likely will stay, greatly improving retention.

Benefits for Students, the Community, the Industry

The Mar Vista maritime training program is an example of what can be achieved to provide young, well-trained, confident men and women to the maritime industry on an annual basis to replace an aging employee base. More than this, maritime training programs embedded in a school bring the school and the community awareness of the value of the industry to our country's economy and security. Another bonus is that the Mar Vista High School career counselors become permanent recruiters for the industry.

This training program can also prepare students for shoreside career options such as firefighting, emergency medical response, ship repair, and facility maintenance, to name a few. Moreover, regardless of their ultimate career paths, these trained mariners will have all the documentation necessary for service in case of a major activation of the Ready Reserve Force and could form a core of civilian unlicensed merchant marine reserves.

In 2003, then-Maritime Administrator Capt. William Shubert visited the Mar Vista maritime program and spoke with the students. He commended the program and recommended that the Mar Vista model be replicated in other schools.

Programs such as Mar Vista can be replicated, but it takes time, cooperation, and funding. Educational budgets for schools in California, for example, are subject to budget cutbacks that put vocational training programs such as the Mar Vista maritime program at risk.

What is needed is congressional awareness and support of successful grass-roots programs that have the potential to meet the future needs of the maritime industry, such as Mar Vista. Better support, such as that presently provided to maritime academies that graduate licensed mariners, would greatly enhance replication of this program.

As of this issue's publication, 30 of the 40 students enrolled in the continuing Mar Vista program graduated in June, and 40 to 60 more students were expected for the fall 2008 semester. As one of our graduates now working in the merchant marine recently commented, "It's a good way to go."

About the author:

Captain Addicott served in the U.S. Navy for 30 years. During that time he served in command of several ships, including USS Fox. He also served as commander for the Military Sealift Command-Pacific during Operation Desert Storm. Following his retirement, he held the position of California Maritime Academy's director of continuing education. He co-founded Training Resources, Ltd. Inc. in 1998 with Cdr. Ray Gillip, providing maritime training programs for those serving in the merchant marine.

Endnote:

¹ Chris Moran, "Seaworthy Schooling," San Diego Union-Tribune, July 28, 2007.

FOR MORE INFORMATION:

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Getting a Start Through the U.S. Merchant Marine Academy

by MIDSHIPMAN JAMES JOHNSTON

"To graduate merchant marine officers and leaders of honor and integrity who serve the maritime industry and armed forces and contribute to the economic, defense, and homeland security interests of the United States."



This is the mission of the United States Merchant Marine Academy (USMMA). As a plebe (freshman), I memorized and repeated this mission on command several times during the course of my plebe summer. Now, as a full-fledged midshipman in my second year at the USMMA, I watch plebes scream the mission of the academy at the top of their lungs.

While at the USMMA, the majority of midshipmen will complete more than 170 credits and will participate in over 670 hours of laboratories and lectures covering various topics applicable to STCW certification. Upon graduation, each midshipman receives a bachelor of science degree, a commission in one of the six mili-

tary/federal services (including the National Oceanic and Atmospheric Administration), and a U.S. Coast Guard merchant marine officer's third mate (3/M) or third assistant engineer license.

Academics

There are two professional license academic departments at the USMMA—marine transportation and marine engineering, which are divided into three majors for each. Within marine transportation there is:

- "straight deck" marine transportation, a major primarily consisting of marine transportation courses such as ships' operations;
- maritime operations and technology, also known as "ship's officer," where students pursue a 3/M license while also seeking qualifications as a qualified member of the engine department;
- the logistics and intermodal transportation major, which focuses on logistical aspects of tying together the four modes of transportation—shipping, air, rail, and highways.

The marine engineering majors are:

- marine engineering,
- marine engineering and shipyard management,
- marine engineering systems.



Midshipman Johnston takes the helm aboard a small boat from the USNS *Comfort*, a hospital ship with humanitarian missions. Photo by Cadet Gina Robles, California Maritime Academy.

At the academy, we spend the equivalent of a year at sea as part of our curriculum. During this “sea year,” midshipmen receive practical, hands-on training in their respective license majors. At the end of plebe year, each class of midshipmen is split into two groups known as A-split and B-split. Generally, the A-split group will go out to sea in the winter months, and

be back at the academy during the summer months. The B-split group does the opposite. After the plebe year split, the midshipmen will not see their fellow classmates in the opposite group until their senior year.

Plebe Year

It all starts during plebe summer. I remember shaking my father’s hand, hugging my mother, and heading off into the great unknown. The next weeks were filled with running until I wanted to pass out, doing pushups until my arms felt as if they were going to fall off, and screaming myself hoarse. After our indoctrination period, we were given a couple days of rest, and then classes began. The first trimester incorporates a class introducing both the engine and deck aspects of ship operations. This class is known as KP 100 and helps us decide our license major, which must be decided within the first ten weeks. There are no undecided majors at the U.S. Merchant Marine Academy.

Plebe year is tough. I began my day at 0600 each morning to muster with my fellow plebes on the main deck of my barracks. From there we either went to breakfast or began to clean. We do not have janitors, so midshipmen must keep the heads (bathrooms), showers, decks, and anything in between clean. After being inspected and going to colors, I headed off to class for the day. After a long day of classes, I headed back to my barracks to study. At 2000 (8:00 p.m.) each night, I would

muster with my fellow plebes for “tattoo,” a 20-minute training period with an upperclassman training officer.

By the second trimester, I began my professional classes. As a logistics major, I was taking courses such as terrestrial navigation, celestial navigation, safety of life at sea (which covers lifeboatman training in preparation for our first sea year experience), firefighting, and meteorology, all of which require a minimum of a 70 percent pass rate to meet U.S. Coast Guard standards.

At Sea

That summer, I found myself standing on the deck of a Horizon Lines container ship, the S.S. *Horizon Trader*, with the rest of my B-split group. I joined her in Hawaii—the farthest I had ever been from home. We set sail for Guam for the start of an amazing adventure. After Guam, I sailed to Hong Kong, then Kaohsiung, Taiwan. After these exotic locations, the ship sailed back to Washington and California before heading back to Hawaii to repeat the run.

As the deck cadet, my primary job was to assist the chief mate. The chief mate assigned me various administrative tasks, deck work with the other mates or crew, and standing watch on the bridge. As a junior officer, I was challenged to represent my academy well. On top of these duties, I had a sea project to



The author, Midshipman Johnston, aboard the USNS *Laramie*, is prepared in his safety flight gear. The blue uniform signifies that he is part of the lashing crew, which hooks the pallets of supplies to the helicopter. Photo by Midshipman Evan Jones.



complete. The sea project consisted of navigation plots, seamanship, ship structure drawings, fire plans, stability and cargo calculations, ship's business, and marine engineering for deck officers. This project would be under the greatest of scrutiny when I returned to the academy. Written examinations covering navigation, cargo, and navigation law would also be waiting upon my return.

Back in Class

Upon return to the academy in November of my third class year (sophomore), I submitted my sea project. A return to the academy also meant getting back into the regimental lifestyle, which seemed especially difficult after three to four months at sea aboard a non-regimental ship. This meant shorter-than-short hair, a clean shave, and musters throughout the day.

It also meant seeking out opportunities to become a team leader to two plebes in order to help them through the plebe year process. In addition to my team leader duties, I started participating as a petty officer—an assistant to a first class midshipman officer.

On top of these leadership duties, my academic schedule included courses such as tanker operations, electronic navigation, stability and trim, cargo operations, and seamanship. These courses ultimately prepared me for my return to sea that March.

Second Sea Leg

I was more prepared for my second sailing period of eight months. All midshipmen are required to obtain a minimum of 300 days aboard commercial vessels to apply toward our U.S. Coast Guard license. We obtain the bulk of this requirement during our second sea period.

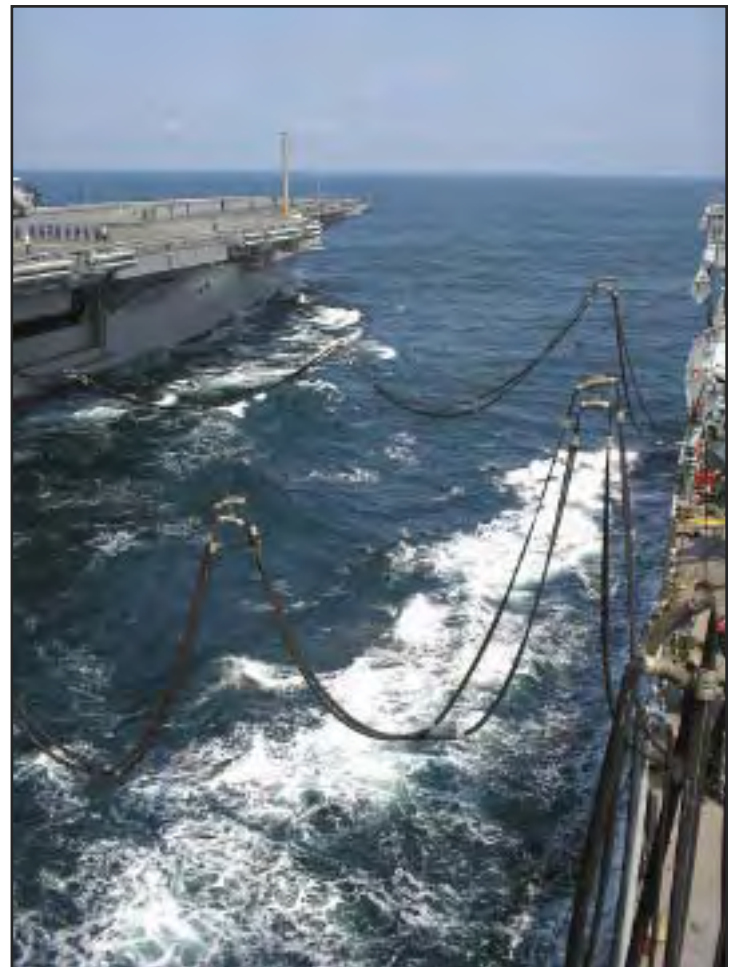
This time, I knew what was expected of me as a cadet, where things were located on ships, ship-board terminology (for the most part), and I understood how things were done (at least on the deck side of things). However, accompanying my new go-getting attitude and sense of freedom was the increased size of my 2nd sea year project. I knew it was a lot of work once I saw it, but if I just worked on it a little bit every day, I also knew I would get it done.

I received my orders to the USNS *Laramie*, a Military Sealift Command (MSC) oiler, in March. I joined the

ship in Norfolk, Va. We were the “duty oiler,” refueling Navy ships up and down the Eastern seaboard. There is nothing like seeing two ships alongside and underway, both of which are no more than 250 feet away, conducting refueling operations.

A few months later, I was assigned to the USNS *Comfort*, one of MSC's two hospital ships. She was on her way down to Latin America and the Caribbean on a humanitarian mission. It was an amazing experience, working alongside merchant mariners and active-duty military personnel. We helped so many people, little and big, young and old.

After a short rest period in my hometown in September, I found myself on a MSC-contracted tanker, the USNS *Samuel L. Cobb*. We transported fuel to U.S. Navy and Coast Guard stations. I found that this longer sailing period made me much more comfortable at stand-



Refueling a Navy carrier while underway. Photo by Midshipman James Johnston.

ing a bridge watch. My confidence in my abilities as a deck cadet and as a future third mate officer increased

immensely during this second sailing period and would serve me well upon my return to the academy.

Second Class Year

In November 2007, I returned to the academy once more as a second classman with a whopping 303 days at sea. The other 57 days would come from port watches stood here at the academy as well as ship simulations on academy simulators. I had excellent experiences on all of my ships, and had learned a lot. However, it was time for me to get into the mindset of another five trimesters—about one and a half years—back at the academy.

I immediately turned in my second sea project and signed up for my oral examinations. Upon returning from the second sailing period, all deck officer trainees must take oral examinations from at least two licensed mariners. These oral examinations count as a large part of our grades during this sea period. My commanding officer placed me as company commander petty officer, an assistant to command some 150 midshipmen.

On the Horizon

As of this writing, I have only recently completed the second full trimester of my second class year. As a logistics major, I took a logistics, management, and marketing course. I also took ships' medicine, a course required by Standards of Training, Certification and Watchkeeping. Next trimester, I will be taking 17 credit hours, including courses in radio communications and radar operations and a bridge simulation course.

Between my second and first class years, I plan on completing a required 10-day internship with the U.S. Coast Guard in Jacksonville, Fla. After that, I will return to the academy for midshipman officer training, and help train the incoming plebe class of 2012. I will not have a summer break like my civilian counterparts, but I will find a way to get my rest—somehow.

First class year will not come soon enough. I am striving to be a midshipman officer in charge of an aspect of

the regiment of midshipmen. There are more than 70 midshipmen officer billets to choose from. Perhaps the most sought after are the command positions such as regimental commander, battalion commander, company commander, and platoon commander.

There are other staff positions as well, such as logistics, human relations, and honor board officers, to



These small boats are used by the USNS Comfort to transport personnel from the ship to shore. Photo by Cadet Gina Robles, California Maritime Academy.

name a few.

First class year will also be challenging as I have what is known as a “capstone” project. For logistics majors, this consists of a study of a major logistics concept, such as maritime security, that must be presented to a board of professionals. Finally, I will take non-credited classes to prepare me for the Coast Guard third mate’s license exams. The license exam is taken in late May of our first class year, and is the final qualification before graduation in mid-June. Upon graduation, we receive our bachelor of science degree, our commission in the armed forces, and our U.S. merchant officer license.

Thus far in my career at the U.S. Merchant Marine Academy, I have experienced many things that I would never have experienced had I not accepted my appointment to the academy. I plan on receiving an active duty commission as an ensign in the United States Coast Guard, with the hope of working within port security operations. I plan on working toward a master’s degree in maritime business and logistics while serving on active duty.

Special thanks to:
Captain Brian Hall
U.S. Merchant Marine Academy

LT Ann Wickham
U.S. Coast Guard liaison to USMMA





Tugboat U.

Tailoring a crew advancement program to working mariners.

by MR. KELLY CURTIN

*Division Manager, Nautical Science Programs
Global Maritime and Transportation School
U.S. Merchant Marine Academy*

The increased demand for mariners in the U.S. is well documented, especially within the workboat industry, as was evidenced during a 2007 hearing of the House Subcommittee on Coast Guard and Maritime Transportation that focused on the growing shortage of competent mariners. As vessels become larger and more complex, the mariner must become better trained and more skilled. As a result, the industry needs innovative training programs to ensure that waterborne transport remains the safest and most reliable mode for the delivery of goods. This is particularly vital for the near-coastal and inland fleets, which make up the largest portion of the U.S. maritime industry.

Training and Recruitment Programs

Traditional maritime academies are working diligently to develop new programs and solutions to help meet these needs. Recently the U.S. Maritime Administration announced that graduates from the U.S. Merchant Marine Academy (USMMA) could satisfy their sea service obligation by serving on coastal and inland carriers, including tugs, towboats, and offshore energy ships.

Maritime training centers are also answering the call to recruit, train, and retain mariners. The workboat mate program at Pacific Maritime Institute and the mate/pilot of towing vessel program at Northeast Maritime Institute are both examples of innovative ways to meet the crewing challenges of different facets of the coastal and inland fleets.

In April 2007, USMMA's Global Maritime and Transportation School (GMATS) introduced a groundbreaking crew advancement program. The program resulted from collaboration with industry and the USCG National Maritime Center and is designed to address the needs of deckhands who work in the near-coastal towing and offshore industries. It's a practical alternative to the traditional apprentice mate/steersman advancement route to the wheelhouse. It also eliminates many crewing headaches for tug operators and substantially reduces the lifestyle disruption for merchant mariners who need training to obtain or advance their licenses.

The Problem

The typical progression from deckhand to apprentice mate/steersman requires 18 months of sea time, which takes about three years. The candidate can then apply to take the requisite exam. Passing the apprentice mate/steersman exam requires a strong knowledge of nautical science. With an additional six months of sea time and presentation of a completed towing officer assessment record, the appren-



Tugboat U. students in Reinauer Transportation's training classroom. All photos courtesy of the U.S. Merchant Marine Academy.



tice mate then can seek to become a licensed mate (pilot) of towing vessels.

One company, McAllister Towing, found that, in addition to sea time requirements, it also had to send com-

CREW ADVANCEMENT PROGRAM INCEPTION

The crew advancement program resulted in response to a need expressed by McAllister Towing of New York to address a chronic crew shortage in that maritime industry segment.

"There was a feeling that responding to the crew shortage solely by increasing wages was leading to a spiral of turnover, where many highly qualified licensed officers were shifting jobs to the highest-bidding company," said Mr. John Torgersen, McAllister's quality and safety director. "This was causing serious concern among some operators in (compromising) their ability to retain qualified mariners, an unacceptable situation for McAllister."

While some argued that the shortage is due to lack of "new blood" entering the industry, McAllister had observed that while it had a shortage of licensed personnel, there was no shortage of entry-level deckhands. "People were interested in working in our industry, they just weren't advancing towards licenses," Torgersen said.

When deckhands were asked why they hadn't upgraded, most said that they were working on it, but the process was confusing and that they often were unsure of the next step to take.

"I believe that this is the underlying problem for most deckhands," said Torgersen. "The current apprentice-steersman process is complicated and requires a great deal of record-keeping and initiative to see it through to the end. It overwhelms people and has essentially clogged up the hawsepipe."

pany deckhands through seven weeks of training classes. The cost to advance one deckhand to mate through the apprentice mate system was costing McAllister about \$78,100.00. "Most of the costs associated with the process come from the year of sea time as an extra crew member (the apprentice steersman)," said John Torgersen, quality and safety director. "This is a great deal of money, and more than 'residential' students pay for traditional two-year maritime college programs."

A Solution

When McAllister contacted GMATS in the fall of 2005, it requested a program that would give full-time deckhands the opportunity to take required classes to advance to mate 500/1600 gross tons with a towing endorsement. McAllister additionally asked that the program provide academic credit toward an associate's degree. GMATS recognized that the program's impact on the deckhands' personal lives and families had to be considered for the program to work.

Research found that while it was difficult for deckhands to be away from their families for extended periods of time, they appreciated having a program linked to an associate's degree. Incorporating the degree increased the program's credibility and gave participants the ability to advance both professionally and academically.

GMATS worked with the U.S. Coast Guard's National Maritime Center (NMC) to develop a program featuring courses consisting of full-day (eight-hour) modules. The modules in each course were designed to be taught in sequence over several weeks. This approach accommodated the deckhands' regular work schedule and only minimally impacted their time off.



THE PROGRAM

The approved crew advancement program consists of 17 classes, four 13-week sea projects, and submission of an endorsed training record book.

The program takes between 2 and 2.5 years to complete. If the student follows the conventional two-week work rotation, he/she would take two (8-hour) modules of class before each rotation. GMATS has discovered that such an interval between modules affords students adequate time to complete reading assignments and homework and to prepare for the upcoming set of modules.

| Course Number | Title | Number of Hours |
|--|--|-----------------|
| 1. NS080 | Basic Safety Training | 40 |
| 2. NS090 | Advanced Fire-Fighting | 32 |
| 3. NS100 | Nautical Science 1 | 40 |
| 4. NS110 | Nautical Science 2 | 40 |
| 5. NS120 | Shiphandling: Tugs and Towing 1 | 40 |
| 6. NS130 | Terrestrial and Coastal Navigation 1 | 40 |
| 7. NS140 | Terrestrial and Coastal Navigation 2 | 40 |
| 8. NS150 | Navigational Law and Communications | 40 |
| 9. NS160 | RADAR/Collision Avoidance | 40 |
| 10. NS170 | Meteorology | 40 |
| 11. NS180 | Ship Construction, Stability, and Trim | 40 |
| 12. NS190 | ARPA (Automatic Radar Plotting Aid) | 40 |
| 13. NS200 | Cargo Handling and Stowage | 40 |
| 14. NS210 | Medical Care Provider | 40 |
| 15. NS220 | Electronic Navigation | 40 |
| 16. NS230 | Shiphandling: Tugs and Towing 2 | 40 |
| 17. NS240 | Bridge Watch-Keeping and Ship Handling | 56 |
| Total hours | | 688 |
| Total days | | 86 |
| Average class days per month over a 24-month period | | 3.5 |

Since the program also prepares students for a 500/1600 gross ton license, it had to meet the Standards of Training, Certification and Watchkeeping requirements. Had it not been for the NMC's technical assistance, this program would have taken much longer to develop. Whenever a question or advice on rules and regulations pertaining to the new STCW requirements arose, the NMC answered them promptly, often within hours.

Training Partnership

By partnering with American Military University (AMU), USMMA's Global Maritime and Transportation School ensured students could receive college credit for courses

that may be applied towards an associate's degree. To obtain the degree, the student must enroll in AMU and complete six general education courses, all of which can be taken online.

The modular format provides flexibility to deliver course material. For longer work rotations, some companies have requested that several modules be taught back-to-back. An operator whose deckhands work four weeks on, four weeks off could have the full course taught consecutively during the deckhands' time off. The modular layout also allows GMATS to customize the program to each company's work schedule. As long as the course is completed within a six-month window, and the modules are no more than six weeks apart, course credit is awarded.

To further ease the deckhands' burden, GMATS can obtain approval from the Coast Guard to conduct a majority of the course work using pre-approved classrooms at company locations. This makes it easier

for deckhands to report to class and quickly return to their vessels. GMATS now holds most of its classes at Reinauer Transportation's training facility on Staten Island. Some classes that require state-of-the-art simulators and special equipment are taught at the USMMA's Global Maritime and Transportation School facilities. Consecutive modules are generally scheduled to minimize travel to and from the academy.

Tugboat U.

The first class incorporating these elements of training started in the spring of 2007. McAllister Towing and Reinauer Transportation each sponsored 11 deckhands



The U.S. Merchant Marine Academy at Kings Point.

for this inaugural class. New students begin classes every April in the crew advancement program, now affectionately called “Tugboat U.”

Charles Braun, a Reinauer deckhand, stated, “The program at GMATS has exceeded expectations in every way. I’ve been able to schedule classes around my work schedule, and find that I am in the classroom about twice a month, which is perfect, because we keep hectic schedules.”

Since it’s a Coast Guard-approved training program, this crew advancement program reduces the sea service requirement from three years to one in order to obtain the mate 500/1600 GT near-coastal license. To obtain the towing officer endorsement, deckhands must complete the towing officer assessment record book. In addition, the prospective mate must also complete four 13-week sea projects, each consisting of a navigational journal and watchstanding logs. The candidate also must answer questions related to safety, navigation, and vessel operation.

When Tugboat U. students aren’t in the classroom or aboard a vessel, they can still complete coursework and prepare for the license exam. Using an Internet-based course program, students can contact instructors, other students, and also access reading and homework assignments. In addition, the students are provided with access to an online program that allows them to study and review sample Coast Guard multiple choice exam questions and solutions.

Drew Read, a McAllister deckhand currently in the program, stated, “My desire and expectation from the program is to achieve my 1600 GT mate near-coastal li-

cense. I feel GMATS has made a concerted effort to meet the needs of the current students.”

A Sunday night study session at the Reinauer facility is offered for students requiring extra help. “As the courses increase in difficulty, I anticipate many people—including myself—will take advantage of the extra help sessions,” Read said. In the future, he intends to advance his

license. “I will definitely take advantage of GMATS’ experience and expertise when upgrading my license to the master level.”

Anticipated Outcome

For participating companies the payoff can be significant. A mate with advanced working knowledge of shipboard equipment is a more professional, higher-skilled worker who ultimately reduces risk. Moreover, this will foster an employee/company relationship built on trust and loyalty. Such an employee will be less likely to seek employment elsewhere.



The integrated navigational laboratory.

More than 95% of the inaugural class members are still enrolled in the program after one year. As the program progresses, GMATS and the NMC continue to make slight adjustments when required. Future plans call for similar engineering and chief mate to master mariner

programs. Follow-on courses are in development for a 500/1600 GT mate to master license preparation course.

About the author:

Mr. Kelly Curtin serves as division manager for nautical science programs at GMATS, USMMA.

Prior to this position he was an assistant professor of marine transportation at the State University of New York Maritime College and senior deck training officer aboard the training ship Empire State. Mr. Curtin holds a bachelor’s degree in business finance from the University of Southern California, a master’s in transportation management from the State University of New York Maritime College, and an unlimited master mariner license.

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Maine Maritime Academy

Adapting to meet a changing maritime industry.

by MR. JOHN BARLOW, PH.D.
*Vice President of Academic Affairs and Provost
Maine Maritime Academy*

The last two decades have presented significant challenges and changes in maritime education at U.S. maritime academies. Maine Maritime Academy (MMA) is an example of an institution rising to meet the changes and challenges of an evolving world economy, increased environmental awareness, and internationalization of the maritime industries.

A Brief History

The Maine Nautical Training School was established in 1941 by the state of Maine in the village of Castine, thanks to the efforts of Mr. Ralph A. Leavitt, a state legislator and first president of the school's board of directors. In 1942, Maine Nautical Training School was officially designated Maine Maritime Academy with the single mission—born of wartime needs—to produce U.S. Naval Reserve and licensed merchant marine officers.

Maine Maritime Academy maintained a strictly maritime shipping industry focus for the first 45 years of its existence. As the U.S. Merchant Marine was downsized and many of the vessels put under flags of convenience, job placement at sea and enrollment began to diminish. Engineering graduates were always in demand ashore, but deck graduates found shoreside job placements less available.

A number of programs were established during the 1970s to prepare students for shoreside opportunities. MMA offered minors in shipyard operations, marine science, naval architecture, and other disciplines. In the 1970s, most students primarily focused on a license and developing a career at sea, but with a bachelor's degree



from MMA, they were able to develop shoreside careers if shipping billets were not available.

Today, Maine Maritime Academy continues to evolve to meet the needs of 21st-century students. Among its principal goals, MMA focuses on marine-related programs and prepares graduates for lifelong learning and leadership in a global economy while striving for professional placement for every graduate.

Accreditation

The academy's first accreditation was institutional accreditation by the New England Association of Schools and Colleges (NEASC). Institutional accreditation focuses on the entire institution as opposed to individual programs. To meet the requirements of NEASC, the curriculum was expanded in the area of general education components, and more courses were added in the arts, science, social studies, and mathematics.

Toward the end of the 1970s, Maine Maritime Academy applications and enrollment fluctuated dramatically with the ups and downs of the maritime job market. With rising staff and faculty concerns that the academy might not survive without higher enrollment, they began to put significant changes into place to assure stability and continuation of the merchant marine programs.

The appointment of Mr. Kenneth Curtis, a high-profile alumnus with experience as a seafarer, attorney, and leader in state, national, and international arenas, as president breathed new life into the academy's academic and student training programs. The regiment was restructured from a quasi-military organization into a leadership lab with clearly established goals for the student experience. Many of the obstacles that students had previously endured due to tradition were abandoned and leadership theory, practice, and guided



Castine Harbor is a busy place on a September afternoon as the academy's fleet of small vessels, including the tug *Pentagoet* and the schooner *Bowdoin*, are used for training. All photos courtesy of Maine Maritime Academy.



hands-on application were instituted in support of the main mission of the regimental structure. Curtis was outspoken in his directive "If it does not make sense, don't do it."

Current Programs

Under the leadership of President Curtis, the academy began to diversify its academic programs to provide for a more stable enrollment. This translated to the addition of programs that would not directly correlate with the U.S.-flag blue water fleet.

Over a 10-year period, MMA initiated various degree programs that did not lead to a USCG unlimited license, including:

- yacht design,
- marina management,
- small vessel operations,
- international business and logistics,
- ocean studies,
- marine biology,
- marine sciences,
- power engineering technology,
- power engineering operations,
- marine systems engineering.

The degree programs that do not lead to the unlimited USCG licenses do not require student participation in the regiment, though the program welcomes all undergraduate students.

On Campus

As a result, a special feature of student life at Maine Maritime Academy is the mix of two student lifestyles intermingled on one campus. The uniformed Regiment of Midshipmen follow a student-run leadership and management structure based on military traditions, courtesies, and terminology. Regimented

students also have additional training requirements that include shipboard maintenance, watchstanding, and professional development classes but incur no military obligation following graduation. Non-regimental students, referred to as "independents," follow a traditional college lifestyle. Students easily co-mingle in all

Regimental and independent students share a happy commencement.



While MMA has more than 200 commuting students, many seniors still opt to live in the recently renovated Curtis Hall residence. Senior-level students may also opt for apartment-style living on campus in the student commons.

areas of campus, from classes and campus residency to student government and athletics.

All new students participate in a two-and-a-half-day orientation program. Following this combined orientation, regimental and independent students diverge to enter separate three-day programs: the regimental preparatory program for those entering the Regiment of Midshipmen, or a public service program for independent students. Regimental students continue their

Maine Maritime Academy also has a strong tradition of support for the armed services of the United States. MMA hosts a Navy Reserve officer training program on campus that offers Naval scholarship opportunities and commissions for both the U.S. Navy and the U.S. Marine Corps. The college also enjoys a cooperative agreement with the U.S. Army for Army ROTC in conjunction with the University of Maine. Students in all majors may participate in ROTC and move on to military service careers.



Maine Maritime Academy students enjoy a modern student union and dining facility.

programming through the first six weeks of classes, completing extensive training during this MUG (Midshipmen Under Guidance) month.

A residential college, Maine Maritime Academy requires all students to live on campus unless they are 24 years or older, have an honorable discharge from the military, are married, or have lived in the residence hall for at least six terms. Currently MMA has about 200 commuting students. For those living on campus,

regimental and independent students live in separate areas of the residence hall for organizational and training purposes.

Master's Degree Program

During the 1970s, Maine Maritime Academy established the Center for Advanced Maritime Studies for those who were already professional mariners. Expanded in the late 1980s, the center became a modular-based master's degree program. This enabled active mariners to earn a master of science degree over a five-year period by taking five-week modules during their shoreside vacation periods.

While this program was designed primarily for U.S. mariners, international students composed the majority of the center's enrollment. Following 9/11, the program changed to a standard-semester graduate program, and now focuses on offering MS degrees in maritime management, international business, and global supply chain management. The school offers a reduced tuition incentive for MMA students who opt to receive a bachelor of science degree and immediately continue their master of science degree studies.

STCW

With the goal of enhancing career options for graduates, MMA has earned individual programmatic accreditation for three engineering majors and for the undergraduate program in international business and logistics. The advent of the International Maritime Or-

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ganization treaty and the Standards for Certification and Watchkeeping (STCW) has had a broad impact on the academy's license training programs. While the skills and knowledge specified by STCW have always been embedded in the college's curriculum and train-

ing programs, the certification requirements require an extensive system of assessment and recordkeeping.

Currently, 104 separate competencies for deck and engineering graduates must be assessed for each student.

Engineering

The engineering curriculum provides for six bachelor of science engineering degree majors.

Marine engineering operations: a traditional third assistant engineer's license program for students who want a career at sea.

Power engineering technology: a program that leads to a stationary plant operator's license for students who want to eventually move into power plant management. While no Coast Guard license is associated with this program, it allows students to sit for a professional engineer's license.

Power engineering operations: a program designed for students who want to be power plant operators.

Marine engineering technology: a major that includes more management, mathematics, and technology than the marine engineering operations curriculum. It is designed for students who may want to sit for a professional engineer's license in addition to the Coast Guard license. Students graduating with this major have greater opportunities for shoreside engineering careers while maintaining all of the engineering options for at-sea positions.

Marine systems engineering—license track: a two-year license program that follows a design engineer curriculum. Students in this program generally do not plan for a career at sea, and sit for

⊗ a professional engineer's license. Graduates generally move into design engineering or research careers. Graduates from this program sit for a USCG third assistant engineer's license as a value-added component.

⊗ Marine Systems Engineering—non-license track: a four-year program similar in every way to the license track, but without the USCG license option.

Deck

⊗ The Marine Transportation Department (deck department) has also embraced diversity by offering not only marine transportation operations (the traditional deck license program), but also offering associate as well as bachelor of science degree programs in small vessel operations.

⊗ The small vessel operations two-year associate degree allows a student to sit for a 200-ton mate's license. The four-year bachelor's degree allows one to sit for a 500-ton mate's license. These students actually take the same test as the unlimited third mate candidates, but have acquired sea time on limited tonnage vessels. Employment for these students exists in the inshore fleet on rivers and coastal waterways.

⊗ This major has become very popular, with many marine science and business students opting to add it as a second major at the time and expense of only one additional year of study.



The Maine Maritime Academy waterfront includes dockage for the 500-foot training ship *State of Maine* as well as a home for more than 60 vessels, including the tug *Pentagoet*, the research vessel *Friendship*, and the historic schooner *Bowdoin*.

These assessments are in addition to the academic requirements to successfully complete the courses. While the STCW program, as administered by the U.S. Coast Guard, is not referred to as an accreditation, in reality it is a rigorous programmatic accreditation.

Looking Forward

Diversification of academic programs, the addition of graduate degree offerings, and attention to accreditation and assessments at Maine Maritime Academy has resulted in an increased and stable enrollment. The academy reached its strategic goal of 800 undergraduate students three years ago and is currently struggling with more applicants than the college can accept.

This past academic year began with 889 undergraduate students and 16 in the graduate program. The diversification of academic programs has also led to an increase in the enrollment of women, with programs in international business and logistics, marine science,

and marine biology attracting the highest number of female applicants.

As MMA moves further into the 21st century, the college faces a number of opportunities and challenges. Overall, the placement of graduates has never been better, and graduates have been able to command substantial salaries. At the present time, and probably for some years to come, the job market for licensed graduates is excellent in both the blue water and coastal maritime industries.

About the author:

Mr. John Barlow was first appointed to Maine Maritime Academy in 1970. He presently serves as the vice president of academic affairs, provost, and the academic dean. His field of expertise is marine science. He received his B.S. degree from the University of Rhode Island in 1965 and Ph.D. from the University of Maine in 1969. He is the founding faculty member of the Corning School of Ocean Studies at Maine Maritime Academy, which offers B.S. degrees in marine science and marine biology.

Technology and Training



Keeping up with technology has been—and continues to be—a challenge. Simulators, lab equipment, and training aids are increasingly obsolete soon after installation. With required STCW assessments, the need for simulation and modern shipboard labs continues to be crucial to license programs.

Maine Maritime Academy will continue to be challenged in the struggle between training and education. Our programmatic accreditors, including the Coast Guard, want assurances that students can demonstrate certain trained skills and knowledge. Our institutional accreditation means we must provide more to a student than skills and knowledge.

Students must understand theory and know about the process of learning not only on technical topics, but as part of a general education. We encourage our students to become lifelong learners who are comfortable with changing technology and are ready to assume leadership roles in a diversity of careers.

Students in USCG engineering license programs as well as students in marine sciences share chemistry labs.



A Wake-up Call

The marine crewing crisis meets the heightened regulatory climate.

by MR. GREGG TRUNNELL
Director, Pacific Maritime Institute

An aging workforce and the exploding global demand for mariners have combined to create the perfect storm, which has already robbed the maritime industry of its core of officers, and leaves in its wake few viable candidates to take up the slack. This is not news to most maritime industry executives, but what should really worry the American marine operator? The international maritime personnel shortage will exacerbate the U.S. flag situation.

The American mariner, long thought to be overpaid, is now being actively sought for a wide range of foreign-registered marine platforms. A markedly weaker U.S. dollar has opened the door for foreign tonnage operators. Additionally, STCW¹ requirements, implemented

What's the bottom line? A markedly decreased window of opportunity for lower-tonnage credential candidates has merged with the reality that today's maritime academy graduates only go to sea at half of the numbers seen only 20 years ago. Worse, those who do go to sea are typically not staying.

Crewing Your Marine Platform 1968-Style in a 2008 World

Even as the number of STCW-qualified mariners increases at a faster rate than the general mariner population, today's astute maritime executive recognizes that the traditional, time-honored methods of recruiting, training, advancing, and—most importantly—retaining mariners are all but obsolete.



The Pacific Maritime Institute. All photos and graphics courtesy of MITAGS/PMI.

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at the beginning of this decade, significantly changed how an able bodied seaman could aspire to become a mate. In the past, sea time, radar training, and passing the Coast Guard examination was all it took. Today's changed standards require a total of about 20 weeks of specific course work, which can cost nearly \$20,000.

Until only recently, a crewing manager had few options when trying to grow a fleet and /or augment the stable mariners available for assignment. With the hawsepip² option for the upwardly mobile mariner virtually gone because of regulatory issues, many firms predictably began recruiting from their competitors.

continued on page 54

A CASE STUDY IN VOCATIONAL TRAINING

Real results, just in time.



PMI's full mission shiphandling simulator.

PMI's tug and ship simulator configuration.

The most significant change to how mariners are educated in this country in more than a century was born when maritime employers in Seattle came together to discuss the issue of recruitment and retention and collectively decided to support an apprenticeship model through PMI's workboat academy. This program combines 25 weeks of classroom, lab, and simulation instruction with one year of structured onboard training.

The Training

The first academic phase consists of two weeks of training, encompassing survival skills, personal safety and social responsibility, first aid, firefighting, leadership, rules of the road, line handling, and related simulation.

Following this initial orientation, the apprentices start the first sea phase, where they are given 12 weeks to receive eight weeks of actual sea time. This first sea phase period is probationary, and the majority of the apprentices are paid a flat rate of \$845.

After two months, the apprentice is evaluated by the vessel's officers, a port captain, and the workboat academy. If the company is comfortable with the apprentice's performance and he/she has completed onboard training, the apprentice is elevated to full-time status as either a deckhand or deckhand/cook and is paid the going day rate for all further sea time.

The balance of the workboat academy training includes another 20 weeks of classroom and lab training, as well as three weeks of simulation training that is coordinated with 10 additional months of actual sea time. Successful graduates of the program receive a mate 1,600 GRT near coastal or a mate 500 GRT ocean license (depending

on sea service), with a mate of towing endorsement (if the corresponding sea time and towing officer assessment record was accomplished on a towing vessel) and applicable STCW certification.

The Investment

Millions of dollars have been spent to ensure that PMI's two-year workboat mate program has the best possible equipment and course curriculum. A multi-million dollar, interactive, 330-degree, full mission tugboat simulator is an important part of the new curriculum.

Riding the bow wave of the early success enjoyed by PMI and its partner companies, PMI's parent and partner training facility, the Maritime Institute of Technology and Graduate Studies (MITAGS), has built its own simulator. MITAGS has also implemented this training program based on the vocational apprentice model that is already delivering dividends for PMI's partner companies.

Results

PMI's industry collaboration debuted in June 2006 with a class of seven cadets and marine operators from Dunlap Towing, Seacoast Towing, Sause Brothers, and Western Towboat. A second class, now increased to 18 cadets, has kicked off with other industry players joining in, including Foss Maritime, Crowley, Sirius Maritime, and Harley Marine Services.

The work platforms are as varied as the students themselves. Some work on the West Coast to Hawaii runs, some from the West Coast to Alaska, usually involving barge and tow or offshore supply vessel operations.



In 1968, and with considerably more mariners vying for a decreasing number of seagoing slots, this was a satisfactory solution. Today, it serves only to drive up the cost of putting a qualified hand aboard. Beyond this, the vast majority of marine operators do not have a formally structured in-house training system. Hence, the mariner stolen from the competition is an unknown quantity.

So, other than “borrowing” from your competitors, what are your other options? You can hire recent graduates from a traditional maritime academy or attempt promoting through the traditional hawsepipe. Each method has inherent drawbacks and merits, success stories and failures.

Another viable option: the vocational approach to mariner training. For those operators not inclined to spend millions of dollars setting up an internal training mechanism, it is now time to incorporate this method of recruiting into standard operating procedures.

Vocational Training Starts With Identifying the Ideal Apprentice

Who is a good candidate for vocational training? As it turns out, recent classes at the Pacific Maritime Institute (PMI) include a history teacher, movie cameraman/editor, tugboat shipyard worker, the son of a port captain, the son of a tugboat company owner, and the son of a marine pilot. In essence, none have any formal or significant seaborne training.

The apprentice model has therefore taken all of them from ground zero, just like the maritime academies, but with a key difference. This model focuses on a vocational approach, with a more mature candidate who is theoretically determined to achieve a career on the water.

PMI’s program advisory committee, comprised of staff members and participating companies, identifies target candidates. Often these include displaced workers, those seeking a second career, and retired military. The program is also designed to identify those who are looking for an entry point into the maritime industry. The candidate is then educated about the industry and the specific companies that are engaging apprentices. Perhaps the most important aspect of this process is that the final selection is made by the company, not the training institution.

Creating Brand Loyalty on the Boat

Partner/sponsor companies that participate in the apprentice system are deeply concerned about recruiting

and retaining qualified and motivated talent. Many sponsor companies offer tuition reimbursement programs. In this manner, apprentice cadets who stay with their sponsor companies after finishing the program will have their training loan paid off over a three-to-five-year period.

Therefore, companies sponsor apprentice cadets in an effort to train and retain good talent. Retention and brand loyalty then follow as a natural progression. However, the apprentice training changes a great deal more than the way the workboat officer is trained. Established apprentice programs have already shown that it is possible to facilitate the movement of less affluent candidates to aspire to a wheelhouse view of life at sea and to work at jobs and companies they love.

The Vocational Mariner: Focused, Committed, and On Board

The early returns are in, and the news is good. United Ocean System’s John P. King, director of safety and support services, says emphatically, “The workboat mate program has become an important part of our recruiting and retention efforts. The work that PMI does to pre-screen the candidates has proven superior to our previous efforts. The instruction is first-rate. We are anxiously awaiting a comparable program on the engineering side.”

Regardless of the type of vessel being manned, the number of candidates needed to keep pace with the growing demand will have to more than double. The benefits of an apprentice system that breeds loyalty cannot be discounted. In fact, this reinforces what we should already know—the best way to develop competent and loyal mariners is from within, using an apprentice system that is as old as time itself.

About the author:

Mr. Gregg Trunnell is the director of the Pacific Maritime Institute, Seattle, Wash. He holds a master 1,600 GRT license, a chief mate unlimited license, and a bachelor’s degree in marine transportation and business administration. He is currently studying at Seattle Pacific University for a master’s degree in non-profit leadership management. Mr. Trunnell’s most recent project focused on assisting companies and other organizations with recruitment and retention issues. Under his direction, PMI has created a new division—the workboat academy. As of January 2008, the workboat academy had 70 students enrolled in the two-year apprenticeship program, where they are working to achieve a mate 500 or 1,600 GRT license, with the STCW and mate of towing endorsements.

Endnotes:

- ¹ Standards of Training, Certification, and Watchkeeping code.
- ² See related article in this edition.

National Maritime Assets

The beneficiary training trust funds.

by MR. GLEN M. PAINE

Executive Director, Maritime Institute of Technology and Graduate Studies

The United States is blessed with one of the most impressive, privately owned and operated non-profit maritime training infrastructures in the world today, the beneficiary training trusts.¹ As private institutions, the trusts can respond faster than government-sponsored schools when dealing with rapid changes in the industry. Unlike profit-making institutions, non-profits are able to invest more of their resources into the quality of the training without the restriction of meeting a fixed return.

The companies that contribute to such trusts also benefit by receiving a fixed training cost each year. In turn, the mariners have a formal structure to help them achieve their career goals. From ordinary seafarer to master, from wiper to chief engineer, there are funds in place to take mariners as far as they would like to go. In fact, most trust funds provide training at little to no cost for the mariner, as the charge is based on the amount of time the mariner works for the company that contributes to the trust.

For nearly half a century, beneficiary trust funds have been an integral part of the U.S. maritime training infrastructure. They have proven to be a testimony to the foresight of an earlier generation of labor and management leaders who understood that structured career paths are crucial to the industry and to national defense. Today, most trust funds are set up as a separate, non-profit legal entity with an equal number of trustees from both labor and management. All have legal structures that prohibit the use of assets for political activities (organizing, fundraising, etc.) to ensure funds stay focused on the training mission. To ensure compliance, the U.S. Department of Labor conducts regular audits.



The Key to Advanced Training

Many ship operators do not have the resources to train their mariners in proper use of advanced integrated bridge and propulsion systems. Increasingly, they are looking to the training trusts to meet this challenge. In response, MITAGS continually invests millions of dollars in simulation technologies.

It simply does not make sense to train mariners on old equipment when the new bridges are full of plasma screens and electronics. Again, this would not be possible without the trust's non-profit structure.

Technology has also expanded the mission of modern vessels. Larger ships go into the same ports, but they now face channels that have not expanded to the same degree as the vessels. This has translated into the need for higher-quality training and simulation programs.

Structured simulation training under the tutelage of experienced instructors helps transfer the knowledge and skills necessary to pilot these vessels with a minimum of mistakes. Today, deck officers and state pilots alike regularly use simulators to develop new skills and hone existing ones.



Military Sealift Command Courses for Civilian Mariners

The value of trust schools to our nation has been highlighted by their major role in training civilian mariners for the operation of government vessels. Increasingly, the U.S. government has supplemented its Military Sealift Command fleet with ships that are operated by private companies. This is primarily due to the lower overall cost structure of a civilian-manned vessel, and the desire to maintain a cadre of civilian mariners who are trained and capable of manning the reserve ships in times of national emergency.

In close cooperation with the government-sponsored schools and the training trusts, unlicensed engine and deck officers have made substantial investments in the mariners operating these ships. These investments have provided the U.S. government with enormous savings. They have also provided a pool of qualified mariners who are capable of operating the reserve vessels. Today, many civilian mariners have experienced new employment opportunities on government vessels because the trust schools were willing to make such a commitment.

The *Bob Hope*, one of Military Sealift Command's large, medium-speed roll-on/roll-off ships, is the type of vessel that is typically manned by civilian mariners. Photo courtesy of Military Sealift Command.



Training trusts have evolved to keep up with the changes in the industry and the financial challenges we all face. In an effort to expand program offerings and achieve economies of scale, most funds have opened their facilities and certain program offerings to non-affiliated companies. This makes financial sense, since the schools can offer a wide range of programs for members without raising the contribution rate for the contracted companies. This system also benefits non-affiliated students, since they now have access to some of the top training facilities in the country. Furthermore, the quality of the training improves as the school receives feedback and input from a diverse group of companies and industry segments.

MITAGS/PMI

The maritime advancement, training, education, and safety program trust,² which operates the Maritime Institute of Technology and Graduate Studies (MITAGS) and the Pacific Maritime Institute (PMI), provides access to over 150 training courses. Major offerings include:

- STCW-95³ AB to mate program (22 weeks, for third mate unlimited license),
- STCW-95 workboat mate program (two-year apprenticeship earns 500/1,600-ton near coastal/oceans with the mate of towing endorsement),
- STCW-95 chief mate/master program (12 weeks, for an unlimited tonnage chief mate/master license),
- marine safety (firefighting, medical, and endurance),
- port and vessel operational research using full mission ship simulation.

Collaborating with industry and labor to “prepare for the future” probably best describes the organizational philosophy of MITAGS and its West Coast counterpart, the Pacific Maritime Institute. The schools’ strength is rooted in the ability to conceptualize new training methods, redefine the relationship of the school to the workplace, and continually create new and affordable venues for individuals to obtain the knowledge and skills necessary to work at sea.

Re-establishing the Chief Mate/Master and AB to Mate Pathways

A major impetus for this philosophy and approach was the implementation of the Standards of Training, Certification, and Watchstanding (STCW) code, since it dramatically affects the maritime licensing, recruitment, and retention processes. This calls for more training, at a higher level, with more resources needed than any one school could provide.

MITAGS and another trust, RTM Star Center,⁴ have made substantial investments in the areas of course development and simulation technologies to meet the new demands of the code associated with the upgrade to chief mate/master. Both training institutions have been offering the training to beneficiary trust students and tuition students. In the early years, MITAGS and RTM were the only schools in the country willing to make the up-front investment to provide the complete 12 weeks of training. Today, there are many mariners steadily advancing

Opportunities for U.S. Mariners in the LNG Industry

Today, there are more than 40 liquefied natural gas (LNG) import facilities in the planning or construction stage throughout North America. The growth of this industry is bringing new opportunities to mariners ashore and at sea.

On the shore side, MITAGS has been actively involved with pilot organizations and terminal operators in the modeling of terminals, waterways, and the liquefied natural gas carriers that are expected to serve the terminals. The new advances in simulation technologies now allow for accurate simulation and the ability for bridge teams, pilots, and tug masters to train together using integrated exercises.

At sea, MITAGS and the other union training trusts have collaborated with the maritime academies and Maritime Administration to establish U.S. training standards for Americans working on these carriers.



MITAGS simulator depiction of liquefied natural gas carrier operations. Graphic courtesy of MITAGS.

through the ranks due to the trusts' commitment to meet the licensing challenges that were created by STCW.

AB to Mate Under STCW

The code also dramatically changed the training requirements for "hawsepipers"⁵ who were upgrading from able-bodied (AB) seafarer to third mate. The maritime advancement, training, education, and safety (MATES) program trust, utilizing PMI, took on the challenge of developing and implementing the 22 weeks of training now required. Partnerships within the maritime industry and Washington State were crucial to this effort.

As with the chief mate/master upgrades, many "hawsepiper" sailors have been able to continue their career paths, without interruption, due to the MATES program trust. In fact, the AB to mate program has been so successful at PMI on the West Coast that it is now being offered at MITAGS.

National Assets

Leaders at the U.S. Coast Guard, the Military Sealift Command, and various members of government, as well as many maritime leaders, have called the various trust schools "national assets." In MITAGS' case, this reflects the wide variety of training programs that are offered.

The campus, staff, and curriculum provide a truly unique, professional environment. Whether the challenge is recruitment, retention, training, or a new issue, the trust schools will be an integral part of the solution.

About the author:

During his tenure of nearly 10 years, Mr. Paine has been responsible for the implementation of more than 150 training courses at MITAGS. He currently possesses a master's degree in general administration from the University of Maryland and a U.S. Coast Guard chief mate's license. He is also a 1978 graduate of the U.S. Merchant Marine Academy.

Endnotes:

- ¹ The major nonprofit beneficiary trusts are MITAGS/PMI—Masters, Mates, and Pilots; RTM Star Center—American Maritime Officers; Calhoon Engineering School—Marine Engineers' Beneficial Association; and the Harry Lundberg School of Seamanship—Seafarers International Union.
- ² The maritime advancement, training, education, and safety program was founded in the 1960s by the International Organization of Masters, Mates, and Pilots and major U.S. flag carriers. Its original purpose was to provide seafarer training, including programs for the advancement from AB to mate during the Vietnam War.
- ³ STCW-95 stands for the Standards of Training, Certification, and Watchstanding Code of 1978, as amended in 1995. Promulgated by the International Maritime Organization, the code set strict training, assessment, and certification standards for courses that are related to the safe navigation of a vessel. The code has been incorporated into the Code of Federal Regulations for all mariners sailing on vessels of 500 gross tons on near-coastal or foreign voyages.
- ⁴ RTM Star Center is a nonprofit beneficiary trust that was established by the American Maritime Officers Union and its contracted companies.
- ⁵ This is a ship's officer who began his or her career as an unlicensed merchant seaman and climbed the shipboard rank structure without attending a maritime college or academy. See related article in this edition.

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What Are Your Options When You Don't Get the Basketball Scholarship?

by FR. SINCLAIR OUBRE, J.C.L.

President, Apostleship of the Sea of the United States of America

I have been a member of the United States merchant marine since 1978. That summer, I sailed out of Cameron and Berwick, La., as an ordinary seaman. After ordination to the priesthood, I returned to the sea, joining the Seafarers International Union and shipping out in the deck department during my vacations. This hands-on experience has allowed me to see the many valuable opportunities a young man or woman has in our merchant marine.

Today, I am a pastor of a Catholic parish in Port Arthur, Texas, and the pastor of a mission church in Sabine Pass, Texas. Since the early 1980s, my community has been crushed by high unemployment and a lack of opportunity for non-college-bound high school graduates. Since 1985, unemployment levels have exceeded 20 percent, and have averaged between 10-15 percent. Wages stagnated to the point where a \$10-an-hour job was considered good. As a result, most of our young college graduates left the community for Austin, Dallas, and the Houston area.

If Not Basketball, Then What?

As a pastor, I am always looking for opportunities for my young people. Our public school system has invested little in vocational training. If my young people are not going to college, their opportunities are few and far between. Once someone discovers that their athletic skills will not get them a college scholarship, and that their parents

are not going to continue to finance their lifestyle, the tough question arises, "What am I going to do?"

Well, the military is one option. In fact, military recruiters attempt to attract our non-college-bound youth. However, if one does not see military service as a long-term career, then two years later, the young person is back living with parents at home. It's like a revolving door. If the young person stays home, then there are only a few low-skill construction jobs available. These pay between eight and 10 dollars an hour, and have few—if any—benefits. For most, though, a work career took them to the mall. There was always work at Foot Locker, the Gap, or Champs, though the pay was minimum wage.

In contrast to these paltry opportunities, there are always many opportunities in the marine industry. At the time, however, these are mostly filled by people from outside our area. For instance, among the 500 or so U.S.

merchant mariners that sail from Sabine Pass, the vast majority are from Louisiana, Mississippi, and east Texas.

This disconnect between the local community and its maritime industry shows itself in how the community's economic development corporation directs job training funds. Money for job training is simply not available for maritime training. Hundreds of thousands of dol-



Fr. Sinclair congratulates Edmund Livings for completing his upgrade to AB-unlimited. Edmund was the first candidate Fr. Sinclair sent to the Seafarers Harry Lundberg School of Seamanship in 1998. Photo courtesy of Fr. Sinclair Oubre.

lars have been invested for training in construction and refining, but no funding is available for jobs in the merchant marine sector.

Why? The Education Development Corporation requires that jobs be located in its local jurisdiction. However, with the exception of our harbor tugs, the shipping companies are in other cities, and the merchant mariner works at sea or along the intracoastal canal system. Because the jobs are not on land in our community, maritime training is excluded from available funding. For instance, a workboat can be on a long-term charter out of Sabine Pass, but because her owners are in Louisiana, and it works in the Gulf of Mexico, the jobs are not considered "local."



I always find it ironic that the priest is the local expert on how to start a career in the maritime industry.

Sail West, Young Man

Even with the lack of community awareness, the loss of our maritime tradition, and no local funding for maritime training, I still try to let young people know of the great opportunities available in the merchant marine. I do this in two ways.

First, I continue to sail myself. As a parish priest, I have four weeks of vacation every year. Since 1990, I have used most of these vacations to go back to sea. Sailing out of the Houston Hall of the Seafarers International Union, I usually throw in for one of the coastal tanker jobs or grab an oceangoing tug. In January of 2008, I was with Crowley Maritime on the tug *Adventurer*. I spent 17 days finishing up a ship assist off San Juan and bringing the tug back to her homeport of Jacksonville.

When I return, my parishioners ask many questions about where I was, what I was doing, and what the work was all about. This gives me an opportunity to talk about a career in the merchant marine, the income, the benefits, and the importance of the work.

Second, as director of the Port Arthur International Seafarer's Center, I often get calls from folks unfamiliar with Christian seafarers' ministry. They think that a seafarer center is like a union or hiring hall. People often call wanting to know how they can get a job "on the boats." Sometimes, they have just gotten out of the Navy and

want to continue going to sea, or they got their z-card in the 1980s and are interested in a career change.

Opportunities in the Merchant Marine

I explain to them what the seafarer center is—a ministry to mariners—and then inquire as to what type of maritime career they are interested in. For instance, are they thinking about the towboats that ply the intracoastal canal, the workboats that sail from Sabine Pass, or the deep sea vessels that call at the refineries and the public port? Sometimes they have a clear idea, but most of the time, they just want to get a job "on the boats," and don't have a clue how to get in or where to go to get information. I always find it ironic that the priest is the local expert on how to start a career in the maritime industry.

In giving them information, I send them to the U.S. Coast Guard's website for licensing and documentation (www.uscg.mil/nmc). Here, they can find information and the forms necessary for the initial application, physical, and drug test for a merchant mariner document. I will also direct them to the Seafarers International Union website if they are interested in an unlicensed deep sea career (<http://www.seafarers.org/phc>). Here, they can find information on the apprentice program and get an application.

If they are interested in an inland career, I direct them to our local training facility, Two Rivers Marine. Here, they can receive both information and training for entry-level positions in the inland industry. Finally, if the inquirer is looking for officer training, I suggest they investigate the Texas Maritime Academy in Galveston, Texas, or the U.S. Merchant Marine Academy. I explain to them that these are four-year programs, and when completed, one will receive a deck or engine license and a bachelor's degree.

I Want to Go to the Seafarers Harry Lundeberg School of Seamanship

If a young person wishes to join the Seafarers International Union (SIU) and attend its apprenticeship program, he or she must be 18 years of age (17 with parental consent), have a high school diploma or GED, and be eligible to work in the United States. Those without a diploma or GED can still be accepted, but must complete a GED program at the Seafarers Harry Lundeberg School of Seamanship (SHLSS) before being allowed to graduate.

The first stop for the applicant is the local Seafarer International Union Hall. Applicants receive an orienta-

continued on page 61





Here I am at Piney Point.



Phase I trainees tie up the *Osprey*, the school's active training vessel, as part of vessel operations class.

Trainees stand at attention during the daily colors ceremony at the Paul Hall Center for Maritime Training and Education. All photos by Mr. Mike Hickey, courtesy of Seafarers International Union.



Phase I trainees use time in the evening to study.



Engine department students learn how to operate a steam and diesel engine with practical training in the steam engine simulator.



Students in an engineering class.



Trainee Harold Gerber II spends some free time in the arts and crafts shop.



Trainees learn to stand watch in the full mission bridge simulator in phase III of deck department training.



Phase III trainees in the deck department participate in practical training on the line handling pier.



Upon completion of phase III, trainees graduate from the Paul Hall Center.

tion about the school and take an aptitude test to determine their educational competence. If they pass, they are then given the application to the SHLSS.

Once the application is completed, the youth returns to the SIU hall, where the application and required documentation are reviewed. The applicant must present:

- a completed and signed application form,
- acknowledgment of the SHLSS rules,
- a signed letter of acknowledgment of the candidate's responsibility to the SHLSS program,
- a completed and signed I-9 form.

In addition to the above, the candidate must submit:

- a letter from a dentist certifying good dental health,

- a valid passport,
- a birth certificate,
- an original merchant mariner document,
- any final court depositions,
- a state driving record,
- an original social security card.

If candidates had previous military, maritime, or vocational training, they should submit proof. Once everything is compiled and in order, the packet and original documents are mailed to the admissions office of the Seafarers Harry Lundeberg School of Seamanship.

Because the apprentice training, as well as all subsequent training, is paid for through SIU employment contracts, there is no tuition per se. However, there are some expenses that the applicant must bear, including:

- an application fee for a merchant mariner document (approximately \$155);
- an SIU physical, benzine test, and drug test (\$350);
- clothing and supplies at the SHLSS (\$450);
- a round-trip ticket from home to SHLSS.

Paul Hall Center for Maritime Training and Education

When applicants are accepted as apprentices, they travel to the Baltimore-Washington, D.C. area, where transportation is provided by the Seafarers Harry Lundeberg School of Seamanship to the Paul Hall Center for Maritime Training and Education in Piney Point, Md. Here, a World War II Navy torpedo testing facility has been transformed into one of the leading maritime training centers in the United States. Offering courses from entry level to third mate license, the center includes housing for apprentices and upgraders, classrooms, recreational areas, bridge and engine simulators, the Joseph Sacco Fire Fighting and Safety School, and a culinary lab.

Because apprentices come from every race, ethnic, regional, and family background, they live under rather stringent rules and regulations. When apprentices violate one of these general rules, they receive a demerit. If one receives seven demerits while in the program, he or she will be dismissed from the school.

The SHLSS apprenticeship program is divided into three training phases. The first phase lasts for 12 weeks, during which apprentices learn basic seamanship, complete the required STCW basic safety training, and complete the requirement for a lifeboat endorsement. In addition, they are introduced to the marlin spike and



wire splicing. If a student has not completed his or her GED, special classes are offered during this time.

Citizenship and individual responsibility are also taught through a series of classroom discussions and visits to Washington, D.C. Apprentices also receive lessons on the nature of the shipping industry, the economics of marine transportation, and government policies and regulations that affect the vitality of the U.S. fleet.

Once phase I is completed, the apprentice is shipped out on one of the SIU-contracted vessels for phase II. Here he or she will spend the next 90 days experiencing sea life in the three different shipboard departments, working 30 days each in the engine room, the deck department, and the galley. Apprentices are paid while working aboard, receive credit for sea time in each department, and get credit toward their Seafarers International Union benefit program.

Upon completion of phase II, the apprentice returns to Piney Point for seven weeks of follow-on training. Since apprentices just experienced all three ship departments, they now choose one to focus on for their individual careers. Phase III offers department-specific, entry-level training.

Upon completion of phase III, a graduation ceremony is held and apprentices receive certificates of completion for all courses completed. In addition, new graduates are guaranteed up to 120 days of work on one of the SIU-contracted vessels. Once apprentices have completed the requisite sea time, they can return to SHLSS for upgrading to AB or qualified member of the engine department. Upon completion of upgrading, apprentices become full members of the Seafarers International Union and receive a union book and B-level seniority.

A Few Final Thoughts

In recruiting the next generation of merchant mariners, the industry must do a much better job of reaching out to them and changing the image of who the modern merchant mariner is. Too often mariners are portrayed as those who go to sea because they can't do anything else or because they are in it for the money. These images do a disservice to the hard work mariners commit to their craft. A modern merchant mariner is one who has received unique training that allows him or her to perform irreplaceable tasks. He or she is entrusted with ships worth millions of dollars, carrying cargoes worth

hundreds of millions of dollars, and liabilities that exceed billions of dollars.

FOR MORE INFORMATION:

U.S. Coast Guard license: www.uscg.mil/nmc
Seafarers International Union, Paul Hall Center:
www.seafarers.org/phc
Two Rivers Marine: www.tworiversmarine.com
Texas Maritime Academy: www.tamug.edu/corps
U.S. Merchant Marine Academy:
www.usmma.edu

Modern mariners must also see themselves in this light. From my experience, the worst people to sail with are those who are only out there for the money. The money is good, but it only compensates for the sacrifice and hardship mariners must endure as part of their jobs. Our quality of life is directly related to the sacrifices mariners make when they leave their families and the comforts of home, so that the basic commodities and finished products that make our modern lives possible are brought to our shores.

Today, every mariner is a professional, and good riddance to the past! On my first vessel, my orientation consisted of the captain turning to me and the other ordinary seaman, saying, "Let her go!" Now, even the newest entry-level person has some type of basic safety training. No matter how basic this training is, it already separates mariners from contemporaries ashore.

Public perception will tremendously effect future recruitment and retention. The better the public perception of the merchant mariner, the easier the recruitment will be, and the better the candidates will be. We will know that public's perception of the merchant mariner has changed when John Q. Public begins to think that the terms "flight crew" and "ship crew" express the same level of professionalism, education, skill, and training.

About the author:

Fr. Sinclair Oubre has been a member of the United States merchant marine since 1978. He continues to sail part-time each year as an AB-Limited on Seafarers International Union contracted vessels. Since 1996, he has been the unlicensed deck member of the USCG Merchant Marine Personnel Advisory Committee. In addition, he is a member of the Nautical Institute and the Council of American Master Mariners. He is the pastor of the St. John the Evangelist Catholic Church in Port Arthur, Texas, and the St. Paul Catholic Mission in Sabine Pass, Texas. In addition, he is the director for maritime ministry (the Apostleship of the Sea) in the Diocese of Beaumont, and the national president for the Apostleship of the Sea of the United States of America.

Are Hawsepipers a Dying Breed?

Training unlimited tonnage mariners.

by MR. JOHN SITKA III
*Vice President of Academic Affairs
Mid-Atlantic Maritime Academy*

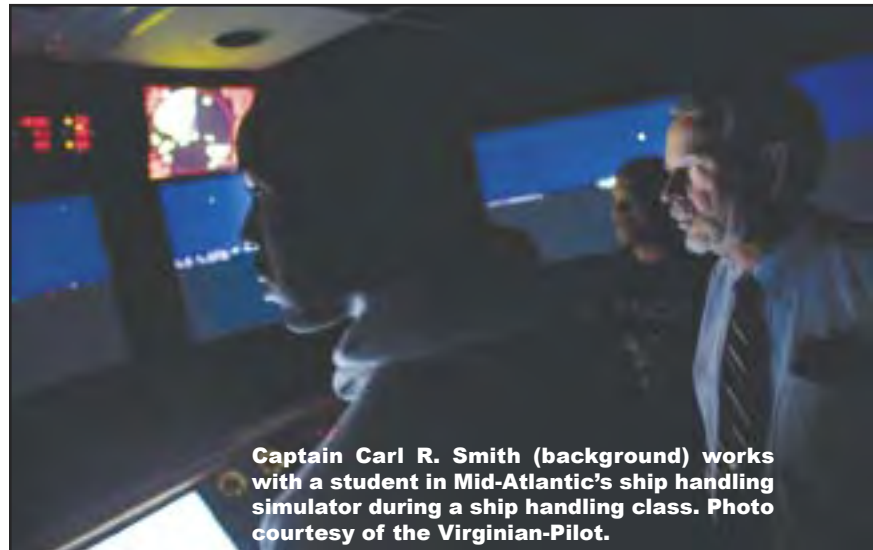
CAPTAIN CATHLEEN BURNS MAURO
*Director of Deck Education and Training
Mid-Atlantic Maritime Academy*

The hawsepipe on a ship is the pipe that passes through the forward section of a vessel where the anchor chain leads down from the foc'sle¹ to its place in the water. The term hawsepiper is also a nautical metaphor referring to a ship's officer who began his or her career as an unlicensed merchant seaman and climbed the ship-board rank structure without attending a maritime college or academy.

In the not-so-distant past, the route of the hawsepiper was fairly simple: accumulate the required amount of sea time, then submit your documentation to the Coast Guard for approval. After that, study for the test, pass the license exam, and have your new third mate or third assistant engineer license issued so you can go to work in your new capacity.

This system, while straightforward, was unstructured. The maritime industry saw a continual increase in the number of serious marine incidents that resulted in loss

of life, cargo, or damage to the environment. In response to the need for stricter safety standards, new training regulations have been implemented over the

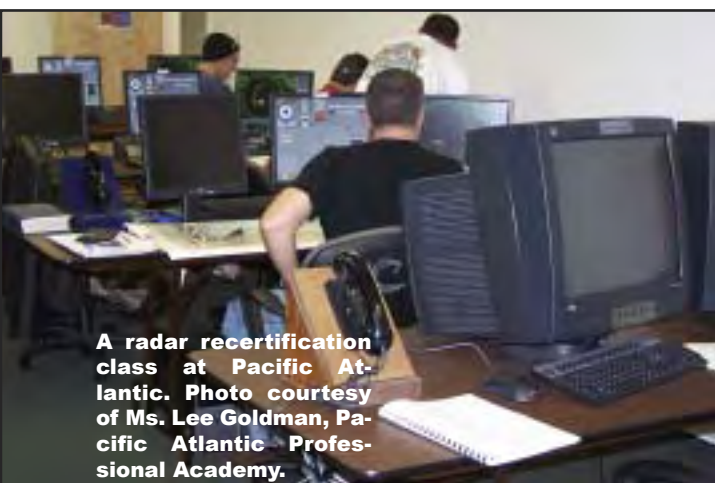


Captain Carl R. Smith (background) works with a student in Mid-Atlantic's ship handling simulator during a ship handling class. Photo courtesy of the Virginian-Pilot.

past 10 years. Becoming an officer is no longer a matter of simply studying for a test once you have the required amount of sea time.

The New Route to Your License

The progression path to a maritime license now includes taking training courses and completing onboard assessments to demonstrate competency in particular tasks. While it is a laudable effort, has the significant time requirement and cost of completing this formal education exacerbated a shortage of qualified mariners? Are hawsepipers a dying breed?



A radar recertification class at Pacific Atlantic. Photo courtesy of Ms. Lee Goldman, Pacific Atlantic Professional Academy.





Captain James H. Miller, Jr., Pacific Atlantic Professional Academy, discusses rowing procedures. Photo courtesy of Ms. Lee Goldman, Pacific Atlantic Professional Academy.

Not necessarily. While the traditional hawsepole may appear to be dying a slow death, a new opportunity is evolving. For mariners who aspire to break into the industry, there are basically three options.

They can attend a state maritime school such as New York Maritime, Massachusetts Maritime, Maine Maritime, California Maritime, Great Lakes Maritime Academy, Texas Maritime Academy, or the federal U.S. Merchant Marine Academy. These schools all offer stellar programs for obtaining an entry-level license, either third mate or third assistant engineer, and you simultaneously earn a four-year college degree.

Entry-level officers may also obtain their license via union schools, which serve great numbers. However, their priority is to support their members and companies who support them.

They can also attend a private school, such as Mid-Atlantic Maritime Academy. Mid-Atlantic offers the AB

to mate classroom training program over an 18-week period.

A Look at a Private Maritime Academy

Under the old licensing system, the cornerstone of most successful private schools was test preparation. The complexity of USCG examinations (with some modules requiring a passing grade of 90%) drove mariners to seek out a place to study where reference materials, space, and guidance were readily available. The need for test preparation still actively exists despite the new STCW requirements for formalized classroom training, so much so that maritime colleges and union schools have started to offer it. Private schools, while maintaining test preparation as a necessary course of study, have mainly had to shift their focus to the hands-on training requirements in order to stay competitive in the highly regulated and dynamic market of marine education.

For active duty military personnel preparing to retire, those who have the right amount of sea service, train-

ing, and discipline look at these schools as a portal to life after the military. At Mid-Atlantic Maritime Academy, they can get career counseling to help them determine what licenses they might qualify for. We also train mariners to work on cruise lines, casino boats, and offshore supply vessels.

Another advantage to having a smaller training facility is the personal attention and encouragement instructors can provide to their students. This can be key to individual success. It's unlikely that this personal interaction could be facilitated in a traditional educational setting. In our opinion, warm, personal instructors with a vast knowledge base and a sense of humor help the student relate to difficult concepts while providing better hands-on individualized experiences. At Mid-Atlantic Maritime Academy, class sizes are limited in an effort to make sure no student becomes just a number. The staff and instructors strive to be a part of the student's career process, from initial counseling, through class completion, through—finally—test taking.

FOR MORE INFORMATION:

Mid-Atlantic Maritime Academy
5705 Thurston Ave.
Virginia Beach, VA 23455
(757) 464-6008
www.mamatrains.com

Final Thoughts

Traditionally, smaller private schools may have been viewed as a quick and easy way to obtain a U.S. Coast Guard license. In contrast, today's newer, more stringent regulations on mariners in the industry have brought about more rigorous regulations for the schools who train them.

All courses must be submitted to the U.S. Coast Guard for approval, and the schools are subject to random Coast Guard auditing.

Large, established maritime colleges are subject to the same accountability as small private institutions, so the "playing field" is level. The ultimate goal is a quality education.

Private training facilities have a place in the career advancement and certification of mariners at all levels, and no matter the size of the organization, each type of training facility has a place in the training of the merchant marine. Any school—whether a state university, union affiliate, or private organization—ultimately has the same goal: to provide the best possible training to mariners in order to strengthen the maritime industry as a whole.

About the authors:

Mr. John Sitka III retired from the Navy as a chief quartermaster and while on active duty accomplished able seaman through unlimited 2nd mate. After retirement he operated various ships in the Gulf of Mexico and in 1995 was hired by Maersk Line Limited for work on government vessels. In 1999 he earned his unlimited master's license, and in 2005 he took over the Tidewater School of Navigation as chief instructor. He currently serves as vice president of academic affairs at Mid-Atlantic Maritime Academy.

Captain Cathleen Burns Mauro is a graduate of State University of N.Y. Maritime College and holds a B.S. in meteorology. After graduation, Captain Mauro sailed with American Maritime Officers over a 10-year period, serving primarily on Military Sealift Command contract vessels. Before coming ashore she spent two years as master of the USNS Capable. In 2006 she joined the instructional staff at the Tidewater School of Navigation, and now serves as director of deck education and training at Mid-Atlantic Maritime Academy.

Endnote:

¹ The forecandle of a ship (may be spelled foc'sle) is a forward upper deck area that extends to the bow.



Mid-Atlantic Maritime Academy lifeboat and davit. Photo courtesy of Mr. John Sitka, Mid-Atlantic Maritime Academy.





Army Mariners

Nothing happens until something moves.

by MAJOR CHERYL A. FENSOM (U.S. ARMY, RET.)

*Instructional Systems Specialist, Maritime Training Department
U.S. Army Transportation School*

The watercraft field stands out among the Army's military occupational specialties. Soldiers serving in this field are assigned to deck and engineer duties aboard Army vessels. These soldier-mariners of the U.S. Army Transportation Corps provide waterborne logistics for military operations worldwide. From combat operations to humanitarian missions, the Army's maritime field has consistently proven its worth and relevance in today's operational arena.

Soldier-mariners aboard Army vessels perform the same mission-essential tasks as their U.S. Coast Guard (USCG), Navy, and merchant marine counterparts. Army watercraft, for example, deliver 90 percent of all U.S. forces equipment and supplies.¹ Soldier-mariners

also receive USCG merchant mariner credentials for qualifying training.

While Navy and USCG sailors typically specialize in a specific area, soldier-mariners train in every aspect of seamanship and engineering duties. The maritime training campus, located at Fort Eustis, Va., provides this training through coursework, simulations, and hands-on opportunities.

Training Resources

The maritime training campus boasts state-of-the-art training facilities, equipped to provide a simulation-based training curriculum to master the skills necessary to operate a wide variety of Army watercraft and se-



FOR MORE INFORMATION:

U.S. Army Transportation School
705 Read Street
Ft. Eustis, VA 23604
www.transchool.eustis.army.mil

Students perform bridge and watch duties during full mission bridge simulator training. All photos courtesy of the Marine Terminal Department, U.S. Army Transportation School.

lected Naval, USCG, and commercial vessels in all conditions. Simulated vessels include:

- landing craft utility,
- logistic support vessel,
- large tug.

These trainers are standard training equipment used to ensure our soldier-mariners receive the most realistic training in preparation for sea duty, right down to a weapons simulator that simulates firing from a vessel under different threat conditions. Mariners train on all aspects of navigation, piloting, and engine room procedures prior to a vessel assignment.

NMC-Approved Courses

Courses are designed to meet the National Maritime Center's (NMC) guidelines for qualifying training. In some cases, such as with first aid and CPR, this involves removing some course training requirements and making them stand-alone courses to meet STCW guidelines.

Between 1998 and 2006, additional courses were approved for credentials, including:

- navigation rules of the road,
- stability and trim,
- search and rescue,
- meteorology,
- bridge resource management,
- automatic radar plotting aids,
- marine radar certificate renewal,
- tides and currents,
- Mercator sailings,
- personal survival techniques,
- fire prevention and firefighting,
- Standards of Training, Certification and Watchkeeping (STCW) basic safety training.

NMC also approved training for specific duties, including:

- boatswain,
- marine deck officer/warrant officer,
- radar observer,
- master of steam or motor vessel not more than 200 GT,
- apprentice mate for towing vessels.

NMC granted licensing equivalency for the rating forming part of navigational watch, rating forming part of engineering watch, able seaman with lifeboatman limited, qualified member of the engine department, and first aid and CPR.

Certification and Licensing

All Army mariners must obtain and maintain certification equivalent to their grade and position. Once Army



Training on the various simulators prepares future vessel masters for actual conditions.

mariners meet the training standard, physical requirements, and pass a test, they are issued marine certificates valid for five years from date of issue. Mariners have a six-month window in which they must recertify by taking a five-part, open-book exam for their skill level.

Army marine certification and licensing is a dual process. Army regulations state:

“U.S. Army marine personnel assigned to a vessel must be certified to grade, U.S. Army Marine Certification, and obtain a U.S. Army Marine License by passing the appropriate vessel-specific duty performance test for the vessel being operated.”²

The duty performance test is vessel-specific, and watercraft operators and engineers are required to complete it at every certification level. Upon successful completion, Army mariners receive a U.S. Army marine license, which is valid for one year if the soldier does not remain aboard that type of vessel. In order for a license to remain valid after one year, he or she must revalidate by performing key task items for the level of certification.





A student performs maintenance on a full-size engine mockup.

Future Initiatives

Continued efforts are in progress to obtain approval for Army programs, including marine engineer warrant officer, watch keeping officer in charge of engineering watches in manned engine rooms or as designated duty engineers in periodically unmanned engine rooms, and STCW rating forming part of an engineer watch. These programs are part of an ongoing, long-



Army watercraft move more than 90 percent of U.S. forces, supplies, and equipment for operations around the world.

term project to continue the mariner licensing process for Army personnel.

The maritime campus is also collaborating with Old Dominion University in this effort. Old Dominion has provided several degree program options that would award credit to soldier-mariners, Army warrant officers, and senior noncommissioned officers. Marine engineering technology and general, mechanical, and industrial engineering are options available at the un-

dergraduate level. Maritime and port operations courses are also available at the graduate level as a degree or certificate program.

With continued command emphasis within the U.S. Army Transportation School to capitalize on the commonality of the different maritime agencies, soldier-mariners will continue to benefit from a seamless transition from Army maritime training to universally recognized merchant mariner's credentials.

About the author:

Major (ret.) Cheryl Fensom served in the U.S. Army as a transportation officer and is currently an instructional systems specialist at the maritime training campus at Fort Eustis, Va. She spearheads the educational programs for Army mariners.

Endnotes:

¹ <http://www.eustis.army.mil>

² AR 56-9, Watercraft, Chapter 1-5, e (4)

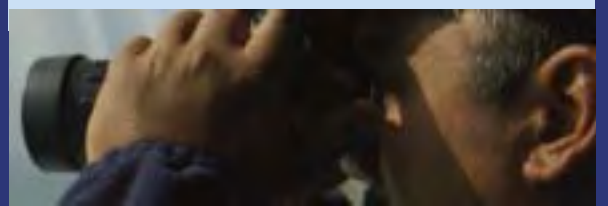
U.S. ARMY MARITIME OCCUPATIONAL SPECIALTIES INCLUDE:

- watercraft operator,
- seaman,
- leading seaman,
- boatswain,
- mate,
- watercraft engineer,
- engineman,
- senior engineman,
- junior marine engineer,
- assistant engineer.

At the officer level, the school provides instruction and the foundation for the specialties:

- marine deck officer,
- marine engineering officer for service aboard class A vessels.

The training curriculum is recognized and accepted by the USCG, and personnel completing the courses receive licenses and USCG merchant marine documents.



Improving Service to the Mariner

by CAPT DAVID C. STALFORT

Commanding Officer

U.S. Coast Guard National Maritime Center

The U.S. Coast Guard's National Maritime Center (NMC) is restructuring and centralizing the Mariner Licensing and Documentation (MLD) program to reduce credential processing time, improve customer service, and ensure the consistency and quality of U.S. credentials. An article in the Summer 2005 *Proceedings* introduced the restructuring and centralization project.

Ongoing projects include centralizing (at NMC) many MLD functions that had been performed at 17 regional exam centers (RECs) to streamline NMC credential production processes; aligning the RECs so that they report directly to the National Maritime Center; relocating program policy functions to U.S. Coast Guard headquarters; and divesting three NMC subunits.

Why Centralize?

Simply put, our customers demanded better service. Workload within the MLD program has risen steadily over the past 10 years and has become increasingly complex, due mainly to changes in international and domestic requirements. The implementation of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended in 1995, substantially increased the program's work. Additionally, the regulations implementing the Oil Pollution Act of 1990 required mariners to renew their merchant mariner documents, which increased activities throughout the program.

As the workload and demand continued to grow, RECs experienced delays in processing mariner credentials. In response, many regional exam centers began to reduce the hours during which they were open to the public, so staff could focus on processing. This resulted in a steep decline in customer services.



Finally, in response to the growing complaints of mariners, the marine industry, and Congress, the Coast Guard developed the restructuring and centralization plan, which was approved in 2005. Now, with a renewed commitment to making significant improvements to the MLD program, many initiatives have already produced notable results.

Results

With 17 RECs each issuing credentials, there were just as many different processes being used. This made it difficult to analyze process performance and identify where to make improvements. Once many of the credential production functions are centralized, it will be easier to streamline the processes. Centralization has already improved credential processing time.

Under centralized operations, many of the functions that were historically accomplished at regional exam centers will be shifted to the NMC in West Virginia. This shift of work will enable the REC staffs to focus their efforts on customer service efforts, such as helping mariners through the application process. Centralizing also creates economies of scale and process consistencies that make it possible for mariners to check the status of the credential application or obtain information from a call center or website.

Just as processing time varied among the re-

THE GOALS OF THE PROJECT ARE SIMPLE AND STRAIGHTFORWARD, YET CHALLENGING.

We will drastically reduce the time it takes to issue a credential.

We will dramatically improve customer services.

We will improve customer satisfaction by issuing a quality product and providing a quality service to mariners and the marine industry.



gional exam centers, so did the interpretation of MLD regulations and policies. By centralizing evaluations, we can assure consistency and maintain our evaluator expertise through cross-training and both formal and informal knowledge sharing. In this way, we will assure the safety and security of the maritime transportation system by only issuing credentials to mariners who are fully qualified.

Functions at the Regional Exam Centers

Mariners will submit their credential applications to their local REC, where the staff will review the applications to ensure they contain sufficient information to begin the evaluation. This role is especially important, as incomplete applications are a leading cause of processing delays. Further, many mariners need assistance, as the application process is often confusing and complex.

Once ready for evaluation, the regional exam centers will forward applications to the National Maritime Center to begin the evaluation process.

RECs will continue to administer examinations to mariners. Additionally, with the evaluation functions shifted to the NMC, the regional exam centers will also begin conducting audits of approved training courses. This will fill a long-standing gap in the MLD program.

Functions at the National Maritime Center

NMC teams will evaluate mariner applications to ensure they meet the requirements for each credential sought. All mariners undergo:

- a professional qualification evaluation,
- a safety and security evaluation,
- a medical evaluation.

The professional qualification evaluators review mariners' sea service experience and training to ensure they meet the requirements for the particular type and grade of credential being applied for. The safety and security evaluators review the mariners' backgrounds to ensure there are no issues that would prevent the Coast

CENTRALIZATION IS WORKING!

Several improvements aimed at reducing processing time have already been completed and are producing notable results. Applications that are complete when submitted to NMC via the centralized RECs are being processed faster.

Process improvements (completed)—In July 2007 the evaluation processes at NMC were adjusted to eliminate bottlenecks in the professional qualification evaluation branch. This resulted in a 30% reduction in inventory, which contributed to faster processing of credentials.

Electronic application forms (completed)—In October 2007, NMC deployed electronic versions of the credential application forms. Built-in business rules alert mariners to missing information to assure that the forms are complete before they submit the forms to the REC.

Making it easy to contact us (completed)—We've established multiple ways to contact us or obtain information about the MLD program, including a "live person" call center, online application tracking, online user fees, and subscription e-mail updates to MLD news and information.

Other developments have resulted in improvements in consistency and quality.

Medical evaluation system (completed)—Beginning in December 2006, as part of the centralization efforts, the evaluation of all merchant mariner physicals were conducted at the NMC.

Credential aging inventory initiative (ongoing)—NMC moved to reduce the inventory of aging credentials and reduce processing time by focusing efforts on completing applications over 120 days old. This effort reduced the nationwide inventory by 23% and helped reduce overall processing time.

Online sea service calculator (completed)—Just like many people are using online retirement calculators on financial websites to plan for their retirement, we see a need to provide a tool to help mariners plan their career progression. The NMC has launched a sea service calculator that enables mariners to identify the type of credential they are qualified for based on the amount of sea service and training they have accumulated. Mariners are also able to see the impact of additional sea time or training so they can better plan and understand how to progress through the deck and engineering license structure.

Guard from issuing them credentials. The medical evaluators, which include licensed physicians, physician assistants, and other medically trained staff, will review the mariners' physicals to ensure applicants are physically and medically competent to be issued a credential. Once qualified in all three areas, the NMC will create the credential and mail it directly to the mariner.

NMC maritime experts who are unlimited licensed masters and engineers also review and approve maritime training courses and qualify instructors to teach these courses. These experts also develop and update the professional exams administered to the mariners by the regional exam centers.

On the Horizon

The Coast Guard is committed to making significant and lasting improvements to the mariner licensing and documentation program. Our priorities for 2008 are to

complete the transition of all of the RECs to centralized operations and to streamline the centralized credential processing operations so that mariners can receive their credentials as quickly as possible.

While we understand that our past performance may not warrant giving us the benefit of doubt just yet, we ask that you continue to challenge us to improve, and please be patient as we do.

About the author:

CAPT David C. Stalfort is the commanding officer of the Coast Guard's National Maritime Center. He and the crew of the NMC are leading the effort to re-engineer the mariner licensing program and achieve the vision described in this article. CAPT Stalfort has worked in the Coast Guard's marine safety program for 23 years. He also holds a Coast Guard license as a master of steam, motor, or auxiliary sail vessels.

Acknowledgements:

Many individuals were instrumental in planning the NMC restructuring and centralization project, including Mr. Michael Rosecrans, CAPT David Kranking, CDR Nancy Goodridge, Mr. Gary Chappell, LCDR Jim Rocco, CDR Dave Flaherty, and CDR Craig Swirbliss.

Other improvements are planned for the future.

Trusted agents (planned)—NMC is expanding best practices from REC Houston's "streamlined evaluation program" into a nationwide program of trusted agents. Under this program, maritime academies, union schools, and individual companies will soon be certified as credential acceptance agents and perform application-related functions.

Electronic records (planned)—NMC will establish the electronic information in MMLD as the official record, thereby eliminating the requirement to save paper files containing mariner information. All important paper documents will be returned to the mariner once the application is processed. The mariner will then retain all the documents needed for future credential transactions.

Eliminating license creep (planned)—As the processing time for credentials increased over the years, many mariners began applying to renew their credential up to a year early. When the new credential was issued, the expired credential became invalid, often before its expiration date. As a result, the expired credential was not valid for the full five-year period, even though the mariner paid a user fee for a five-year credential. The phenomenon became known throughout industry as "license creep." We are taking steps to have a renewed credential become "valid" upon the expiration of the existing credential.

Electronic application system (planned)—In an effort to leverage existing technology and simplify the application process, we are developing the Merchant Mariner Secure Electronic Application System, or MM-SEAS. This system will be the "TurboTax" for mariners to use to submit their credential applications and for NMC personnel to use to process them. The system will also be capable of capturing course completion data from approved schools, medical information from physicians, sea service information from marine employers, and personal information from individual mariners.

FOR MORE INFORMATION:

Call center: (888) IASKNMC
Main phone: (304) 433-3400
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The Future of the U.S. Coast Guard's Merchant Mariner Credentialing Program



by CAPT DAVID C. STALFORT
Commanding Officer
U.S. Coast Guard National Maritime Center

Over the years, improvements in technology have made our lives simpler. The industrial revolution brought new inventions to make life and work easier. In recent years, we've seen how information technology has transformed today's world. There's a good chance that most of you reading this article use e-mail daily and conduct transactions over the Internet such as banking, investing, research, and e-commerce. Automatic teller machines dispense cash from banks around the world. Many young people today have grown up with these technological advances. Yet despite all this, merchant mariners must still conduct credential transactions with the Coast Guard by filling out paper forms by hand. Change is needed.

The following is a story about the Coast Guard's mariner licensing and documentation program written from the future. It provides a vivid description of how mariners will interface with the National Maritime Center when conducting credential transactions. This story illustrates what the world will look like when the NMC achieves its audacious goal to build the mariner credentialing version of Intuit, Inc.'s Turbo-Tax. One day, mariners will be able to upgrade or renew credentials on demand from any location in the world, much like you can access your bank account and withdraw cash from an ATM, or file your income taxes online.

Aboard MV *Renewed Hope* Malacca Straits, Andaman Sea August 14, 2015

The liner business today was not what Captain Scott had dreamt of when he chose his sea-going career. In some ways it was harder, lonelier, and more complicated. In other ways, it was a great time to be a U.S. merchant mariner. Captain Scott looked out over the water from the bridge. The traffic in the Malacca Straits always worried him. He preferred to be on the bridge even though the second mate was experienced and had piloted the straits several times.

MM-SEAS Calling

Suddenly, the PDA on his belt chimed with the arrival of a new e-mail. Pulling it from his hip with a quick, downward glance, a sudden anxiety came over him. "How could I have forgotten, again?" he sighed. The e-mail was an auto-generated message from the U.S. Coast Guard's merchant mariner credentialing program—in particular, the system at the backbone of the program: the Merchant Mariner Secure Electronic Application System, or MM-SEAS. It reminded him that his license was due to expire in two days!

He cursed himself, remembering that a week before, while crossing the Suez Canal bound from Hamburg to Singapore, he had received another in a series of reminder e-mails. He remembered thinking, "Oh, I'll take care of it when we clear the canal. One issue at a time ..." But once the nightmare of the Suez transit was over, he was so relieved that the renewal reminder completely slipped his mind. Over the next few days, the Bab-el-Mandep Straits took all his attention, and once in open ocean, his mind and efforts were elsewhere.

Now, a week later heading into Singapore, he had still not taken care of it. They had just one day scheduled in port and he knew there would be no extra time. Apart from the

“It took awhile, but the Coast Guard finally figured out how to do it right.”

normal port work, drills, class, and internal audits were also scheduled.

As Captain Scott piloted the strait, he reflected on the daily pressures of a master. Navigating through the undisciplined traffic in low visibility, he cursed the container vessel’s schedule, which gave him no time to rest or go ashore. The vast amount of paperwork and pressure associated with port state control inspections in each port didn’t help either.

Captain, Have You Lost Your Mind?

The captain heard the bridge door creak and saw it was the chief engineer. The chief looked around, cursed the visibility, and said while shaking his head, “What a mess. The traffic’s bad enough out there without the weather making things worse. How’s it going, Captain?”

“Still recovering from the lack of sleep and backlash of work. How are you doing, Chief?”

The chief expressed his concern about his own expiring license, trying to figure out how he would go about renewing with all the time planned at sea. Immediately, the captain was reminded of his predicament and that the time had finally come to take care of it. He told the chief that his own license would expire in two days.

Concerned, the chief asked, “What are you going to do during the next PSC document review? I remember hearing about how long USCG takes to issue licenses. Captain, have you lost your mind!?”

Captain Scott laughed and explained that it was no problem, as he could do it online. He told the chief that he was right to worry when talking about the old mariner licensing and documentation program of 10 years ago. “But today, it’s different. It took awhile, but the Coast Guard finally figured out how to do it right.”

Online

The captain called the second mate to keep watch and advised the chief (who had a confused look on his face) to

accompany him to the bridge wing as he went about renewing his license from 10,000 miles and one big ocean away from the National Maritime Center located in Martinsburg, W.Va.

The captain sat in his chair while the wireless workstation established the Pacific satellite connection. Within moments, he was online. The U.S. Coast Guard Merchant Mariner Credentialing site was saved in his “favorites,” and made him smile as it opened—finally, something easy and stress free.

As the page came up, he said to the chief, “We’re in business!” He selected the “LOGIN” tab and entered his personal identification number followed by the password. The interactive program prompted him to place his right index finger on the biometric scanner located on the screen and hit “SEND” when the print was captured. MM-SEAS instantly and securely verified his identity. His license details then flashed a red banner: “Renewal Due.” He clicked “RENEW” and the initial screen showed him what information was required, what information had already submitted to the NMC, and what information was still missing.

Captain Scott loved using the NMC website so much, he had logged into his personal account from time to time to keep up his sea service logs. The page showed him that his logs were up to date and had already been reviewed and verified. “I still keep them by hand out of habit,” he told the chief with a grin. “But the funny thing is, I can’t tell you where they are in my cabin, but I know the ones I keep online are perfectly accurate and secure.”

We’re in Business

Some of his STCW course renewals had been due when he was last on vacation in Honolulu, so he had taken the op-

“I keep sea logs by hand out of habit. Funny thing—I can’t tell you where they are in my cabin, but I know the ones I keep online are accurate and secure.”

portunity to complete the training. Though he had hard copies of the certificates, the schools also sent the results electronically to the NMC using an automated service within MM-SEAS. The results were validated electronically. Though not surprised, he was still relieved to see that his account had already been updated with the STCW refresher course results. Finally, someone he could count on!

No doubt from life as a master, Captain Scott had battled hypertension over the past several years. His medication had helped immensely, and although he had to take his pills daily and keep his prescription up to date, he sometimes forgot about it entirely. Years ago, the NMC had issued him a waiver to sail with the medication, and it had never been a problem since. With MM-SEAS online, his primary care doctor was able to validate that Scott's condition had not changed, using the website and electronic signatures.

He could see from the website that a few weeks ago the NMC had e-mailed his doctor to prompt him to go to the website and update the information from the physical he had completed on Scott in Honolulu recently. He could also see that the doctor did not respond immediately, so someone in West Virginia called him personally to remind him. The same day, the doctor completed his part.

Online Renewal

"What if all of that information wasn't already in the system?" asked the chief.

"That's the great thing about the program," the captain said, turning with excitement. "I receive periodic e-mails to remind me of my status and what's still needed. I always know where I stand, and there's no more guesswork about if and when I'll receive my renewal."

The captain continued, "For the junior officers, they can use the online wizards to see what they need for a raise in grade or endorsement. When I applied for my license years ago, I had to read through the application packets and even some of the regulations to try to figure out my options. In the end, I had to go to a Regional Examination Center to try to figure it out. Not anymore. The website tells you what's needed in minutes as you step through the process. Now, we just visit the RECs for certain examinations and if we need local licenses or pilotage endorsements."

The captain and chief navigated the site for a few minutes. The chief stared in silence until finally he said, "I had no idea the deck side had so many variations of credentials! Do you realize that there are more inland credentials than most countries have total credentials?"

With a chuckle, they both realized why it has taken the Coast Guard so long to get to where they are today. "With the way they've streamlined credentialing, I wouldn't be surprised if simplifying the U.S. regulations is next," speculated the captain.

Remembering the Malacca Straits, Scott knew it was time to complete the transaction and get back to work. The final

item on the "to do" list was the question "How would you like to pay?" Scott pulled out a credit card and entered the details. The word "PROCESSING" appeared on the screen and he waited. In seconds, he was shown his confirmation and receipt with the option to e-mail them to himself. The next screen informed him the process was complete and the IMO database on mariners had been updated with

"There's no more guesswork about if and when I'll receive my renewal."

the required information. He knew that the bar code on his passport-style combined merchant mariner credential would pass the scan in his next port of call.

"Guess you're done," said the chief, turning to leave.

15 Minutes to Renew, Including Surfing the Website for Fun

The captain almost laughed out loud. "Not quite yet, Chief." In bold letters in the middle of the screen was the prompt "Are there any other immediate interested parties who should be informed?" Scott uploaded the e-mails of the agents in the next four ports, the charterers, owners, and the PSC officials in the next two countries, including Singapore, and pressed "SEND."

Captain Scott now had his renewed license, and all parties were informed. He looked at the chief, who seemed impressed, but not too cheerful. Surprised, the captain asked, "What's the matter?"

"I need to go. I have to go back to my cabin and complete my paperwork in preparation for the PSC inspection in Singapore! Perhaps one day, PSC inspections will be as easy as renewing a license."

They both rose and started their separate ways. As the captain strode back to the bridge he was thinking, "I remember those days ..."

About the author:

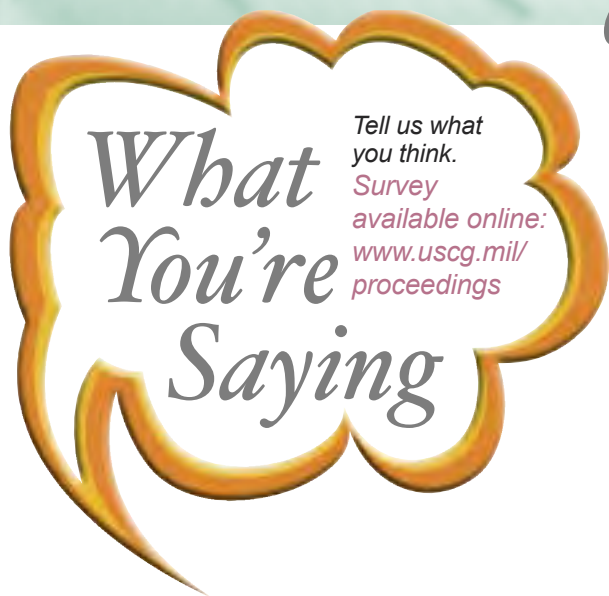
CAPT David C. Stalfort is the commanding officer of the Coast Guard's National Maritime Center. He and the crew of the NMC are leading the effort to re-engineer the mariner licensing program and achieve the vision described in this article. CAPT Stalfort has worked in the Coast Guard's marine safety program for 23 years. He also holds a Coast Guard license as a master of steam, motor, or auxiliary sail vessels.

Acknowledgements:

The author would like to thank the senior staff of the NMC, including Mr. Ike Eisentrout, Ms. Tina Bassett, Mr. Jim Cavo, Mr. Jeff Brandt, Mr. Bob Kenney, and CDR Craig Swirbliss, along with Mr. Andrew Lauden and Mr. Jonathan Davis of Quality Management International, Inc., for their contributions to this article and for their efforts to make this vision a reality.



PROCEEDINGS Magazine Reader's Survey



*What
You're
Saying*

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Winter 2007-08, WESTERN RIVERS

Topics I would like to be covered: Inland waters and CEMS workload.

More stuff on the cooperation between the auxiliary and active USCG.

How about writing up the activities of your OCONUS-based commands, such as U.S. Coast Guard Activities-Far East? It is an unknown commodity outside the USCG (and probably within USCG as well).

Large commercial shipping issues should be separated from small craft, boat issues. Also, I would like to see trends seen by port state control inspections on international trading vessels.

Marine accident reporting, possibly worldwide, as special insert.

I would like to see included an indicator of what the upcoming Proceedings issues will be about.

Spring 2008, INSPECTIONS and BOARDINGS

Excellent to see coverage of the Auxiliary. Please continue regular coverage of the fine work done by our volunteer Coasties.

Could you please provide more information regarding the recent marine safety performance plan?

[Editor's note: see Summer 2008 Proceedings.]

I would like articles on public vessel mariner credentials.

I would like to see an article addressing how the CG tracks medical conditions of non-licensed personnel.

Recommend seeking more comments and articles about the CG from the professional mariner standpoint.

I would like to see reaction letters to subjects brought up by mariners in mariners' speak.

Summer 2008, FOCUS ON SAFETY

While I don't always agree with your (USCG's) stand on an issue (e.g., TWIC cards), by reading Proceedings, I at least understand your position/point of view.

What steps are the RECs taking to modernize recordkeeping?

Your analysis and follow-up of the *STAR PRINCESS* and *STELLAMARE* casualties was VERY informative and useful.

Discussion of how public vessel mariner credentials are tracked and who verifies them.

Interagency interaction. How local rescue fireboats could work together or conduct drills with local, county, or state agencies.

What we're hearing is:

You have questions and you want authoritative answers from someone who speaks your language.

Go to www.uscg.mil and click on "Contact Us" at the upper right of the page. This will take you to an e-mail question form. Your question or comment will be sent to the appropriate USCG office.

For mariner licensing questions, e-mail iasknmc@uscg.mil.

Read and comment on the Web journal of USCG Commandant ADM Thad Allen at www.uscg.mil/comdt/blog.

Stay tuned for more information on ways to share your opinions and interact with the Coast Guard.

*What
We're
Hearing*

A Long Road Home



by MR. JEFFREY BRANDT
Program Support Division Chief
U.S. Coast Guard National Maritime Center

One significant piece of the merchant mariner licensing and documentation centralization project was the physical move of the National Maritime Center (NMC) from Arlington, Va. to Martinsburg, W.Va. This nearly two-year-long journey is now complete. The new building, located at 100 Forbes Drive in Martinsburg, W.Va. was constructed via a lease contract through the General Services Administration (GSA). Currently housing 57 government employees (military and civilian) and 100 contractors, the building still has ample space to accommodate the workforce growth expected to support the completely transitioned MLD program.

GSA worked closely with the Coast Guard to determine the projected needs of the NMC, issue the lease contract, and complete a building design on an exceptionally accelerated time schedule. The contract was awarded in September 2006, which signaled the start of the actual design process. This iterative process included a concerted effort to become certified under the

Leadership in Energy and Environmental Design (LEED) Green Building Rating System.[™]

Construction began in January 2007 with site clearing and excavation. Built on rock, there was a significant amount of blasting done to enable footings and utilities to be installed. The use of prefabricated concrete panels for the exterior walls was crucial to the construction process and timeline.

Temporary Facilities During Construction

With a targeted completion of November 2007, initial occupancy occurred in December 2007, with final occupancy in January 2008. Construction and occupancy of a nearly 60,000-square-foot building in less than one year is quite a feat, and one that would not have been possible without the outstanding teamwork of the building owner, construction contractor, GSA, and the Coast Guard, as well as some innovative construction techniques.



Building Green

Sponsored by the U.S. Green Building Counsel, LEED is the nationally accepted benchmark for the design, construction, and operation of high-performance “green” buildings. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health:

- sustainable site development,
- water savings,
- energy efficiency,
- materials selection,
- indoor environmental quality.¹

While all of this may sound complicated, it’s really quite a common-sense approach. For example, this building has a significant amount of windows to enable the transmission of ambient light throughout the building, reducing reliance on artificial light and energy consumption.

Other features such as low-volume water regulation, low volatile organic compound substances (paint, glue), products made from recycled materials, and recycling of construction waste all contributed to the building attaining LEED certification during the construction phase.

Through ongoing energy and water saving, product management, and recycling, the management team (consisting of the building owner, GSA, and the Coast Guard) intend to maintain the LEED certification as we transition from construction to occupancy. Currently, the project has enough “points” for LEED Silver certification, and is still working toward the LEED Gold rating. Only a dozen leased facilities across the nation have achieved either silver or gold certification.

Endnote:

¹www.usgbc.org.



Once the NMC's new location was chosen and simultaneous to construction, the Coast Guard began to relocate portions of the NMC to the Martinsburg area. As new employees were hired, they began work in temporary facilities in Kearneysville, W.Va., only a 20-minute ride from the new facility. Use of this temporary facility allowed the NMC to overcome space constraints at the Arlington facility, reduce the number of employee relocations, and generally reduce the workforce upheaval and stress associated with multiple relocations in a short time frame.

By the end of October 2007, the entire NMC was shoehorned into the temporary facilities in Kearneysville, marking the first time in over a year that the entire command was together in one location. While no major reorganization/relocation is free from employee angst, the NMC transition went about as well as can be expected, with 12 government employees relocating from Arlington, Va., and 34 hired directly to the Martinsburg area. The majority of the contract staff are local to the Martinsburg area.

FOR MORE INFORMATION:

Main NMC website:
<http://www.uscg.mil/nmc>
Homeport: <http://homeport.uscg.mil>
Call center: (888) IASKNMC
Main phone: (304) 433-3400
E-mail: iasknmc@uscg.mil

So just where is the new National Maritime Center? It's located about one mile off of Interstate 81 in Martinsburg, W.Va. Take exit 16E from I-81 and travel east for about one mile, then turn right at the CVS. However, since we are located on what is a new road, I would not recommend inputting "100 Forbes Dr." on your GPS. Instead, input the address of the CVS, 1200 Edwin Miller Blvd., Martinsburg, W.Va., and you will be sure to find us.

About the author:

Mr. Jeffrey Brandt was the program support division chief for the National Maritime Center. He is currently NMC's chief of the mariner information division. He is a retired Coast Guard commander with nearly 27 years of active and reserve service. Mr. Brandt holds an unlimited master license and is a Department of Homeland Security-certified, level II program manager.

National Maritime Center personnel. USCG photo.





Becoming a Storefront

The changing roles of the regional examination centers.

by CDR CRAIG S. SWIRBLISS

*Chief, Operations and Oversight Division
U.S. Coast Guard National Maritime Center*

The model for obtaining professional credentials for the nation's merchant mariners is undergoing a sea change. For years, merchant mariners have completed their credential applications by hand and sent them to be

Centralization will allow RECs to evolve into storefronts, expanding their role as mariner advocates.

processed by one of the 17 Coast Guard-staffed regional examination centers (or RECs) around the country. On an annual basis, the RECs processed more than 84,000

credential transactions, administered examinations, and oversaw more than 1,800 commercial maritime training centers.¹

This credential production process has been a major source of frustration to the maritime industry (and a source of complaints as well). Just filling out the forms and collecting the required paperwork was a time-consuming and often complicated process.

Past Model: Full Service Regional Exam Centers

Under the old process, the staff at the RECs reviewed applications and worked with the mariners to obtain any information missing from the application submission. The RECs then evaluated each application, in-

Benefits to the Mariner

Improved consistency—It will be easier to monitor consistency from a single office, as opposed to doing so from 17 different offices. A key to this consistency will be the documentation of all processes and work instructions. As part of the restructuring process, NMC created the operations and oversight division (NMC-1). NMC-1 ensures all new processes are documented and implemented uniformly throughout the program. Presently, NMC-1 monitors over 100 documented processes, work instructions, forms, and guidance documents.

Reduced processing time—Having all evaluation resources located and managed centrally allows the NMC to quickly reallocate those resources in response to changing demand. By the end of De-

cember 2007, the average license renewal processing time had improved by 35% from the peak at the beginning of 2007.

Improved customer service—With the evaluation function shifted to the National Maritime Center, the REC storefront staff will be able to focus more individual attention on the mariners, helping to ensure their applications are ready to be evaluated. One constant drain on REC staff time was frequent calls from mariners asking about the status of their applications. In response, the NMC established a toll-free call center to answer questions and provide information to applicants. Soon mariners will be able to check the status of their credential application online.

cluding limited security background checks, reviews of the professional qualifications, and medical evaluations. Additionally, a mariner sometimes needed to

(whose full-time jobs were to review physicals for active duty Coast Guard employees) reviewed the mariner's physical. Needless to say, this created excessive turnaround time.

| Merchant Mariner Licensing and Documentation (MLD) Program | | | | |
|---|------|---|------|--------|
| Mariner File Organization & Mariner Application Submittal to NMC Checklist | | | | |
| TOP | Date | Mariner Name: | REF: | X / NR |
| File Contents: | | | | |
| | | 1 Camera set-up form with two passport photos (MMD and STCW only). | | |
| | | 2 User fee sheet or Pay.Gov receipt | | |
| | | 3 Application (CG 719B) (w/oath for original license and MMD only) | | |
| | | 4 Written statement (who, what, where, when, and why) to any applicable "yes" answers and anything that pertains to the convictions i.e. court documentation | | |
| | | 5 Physical (CG 719K) or Entry Lvl Physical (CG 719K/E), if applicable include any amplifying information from physician. | | |
| | | 6 Drug Screen (CG 719P) or a letter from a marine employer or a drug consortium | | |
| | | 7 Sea service | | |
| | | 8 Course certificates - sighted (i.e. Radar, Master, or OUPV courses, 1st Aid/CPR) | | |
| | | 9 Three (3) character references. (For original license only) | | |
| | | 10 Two unexpired forms of identification per MLD-FM-REC-105. Proof of citizenship is required for first original credential (required at each application for foreign national). | | |
| | | 11 Social security card or letter from Social Security Administration indicating assigned number - Sighted (For original transactions and first time vetting applicants only) | | |
| | | 12 SF-86 | | |
| | | 13 Authorization for release of information (Optional) | | |
| BOTTOM | | 14 Copies of all credentials held (If Applicable) | | |
| MMLD / LiveScan Requirements: | | | | |
| | | 15 Create new application in MMLD w/credential(s) transaction status of "REQUESTED" and record user fee payment(s) if applicable. | | |
| | | 16 Initiate vetting request (Status Request & Remark) and transmit fingerprints. See MLD-WI-NMC5-10 and NMC 03-06 for requirements. | | |
| | | 17 Check "Request MDR" box (If Applicable). See NMC 03-06 for requirements. | | |
| | | 18 MMLD correspondence entry: Method: "MAIL" - Summary: "Application mailed to NMC this date." * The date of this entry <u>must</u> coincide with the actual mail date of the application(s). | | |
| Pilotage Requirements (Other than Renewals & Duplicates) | | | | |
| | | 19 Endorsement credential created in MMLD; REC retains route info & copy of 719B | | |
| | | 20 MMLD Correspondence Entry: "[Evaluator's name] is evaluating Pilotage info" | | |
| Local Limited License (Other than Duplicates) | | | | |
| | | 21 Original credential created in MMLD; REC retains route info & copy of 719B | | |
| | | 22 MMLD Correspondence Entry: "[Evaluator's name] is evaluating Local Limited License info" | | |
| Transfer: | | | | |
| Prepare a per box packing list of all applications to include applicant last name, first name, & MMLD reference Number (Do not use applicant SSN). Include a copy in the box & e-mail a copy to: ARL-DG-NMC5USGC. | | | | |
| The e-mail <u>must</u> indicate shipment date, courier used & box tracking number. Enclose an additional packing list for all other documents with POC for routing including what it is/who receives it. | | | | |

Figure 1: A checklist helps to ensure mariner credential applications are ready to be evaluated before forwarding to the National Maritime Center. USCG graphic.

take an exam at the regional exam center to demonstrate proficiency in a specific area.

The regional exam center also reviewed the mariner's physical and decided whether a medical waiver was necessary. Any waiver requests were sent to the National Maritime Center, who then forwarded them to Coast Guard headquarters. Once at HQ, doctors

the hours they were open to the public.

Understandably, these adjustments led to a decline in customer service. Moreover, regulations and policies, issued by Coast Guard headquarters and the NMC, respectively, were subject to varied interpretation among the 17 RECs, resulting in escalating complaints about a lack of consistency.

Complicating matters further, the waiver decisions were based on standards for Coast Guard military employees, not for a working maritime population.

In addition, the RECs conducted evaluations of the mariner's professional qualifications. Once the regional exam centers completed the entire evaluation process and found a mariner to be fully qualified, they printed a credential and issued it to the mariner. The overall turnaround time took anywhere between a few days and a year, depending on the quality of the submission and the responsiveness of both the Coast Guard staff and the applicant.

Unfortunately, processing times at the regional exam centers increased over the years due to regulatory changes and an increase in the number of mariners applying for credentials. In an effort to reduce backlog, many RECs stopped answering the telephone and curtailed





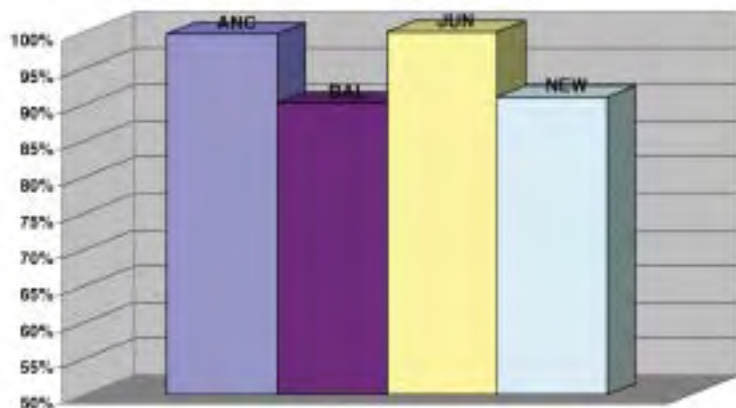
Mariner Licensing and Documentation (MLD) Program



Regional Examination Center Scorecard

15 January - 15 February

TREC Score Comparison



| REC | Sample Size | Quality Score | | Total Errors | Overall Grade |
|-----------------|-------------|----------------|-----------------|--------------|---------------|
| | | General Errors | Critical Errors | | |
| ANC | 33 | 1 | 0 | 1 | 100% |
| BAL | 53 | 12 | 4 | 16 | 90% |
| JUN | 11 | 0 | 0 | 0 | 100% |
| NEW | 75 | 10 | 6 | 16 | 91% |
| BOS | | | | | |
| CHA | | | | | |
| HON | | | | | |
| HOU | | | | | |
| LOS | | | | | |
| MEM | | | | | |
| MIA | | | | | |
| NYC | | | | | |
| POR | | | | | |
| SEA | | | | | |
| SFC | | | | | |
| SLM | | | | | |
| TOL | | | | | |
| Averages | 44 | 6 | 3 | 8 | 95% |

Scores added when RECs Transition

TREC Quality Score History

Past 4 Data Points (Monthly)

| REC | Nov | Dec | Jan | Feb | Trend |
|-----|-----|-----|------|------|-------|
| ANC | 95% | 97% | 100% | 100% | ↔↔ |
| BAL | 75% | 90% | 92% | 90% | ↔↔ |
| JUN | 95% | 90% | 95% | 100% | ↕ |
| NEW | 97% | 90% | 97% | 91% | ↕ |
| BOS | N/A | N/A | N/A | N/A | N/A |
| CHA | N/A | N/A | N/A | N/A | N/A |
| HON | N/A | N/A | N/A | N/A | N/A |
| HOU | N/A | N/A | N/A | N/A | N/A |
| LOS | N/A | N/A | N/A | N/A | N/A |
| MEM | N/A | N/A | N/A | N/A | N/A |
| MIA | N/A | N/A | N/A | N/A | N/A |
| NYC | N/A | N/A | N/A | N/A | N/A |
| POR | N/A | N/A | N/A | N/A | N/A |
| SEA | N/A | N/A | N/A | N/A | N/A |
| SFC | N/A | N/A | N/A | N/A | N/A |
| SLM | N/A | N/A | N/A | N/A | N/A |
| TOL | N/A | N/A | N/A | N/A | N/A |

State 1 "Requested" Cycle Time and Throughput

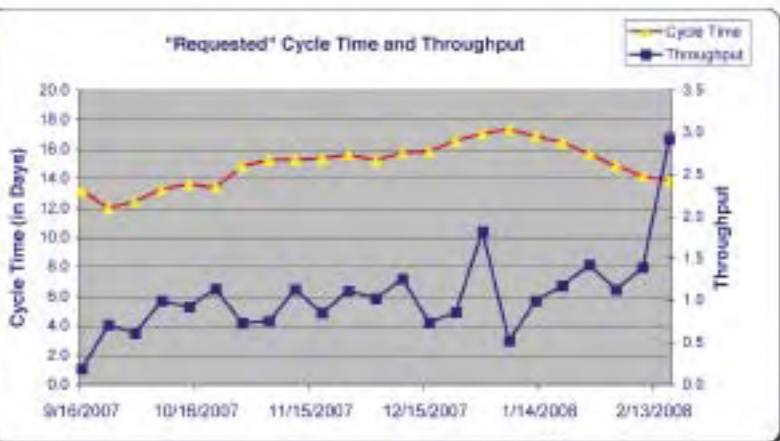


Figure 2: A Regional Examination Center scorecard, used to measure performance. USCG graphic.

The Future Model: REC Storefronts

Currently the NMC is working with each of the 17 regional exam centers to centralize credential application processing. Under centralized operations, mariners will still submit their applications to one of the 17 RECs. The regional exam centers will then ensure that each mariner's application is ready for evaluation. Using a detailed checklist, RECs will determine when an application is ready to be evaluated by the NMC (Figure 1).

Once they have completed this preliminary review, the regional exam centers will send the application to the

NMC for its staff to evaluate entirely, including the security evaluation, professional qualification review, and medical screening. The NMC will notify the mariner of any needed exams, and the regional exam center will administer the exam to the mariner and relay the score. The National Maritime Center will then issue a credential to the mariner.

In contrast to the full service model, in the centralized process it is not the RECs, but the NMC that notifies the mariner of any necessary tests and issues the credential. Overall, the centralization of the evaluation function will allow the transitioned RECs to evolve into storefronts,



| REC | Final Transition Date | Final Count of Employees |
|-------------------|-----------------------|--------------------------|
| New Orleans, LA | 31-Mar-08 | 14 |
| Anchorage, AK | 31-Mar-08 | 3 |
| Juneau, AK | 31-Mar-08 | 4 |
| Toledo, OH | 31-May-08 | 6 |
| St. Louis, MO | 31-May-08 | 2 |
| Memphis, TN | 30-Jun-08 | 3 |
| Los Angeles, CA | 30-Jun-08 | 5 |
| Seattle, WA | 31-Jul-08 | 5 |
| San Francisco, CA | 31-Jul-08 | 6 |
| Baltimore, MD | 31-Aug-08 | 7 |
| Portland, OR | 31-Aug-08 | 4 |
| New York, NY | 30-Sep-08 | 8 |
| Charleston, SC | 30-Sep-08 | 4 |
| Honolulu, HI | 30-Sep-08 | 4 |
| Miami, FL | 31-Oct-08 | 9 |
| Houston, TX | 30-Nov-08 | 6 |
| Boston, MA | 31-Dec-08 | 10 |

Table 1.

expanding their role as mariner advocates and allowing them to aid mariners in the application process.

Workforce Restructuring

To assist the transitioned storefronts, the NMC created a scorecard (Figure 2) to evaluate progress. This monthly scorecard monitors the quality of the RECs’ application submissions, as well as how quickly the regional exam centers are sending them to the NMC. This will identify any training gaps and uncover potential process improvement opportunities.

All National Maritime Center staff members moved into a permanent facility in Martinsburg, W.Va., in January 2008. The 120-person staff consists of many former REC workers and credentialed mariners. The staff will expand to approximately 230 by December of 2008. By then, all of the RECs will have transitioned to storefronts (Table 1) and will be working directly for the NMC.

Staff levels at regional exam centers across the country will shrink to a total of 100 government employees,

with a minimum of two employees and a maximum of 15 at each.

A Long-Overdue Course Change

The mariner credential production process had long been a source of frustration to the maritime industry and the Coast Guard. After years of complaints and low customer satisfaction, we envision that this shift to storefront operations will allow the regional exam centers to act fully as advocates to our most important customer: the mariner.

About the author:

CDR Swirlbliss manages ongoing improvements to the mariner credential production process and coordinates the efforts of the 17 regional exam centers. He previously served as REC chief in New Orleans during Hurricane Katrina. He is a Coast Guard Academy graduate and holds master’s degrees in management and industrial and operations engineering.

Bibliography:

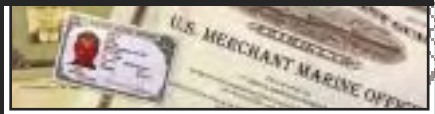
Adapted from the presentation entitled “Improvements to Mariner Licensing and Documentation,” CAPT David Stalfort, Coast Guard National Maritime Center, January 2008.

Endnote:

¹ Williams, Laura, “G-I Pelorus: Restructuring and Centralization of the Merchant Mariner Licensing and Documentation (MLD) Program,” March 23, 2005.



USCG Mariner Licensing & Documentation Program



Top 10 Reasons Why Credentials Are Delayed

by Ms. TINA BASSETT

*U.S. Coast Guard National Maritime Center
Chief, Mariner Evaluations Division*

1. Sea service. Remember to submit the service in the appropriate format (on the CG-719S, discharge certificates, or on company letterhead). When using the CG-719S, don't forget to include the vessel owner's name and the official number or registration. If verifying your own service, don't forget to include proof of vessel ownership. In many cases, the application is delayed while waiting for submission of more total sea service days, more service on the vessel type or size, or more service on the appropriate route or waters.

2. DOT/USCG periodic drug test. Applicants can submit drug test results signed by an approved medical review officer or submit proof of enrollment in a drug testing program. Common reasons the Coast Guard may not accept submissions are the wrong test was taken (only the five-panel DOT test is acceptable), the test receipt was submitted but not the signed results, or the drug test program does not meet Coast Guard requirements.

3. Physical examination. Before leaving the physician's office, be sure that the physical form is completely filled out. Incomplete examination forms will be returned. Don't forget to review and sign it.

4. Application CG-719B. Pay particular attention to the requirements. If a section is optional, the form will state that. All other sections must be completed. The most common missing information is next of kin information (name and address are required by law), your address, and signatures where required. Don't forget that your credentials will be mailed to the address on your application. If you would like your credentials mailed to another address, include a signed request with your application.

5. Fingerprints. The Coast Guard will not begin to evaluate your application until you have appeared at an REC to have your fingerprints taken. Some RECs have arrangements with other Coast Guard units, including

auxiliary units, to have fingerprints taken. Check with your REC for the nearest available location.

6. Proof of identity. When you appear to have fingerprints taken, you must bring an original, unexpired, government-issued photo identification card. Check with your REC or the Coast Guard website <http://homeport.uscg.mil> for qualifying proof of identity.

7. Proof of citizenship or nationality. There are many documents that are acceptable for proof of citizenship for U.S. citizens or proof of nationality for resident aliens. Again, check with your REC or the Coast Guard website for qualifying proof of citizenship or nationality. Don't forget that originals of these documents must be presented at the REC.

8. Amplifying information from physician. If a potentially disqualifying medical condition exists, an applicant may be required to submit amplifying information to complete the medical evaluation.

9. Passport-style photo. Don't forget that photos submitted for your MMD or STCW certificates must be passport style. The photos must not be blurry or dark, and head gear or dark glasses are not permitted.

10. First aid/CPR certificate. These are required for an original license or certificate of registry, and originals must be submitted. The first aid certificate must be completed within 12 months of the application submission and must be approved by the American Red Cross or Multi-media Standard First Aid. The CPR certificate must be valid and must be approved by the American National Red Cross or American Heart Association.

About the author:

Tina Bassett graduated Officer Candidate School in 1990 and remains a LCDR in the Coast Guard Reserve. She has worked with Coast Guard marine safety for 15 years, including one year as Juneau REC chief, and holds a master's license and AB unlimited. She holds a BA in anthropology and an MS in quality systems management.

Your Opinion Matters

USCG Mariner Licensing & Documentation Program



by CDR CRAIG S. SWIRBLISS
 Chief, Operations and Oversight Division
 U.S. Coast Guard National Maritime Center

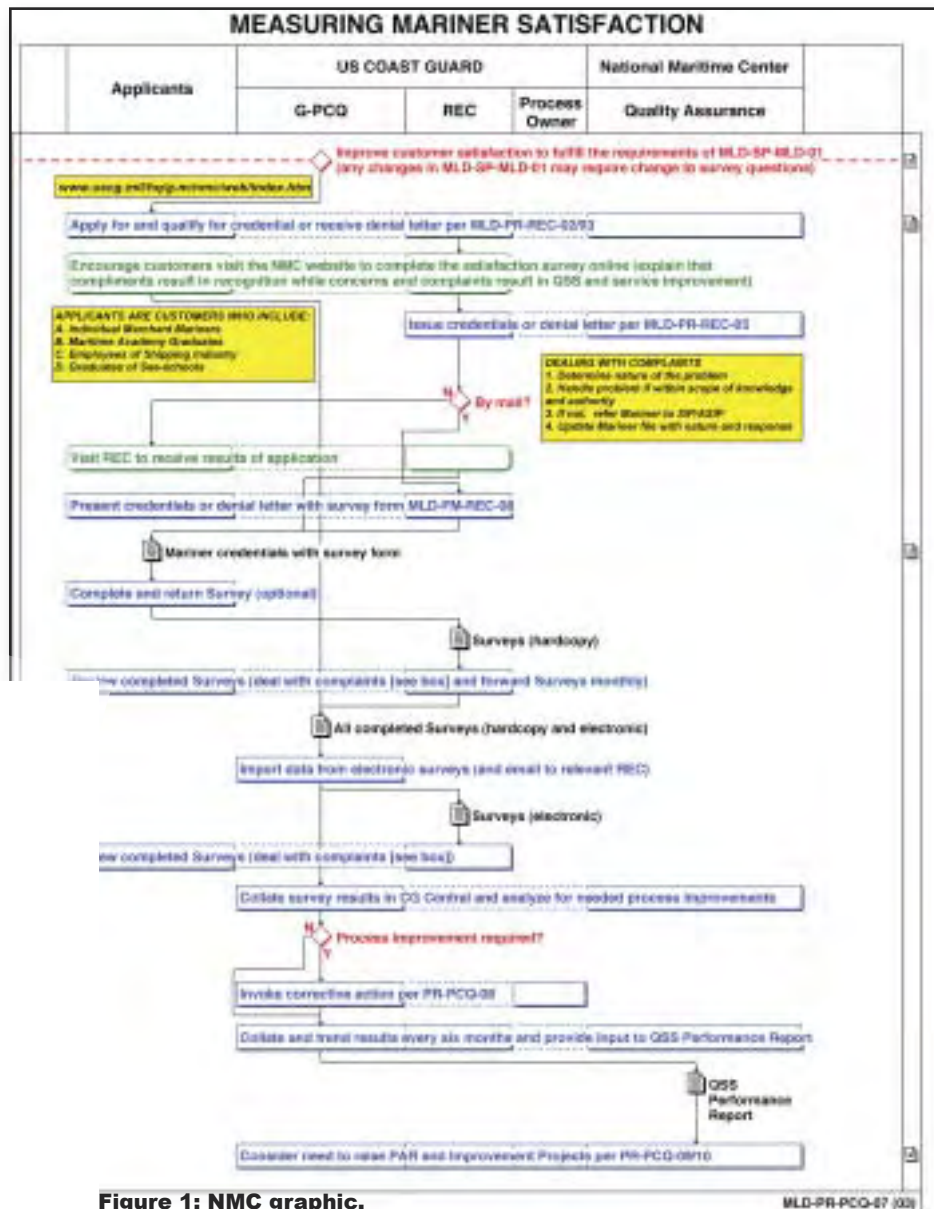


Figure 1: NMC graphic.

The Mariner Licensing and Documentation (MLD) program continually strives to understand the needs, opinions, and satisfaction of its customers. The challenge is to satisfy the mariner without compromising regulations. The office of quality assurance and traveling inspectors at Coast Guard headquarters (CG-546) designed the overall process called “measuring mariner satisfaction” (Figure 1).

The operations and oversight division at the National Maritime Center (NMC) implements this mariner satisfaction survey system throughout the MLD program, and coordinates the actions among the regional examination centers (RECs) and these Coast Guard offices.

Current Collection Process

The formal collection process is not unlike the process of filling out a customer satisfaction card after getting an oil change, eating at a restaur-



rant, or purchasing an appliance. In the same manner, when mariners are issued a professional credential, they also receive a customer survey form (Figure 2).

There are four primary sections on the customer survey form:

1. Mariner contact information: The mariner can fill out contact information in case he/she would like to be contacted by a Coast Guard representative.

2. Transaction section: This section assists the Coast Guard in targeting the part of the process that might need improvement. This section, in particular, has become more crucial over the past year now that the RECs are no longer the only Coast Guard entity the mariner will encounter.

3. Agree/disagree section: This contains specific, targeted questions about services and products received that the mariner can rate on a “1” to “10” scale.

4. Please contact me: If mariners want to talk to someone about a specific problem encountered during the credential production process, a Coast Guard staff member will contact them to find out the nature of the issue. If the problem resides with a specific REC, then a staff member from that REC will contact the mariner. If there is a comment regarding the overall process, the NMC staff will take appropriate action.

A few RECs also provide a list of questions on the back of the survey form to target REC-specific concerns, such

as ease of parking and mode of transportation. Surveys are optional and confidential. There is absolutely no connection between the survey form and the mariner’s records; the Coast Guard will not withhold services or otherwise retaliate in light of a less-than-favorable customer survey form. If mariners are uncomfortable fill-

The image shows a customer survey form titled "USCG Merchant Mariner Licensing and Documentation (MLD) Program Your Opinion Matters!". The form is designed to gather feedback on the service provided. It includes fields for "Your Name", "Date", "Contact Phone / Email", and "Zip Code". A table allows users to check all that apply for "Method" (In Person, By Telephone, By Mail, By Email, Website), "Location" (Regional Exam Center, National Maritime Center, Other), "Credential" (License, STCW Certificate, Merchant Mariner Document, Certificate of Registry), "Transaction Type" (Original, Duplicate, Renewal, Raise in Grade, Change in Scope, Endorsement), and "Service" (General Info, Evaluation, Application Pkg., Testing, Issuance). Below this is a section for "Why did you choose this location?" with options like "Closest to my location", "My file is located here", "Professionalism of service", and "Speed of service". A rating scale from 10 (Strongly Agree) to 1 (Strongly Disagree) is provided for ten statements regarding the service. The form concludes with a "Please contact me" section and submission instructions, including a "Print Form" and "Submit by Email" button.

Figure 2: Customer survey form at <http://homeport.uscg.mil/mmcsurvey>.

ing out the paper survey form, they are encouraged to fill out the customer survey form online via the Homeport website at <http://homeport.uscg.mil/mmcsurvey>.

The paper survey forms have the local REC’s address printed on them so they can be mailed back to the correct location. Mariners may choose to mail back the survey form or to return it by hand to the local REC. Once

the REC receives the survey form, its staff will examine it and contact the mariner as soon as possible, if requested. Some mariners attach written comments or complaints addressing a specific problem, for example, an uncomfortable examination room temperature or unfriendly staff. If applicable, the REC immediately addresses these complaints with the mariner. When the REC is finished processing the paper survey form, the staff then mails it to CG-546, where the data will be centrally collected and collated. The CG-546 staff imports the numerical data into a database where the data will be systematically analyzed.

The electronic survey form that the mariner fills out on Homeport follows a different path than its paper twin. After the electronic survey form is completed, it is submitted directly via e-mail to CG-546. If a mariner requests to be contacted, a staff member from CG-546 contacts the mariner directly. Otherwise, the information on the form is imported into the database and the electronic form is e-mailed directly to the relevant REC or the NMC for action.

There are potential problems with using a self-reporting form. Mariners tend to fill them out only when they receive good service, when they already have their credential in hand. When they are experiencing difficulties with the credential production process, the mariners are less apt to fill them out, possibly in fear of further complications. Moreover, if mariners choose to return their paper customer survey forms via mail, they must provide their own stamps, possibly further suppressing the amount of responses mailed in.

Mariner feedback often comes through less formal channels. Sometimes specific concerns are brought forward when the National Maritime Center leadership meets with maritime industry leadership at industry events and conferences. Occasionally other Coast Guard commands pass along specific concerns to the NMC. In addition, mariners will call the NMC's toll-free call center with specific complaints or concerns. Overall, our feedback comes from many sources—paper or electronic surveys, formal and informal communications, or the customer service call center.

Responding to the Surveys

When the Coast Guard receives mariner feedback, our first priority is to identify any problems or complaints regarding the local REC, the NMC, or the program as a

When we receive mariner feedback, our first priority is to identify any problems or complaints regarding the local REC, the NMC, or the program as a whole and quickly address these complaints.

whole and quickly address these complaints. Regardless of the source, all complaints and concerns will be entered into the system and dealt with in a timely manner. By observing specific complaints over time, we are able to identify trends and respond by changing process or policy to address them. For instance, mariners often commented in their surveys that our application form was difficult to fill out. This led the NMC to develop an interactive, fillable PDF application form with built-in error checking. This form is available on NMC's website and has received glowing reviews from industry. In addition, frequent complaints about poor customer service led to the implementation of our toll-free customer call center. We currently receive about 14,900 phone contacts and 1,600 e-mail contacts per month!

Analyzing the Data

After the NMC addresses immediate issues, the CG-546 staff reviews the survey satisfaction data on a global level to help prioritize projects for the NMC. The numerical data are analyzed to target REC-specific or program-level improvement opportunities. Four key objectives, represented by the targeted questions on the survey form, are measured relating to:

- application evaluated per expectation,
- application or examination information available as needed,
- prompt application or examination support,
- professional application or examination support.

CG-546 and the NMC jointly analyze the summary data monthly, and improvement opportunities are identified as a result.

Why Measure Feedback?

The Coast Guard and the maritime industry share a common goal of wanting the credential process to be quick, efficient, and accurate. With a program objective of increasing mariner customer satisfaction, having a mariner survey system in place allows us to prioritize



Mariners often commented in their surveys that our application form was difficult to fill out. This led the NMC to develop an interactive, fillable PDF application form.

and refine the credential production processes as required.

It is not the surveys alone that drive improvement. In the summer of 2007, during the initial phases of the centralization process, the NMC leadership met with selected industry leadership to ask for their assistance in prioritizing the NMC agenda. The following are concrete improvements made to the credential production process per industry leader suggestion:

Prioritize applications. The industry leadership said it is most important to ensure no current working merchant mariners lose work due to credentialing process difficulties. When feasible, we give top priority to renewal applications over original applications.

Take full advantage of websites. Industry leaders stated that they would like mariners to be able to make better use of Internet resources. The NMC has since implemented online application tracking via the Homeport website and online fee paying via the Pay.gov website. Additionally, the NMC is in the planning stages of developing online electronic applications.

Address bulk application processing. There are seven maritime academies and numerous schools and maritime companies who regularly submit credential applications in bulk to the Coast Guard. Industry leaders had concerns about complications caused by the centralization process changes and its impact on “bulk processing.” Currently the NMC is developing the new processes and new work instructions for bulk application processing.

What’s Next?

We are currently redesigning and updating the mariner survey form to better reflect the changes the credential

production process has undergone, but also to make it easier for the mariner to use. For example, there will be questions specifically asking about contacting the toll-free call center or using our websites to check application status.

We are also updating the format of the survey to make it more user-friendly. The questions will flow in a more logical fashion, making it easier for the mariner to navigate. We will ask the mariner to rank their preferences on the survey form, which should make it easier to measure which aspects of the process the customers value the most. One example of such a question is “What is most important—fast service, courteous staff, ease of payment, or accuracy of final product?”

Lastly, our newly designed surveys will include business reply mail, which will likely lead to greater participation since mariners won’t have to purchase their own postage.

In the future, the Coast Guard will capitalize on technology by making the data fields on the survey forms machine readable. In addition to electronic and paper surveys, it is possible that the NMC information staff will be conducting customer satisfaction surveys via telephone.

Once we have responded to initial complaints and analyzed the data, we will make the data results visible and available—not only to the Coast Guard staff, but to the public, as well. We currently have a Coast Guard listserv on our website where we notify subscribers of news regarding our process. We will relay the survey results to our mariner customers via this listserv or simply publish the results on the website.

About the author:

CDR Swirbliss manages ongoing improvements to the mariner credential production process and coordinates the efforts of the 17 RECs. He previously served as REC chief in New Orleans during Hurricane Katrina. He is a Coast Guard Academy graduate and holds master’s degrees in management and in industrial and operations engineering.

Go to <http://homeport.uscg.mil/mmcsurvey> for online customer service survey.

Finding Mariner Licensing and Documentation Information Online



by LT HILARY STICKLE
Records Management Branch Chief
U.S. Coast Guard National Maritime Center

The National Maritime Center is committed to providing customer service that exceeds mariners' expectations. To aid in this objective, the NMC has intensified its efforts to improve the mariner outreach program and provide the most recent mariner licensing and documentation (MLD) information to the mariner and industry in a timely manner, employing the most efficient, user-friendly web format.

NMC Website

The primary website, www.uscg.mil/nmc, hosts the majority of the information mariners need.

Here you will find the information mariners use when submitting applications for merchant mariner documents. On the left side of this webpage, you will see the website menu bar, which provides a list of broad information topics that can be found on the site. In the middle of this webpage, you will see the pages most often accessed.

At the bottom of each page on this website, you will see items to assist users, such as the NMC contact e-mail addresses, including IASKNMC@uscg.mil for mariner application questions and the website e-mail address D05-DG-NMCWebmaster@uscg.mil for content issues, updates, and questions. You will also see the NMC help desk phone number: 888-427-5662.



Figure 1: Mariner licensing and documentation website.





Figure 2: Homeport.

Homeport

Homeport, <http://homeport.uscg.mil>, is the U.S. Coast Guard portal to information covering Coast Guard missions. To access merchant mariner information, click on the “merchant mariners” button on the left-hand menu

These notifications are sent via e-mail to subscribers. Since October 2007, membership has grown to more than 1,000 subscribers.

How to Use the NMC Website

The NMC website contains:

- information guides and checklists that provide guidance to mariners applying for a license or document renewals or upgrades,
- PowerPoint presentations that walk mariners through the application submission process,
- all the forms needed to complete an application request.

It also provides information about MLD program policies, links to other maritime sites, and a feedback page.

To navigate the site, just move your cursor over the

bar, approximately 10 buttons down from the top.

The major difference between Homeport and the NMC website is that Homeport provides greater information security. For this reason, mariners can use Homeport to check their application status online. It also provides access to the new sea service calculator, which will assist mariners in determining if they meet renewal sea service requirements.

Coast Guard Listserve

The final Internet tool the NMC uses is the Coast Guard listserve, at http://cgls.uscg.mil/grp_list.php. With this tool, we can notify the maritime community when there is new or updated content posted on the NMC website.

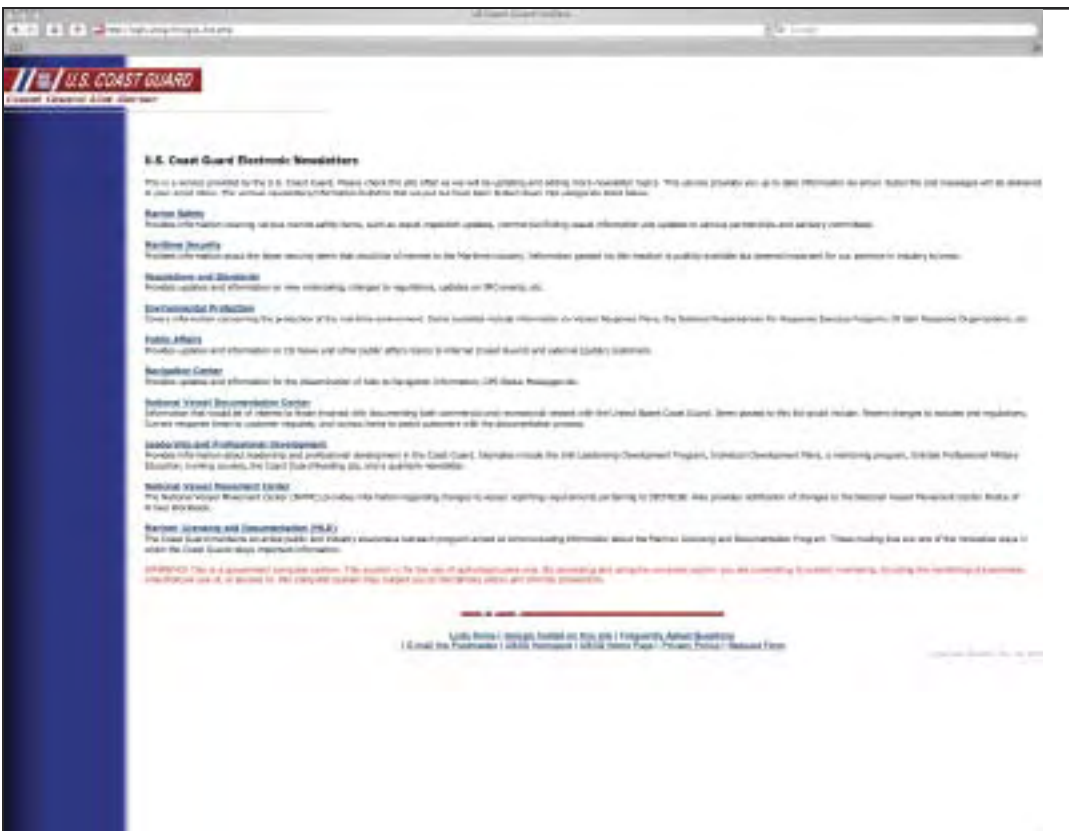


Figure 3: Coast Guard listserve webpage.

left menu. As you move down the menu options, you will see sub-menu items or topics. As long as your cursor remains on the menu bar, the sub-menus will be viewable on the screen. To open these sub-menu items, move your cursor over and click on the topic you wish to review and that page will open.

The left-hand menu is organized by type of application; such as new mariner, renewal, or license; and required information, such as checklists for specific types of credentials or user fees and drug test information.

Within the FAQ page you will find general information about what is required for the type of application being submitted. On the "new mariner" page, there is a help guide that will walk you through what is needed to obtain an MMD. Within the "merchant mariner info center" page, you will find policy and guidance, REC information, and course and examination information. The "application & forms" page has all the application forms you may need to apply for any of the various types of mariner licenses or documents.

There is even a pdf application form (CG-719B-F5) you can fill out online. The final pages you will find are "links/feedback" and "site map." Under "links/feedback," you will find various links, such as the Transportation Worker Identification Credential (TWIC) site that provides you such information and the REC web pages that provide hours of operation, addresses, and phone numbers. The "feedback" section provides an avenue for comments, suggestions, and recommendations. Under the "site map" page you will find a list of all the pages in the website. Each item is a link that will take you to that page when clicked.

Some upcoming website enhancements include providing a keyword search function to quickly locate website information, and the ability to post large quantities of content in a format that eliminates the need to open multiple pdf and Word documents.

How to Use Homeport

Homeport provides mariners with a secure environment to check on the status of an active application. Once on the Homeport homepage, find the "merchant mariners" button in the left-hand menu bar and click on that button. A new screen will open up and at the top of this new screen you will see "merchant mariner application status." When you click on it, another screen appears, and you will need to fill out all the required fields:

- Enter your mariner identification number (also known as reference number).
- Enter your application number.

Or, if you do not know your identification number and application number:

- Enter your last name.
- Enter the last four numbers of your Social Security number.
- Enter your birth date.

Next, hit "go" and information on the status of your submitted application will be displayed. Remember Homeport is a security site, and part of its security measures is a time-out function. If the Homeport window is open for more than 60 minutes, the system will "time out" on you, and you will have to log back in.

Please note: You must access the merchant mariner application status tool through Internet Explorer. If you attempt to access Homeport from your AOL, Yahoo, or other Internet service provider accounts, the merchant mariner application function might not work.

The content of Homeport is organized slightly differently than the NMC website, but most of the menu buttons are the same. The first item on the menu is the merchant mariner application status. Next is the sea service renewal calculator, then "What's New at NMC." The content under this menu is the same as that of the NMC website.

How to Subscribe to the Listserve

Anyone can subscribe using the link http://cgls.uscg.mil/grp_list.php. Once on the homepage, scroll down to "Mariner Licensing and Documentation" and click. The NMC subject or topic-specific lists will appear. Select one you want to subscribe to and click the "subscribe" link. This will take you to the subscription page. Complete all the required fields and click on the "subscribe" button. Repeat this process for each list you want.

FOR MORE INFORMATION:

Main NMC website:
<http://www.uscg.mil/nmc>
Homeport: <http://homeport.uscg.mil>
Call center: (888) IASKNMC
Main phone: (304) 433-3400
E-mail: iasknmc@uscg.mil



You will begin to receive all notices of new or updated information for that list. The notices provide you the name of the new or updated document, a brief description, and a link that will take you to that content on the NMC website. The notice also provides a link back to the NMC CGLS lists and a method to unsubscribe to any of the lists.

If you want to be removed from a list, click on the link at the bottom of the notice; this will take you to the CGLS list page. Select the subject or topic you wish to “unsubscribe” and click the “unsubscribe” link. This will take you to the subscription page. At the bottom of this page, click the “unsubscribe or edit options” button. This opens another page, and in the middle of the screen you will see an “unsubscribe” button.

This process generates an e-mail to you with a link you must click to complete the removal process. If you do not complete this step you will not be removed from the subscription list.

Lists include:

- **NMC updates:** information about NMC’s operations, ongoing process improvements, and important information about merchant mariner credentials.
- **NMC performance reports:** information on credential production performance statistics,

including processing time, application inventory, and customer satisfaction.

- **MLD program policy updates:** information concerning changes to regulations, Navigation and Vessel Inspection Circulars, and other policy guidance.
- **REC news/announcements:** concerning REC locations, hours of operation, contact information, and other operations information.
- **Mariner information/news:** information for mariners seeking licenses and/or MMDs, including changes to credential application, physical and other forms, revisions to the checklist, information packets, instruction guides, information for healthcare professionals, selected frequently asked questions, NMC points of contact, and other pertinent information.
- **Coast Guard-approved courses:** information on Coast Guard-approved training, courses, examinations, course audits, and other information.

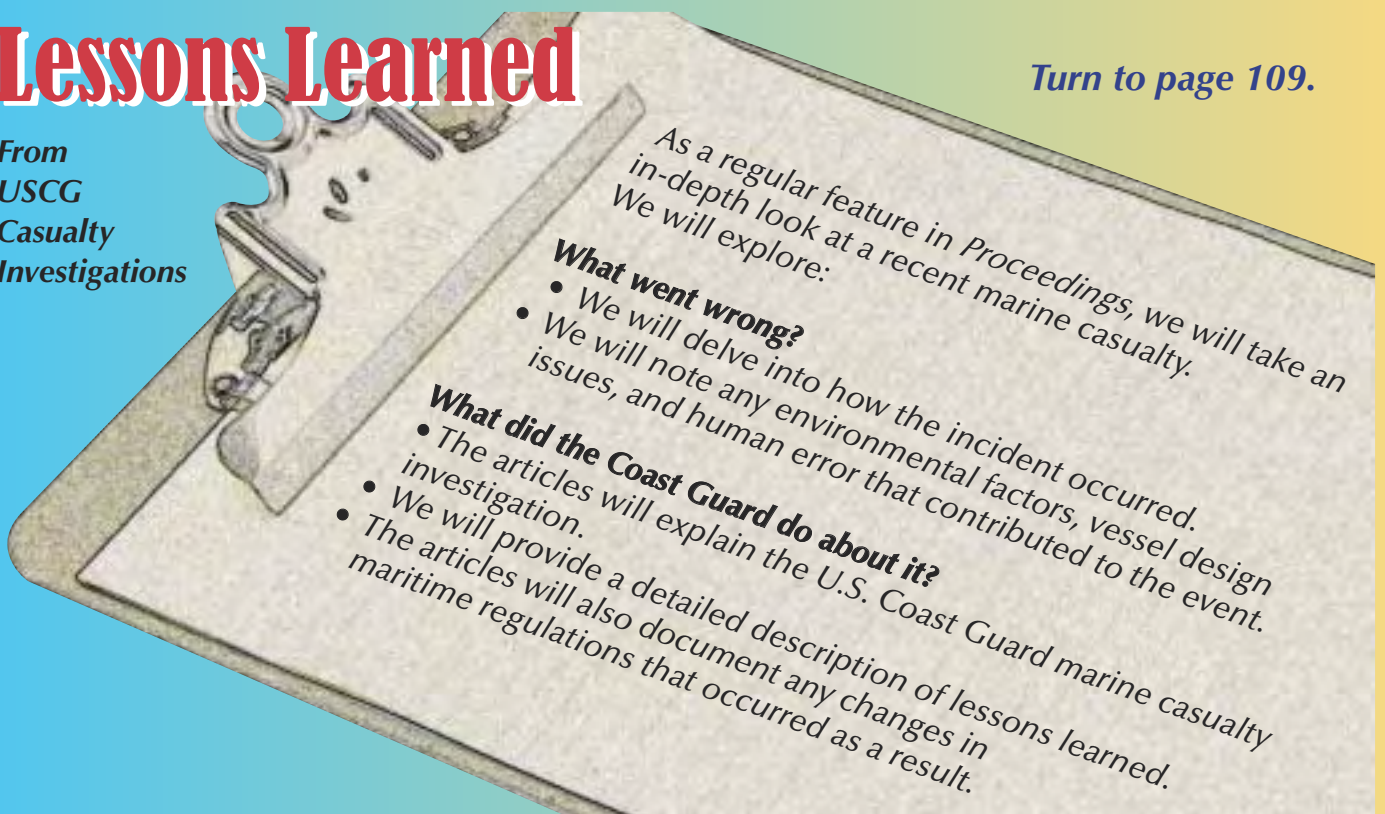
About the author:

LT Hilary Stickle has served in the U.S. Coast Guard for 28 years. Rising through the ranks, she began her career as a seaman radioman at Communications Station Boston, Mass. LT Stickle has a bachelor’s degree in organizational leadership, management, and development and a master’s degree in strategic leadership. She earned her commission in 2000, beginning her second Coast Guard career. In the summer of 2007, she assumed the records management branch chief position at the NMC.

Lessons Learned

From
USCG
Casualty
Investigations

Turn to page 109.



Measuring Our Performance, Improving Our Service



by LCDR MICHAEL R. WASHBURN
U.S. Coast Guard NMC-13 Quality Assurance and Training

LTJG CHRISTOPHER TOMS
U.S. Coast Guard NMC-13 Quality Assurance and Training

Since September 1, 2008, all new applications submitted to Coast Guard regional examination centers (RECs) have been forwarded to the National Maritime Center (NMC) in Martinsburg, W.Va., for evaluation and credential issuance. Referred to in the past as “Black Hole, West Virginia,” many in industry were concerned and skeptical of the Coast Guard’s ability to truly repair a legacy system that was overburdened, inefficient, and inconsistent.

In this article we will shine light on this “black hole” and provide you, the merchant mariner applicant, a look at exactly what happens after you have delivered your application to an REC.

To better understand the processing of applications, one must understand that all credentials requested follow a structured “state” process from start to finish. These states, which are maintained in our merchant mariner licensing and documentation (MMLD) web-based computer system, are defined by distinct business/process rules and let us accurately measure a credential’s progress as it moves through the evaluation system. With this capability, we are able to identify process bottlenecks that may slow or otherwise impact overall efficiency.

Performance Measures

Since all credentials follow these states, the National Maritime Center uses the MMLD data acquired from this process to measure the performance of each state

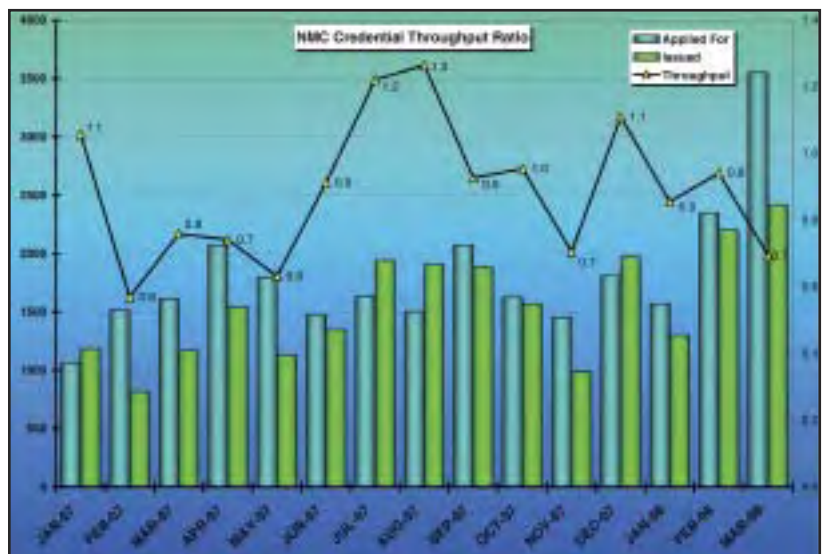


Figure 1. Measuring throughput is critical. USCG graphic.

and the entire program. Although there are many performance measures, we focus primarily on:

Throughput: The ratio of what is requested to what is issued. Measuring throughput is critical to the MLD program’s success, as we must ensure the ability to produce as much or more of our requested workload (Figure 1).

Cycle time: The total process time, commencing when a credential is requested and concluding when it is issued. Our goal in the existing process is a two-business-week cycle time. This goal excludes credentials that are missing required information, need additional testing, or have security/medical issues (Figure 2).



Inventory: The total number of credentials that are a “work in progress” at any given time. Significant growth of inventory in any state signifies a bottleneck (Figure 3).

What the Future Holds

Today we are using a legacy paper-based system to process requests for merchant mariner credentials, but over the past few years this system has been integrated with a web-based computer tracking and production software suite. As with any process, technology affords us all the opportunity to expand and continually improve.

Although we will continue to perfect our existing process and make that two-business-week cycle time the “norm,” the Coast Guard recognizes that the MLD program is quickly approaching the end of an era. In order to meet the demands of a growing and vibrant maritime industry, we must look to deploy innovative and sophisticated processes.

A vision has already been established at the NMC in which one day mariners will be able to apply for creden-

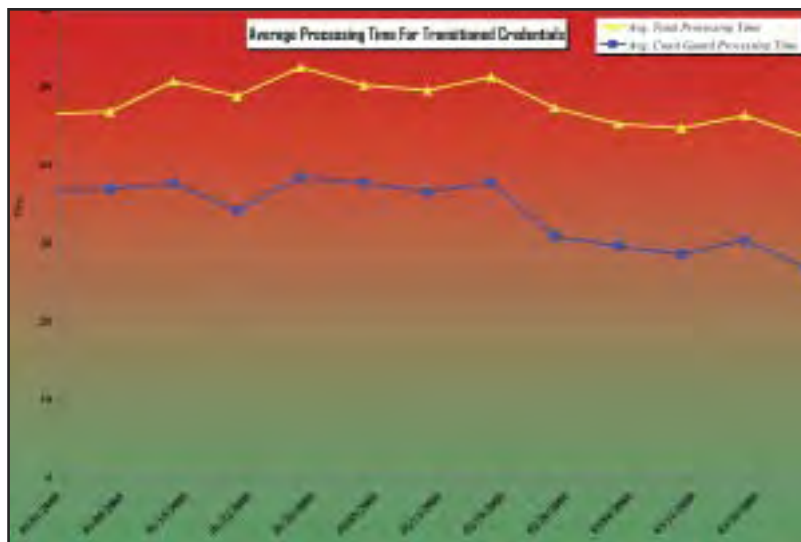


Figure 2. Our goal is a two-business-week cycle time. USCG graphic.



Figure 3. Significant growth of inventory signifies a bottleneck. USCG graphic.

tials from home. Physicians, training institutions, and others will be able to forward each piece of the mariner’s application package electronically for processing and, in turn, the Coast Guard will be able to quickly and accurately produce merchant mariner credentials. The time is upon us all—the Coast Guard and our industry partners—to make this future vision a reality.

About the authors:
 LCDR Michael R. Washburn is a 1990 graduate of Maine Maritime Academy. Graduating with a bachelor’s degree in marine transportation and a Coast Guard license endorsed as third mate of steam and motor vessels of any gross tons upon oceans, he sailed as a third officer with the Military Sealift Command before joining the Coast Guard in 1992. He has served 16

years with the Coast Guard, and has been assigned to the National Maritime Center since July of 2000.

LTJG Christopher W. Toms is a 2005 graduate of the United States Coast Guard Academy with a bachelor’s degree in operational research and computer analysis. His first tour of duty was aboard the recently decommissioned Coast Guard cutter Storis, stationed in Kodiak, Alaska. He has been serving the National Maritime Center since July of 2007.

So What Are These States Anyway?

MMLD system “states” are the specific steps a credential must go through to become an issued product. Some states in the process are optional, as not every credential requested leads to a credential issued, while others are mandatory.



USCG graphic.

Requested (mandatory). When a merchant mariner delivers an application package to an REC, that submission is recorded in MMLD as an accepted application, with all associated credentials applied for automatically placed in the “requested” state. This step gives us a clearly marked starting point for measuring the process time.

Notification (optional). On occasion, some applications received at the REC are missing items that would unnecessarily prevent or delay the evaluation process. These items are referred to as “critical” items¹ and must be addressed before the application package can come to West Virginia.

So, for example, let’s say you are applying to renew your OUPV license and submit a complete application to the REC, with one exception—results of a physical examination. In this case, the REC will move your credential from the “requested” state to the “notification” state. At the same time, you are given a 60-day notification letter requesting the missing information. If you do not provide it, your application and its credentials would be automatically closed in the system and your application package would be returned to you.

In transit (mandatory). Once your application is deemed complete, the REC will create a packing list. Credentials that are in the “requested” state will automatically shift to “in transit.” This accounts for the time it takes to mail an application from the REC to NMC. Currently we use commercial express services, and delivery time is approximately two business days.

Received/awaiting security (optional). The safety and security background check commences at the onset of the process while you are at the REC. The electronic fingerprints, identification, and citizenship documentation you provide is used to initiate this process. Typically, by the time the application arrives at NMC, the background check is complete and the application can move on. However, sometimes the results of the background check are not complete, and the credential applied for is moved to a holding state.

These credential applications do not move forward until this step is complete. In the unlikely event of a denial due to criminal convictions, the credential is removed from the process and the appropriate written correspondence is communicated to the applicant. This affects less than three percent of all credentials requested nationwide.



Ready to be evaluated (mandatory). At this point your application submission is ready to be assigned to the professional qualifications evaluations branch (PQEB). Unless unique circumstances exist, these assignments are normally performed first-in, first-out.

Being evaluated—PQEB (mandatory). While your credential is in this state, a professional qualifications evaluator has your file on his/her desk and is calculating sea service and verifying that training and/or assessment requirements have been met.

Being evaluated—MEB (optional). Some applications contain physical examination reports that indicate the presence of a medical or physical condition that could potentially interfere with a mariner's ability to safely perform his/her duties. These applications are forwarded to the medical evaluation branch (MEB).

Much like with the safety and security background check process, in the unlikely event of a denial due to medical/physical reasons, the credential is removed from the process and the appropriate written correspondence is communicated to the applicant. This affects less than one percent of all credentials requested nationwide.

For review (mandatory). This state indicates that the credential is on the desk of an authorized approving official. These senior evaluators review the entire application submission and associated MMLD data entry for accuracy and completeness.

Awaiting info (optional). This identifies that something required for credential issuance is missing. You are given a 90-day awaiting information letter

requesting the missing information. If you do not provide it, your application and its credentials would be automatically closed in the system and your application package would be returned to you. Providing the missing information within the 90-day period allows us to move the credential back to "being evaluated" and eventually on to issuance.

Approved to test (optional). Certain credentials require examinations. Provided that the application submission is satisfactorily complete in all aspects of documentation, sea service, and training, the approving official will move the credential to "approved to test." At that time you would be given an approved to test letter, which is valid for one year from the date of the letter.

Approved to print (mandatory). You have completed the evaluation process, provided any additional items requested, and satisfactorily completed your examinations. Your file is then transferred to the credential production branch and awaits its turn to become a merchant mariner credential.

Printed (mandatory). A member of the NMC credential production team has produced your license, merchant mariner's document, and/or STCW endorsement.

Issued (mandatory). Your credential has been mailed to you.

Endnote:

¹ For a complete list of "critical" items visit <http://homeport.uscg.mil> or contact 1-888-IASKNMC.

Auxiliarists of the Regional Examination Centers



by MR. MARVIN BUTCHER

*Auxiliary Sector Coordinator, Sector Upper Mississippi River
and Auxiliary Branch Chief, Regional Examination Centers*

On November 13, 2007, a merchant seaman entered a regional examination center remote customer assistance office in St. Paul, Minn. He presented an application for renewal of his license.

During his appointment, his application was checked and verified for acceptability; he was fingerprinted; his payment was verified and accepted; his citizenship documents were examined, verified, and copied; and his package was then sent to the REC.

There were no active duty, reserve, or civilian employees of the REC involved in the process, since all members of this customer assistance office are auxiliarists.

As a merchant seaman, I have spent a good portion of my professional life either obtaining my licenses and documents or maintaining them. As you can imagine, this has brought me into frequent contact with various RECs of the United States Coast Guard.

I can summarize the frustration of most merchant seamen when I state there are two major problems associated with the merchant seaman licensing and documentation process. First, the requirements are a maze that an individual must work through virtually unassisted. Second, the process is time-consuming, requiring extensive travel to one of the 17 RECs.

What Does This Have to Do With the Auxiliary?

After all, the Coast Guard Auxiliary is a civilian voluntary organization, best known for its recreational boating safety programs. And when the Coast Guard Auxiliary was established in 1939 (as the Coast Guard Reserve), there was no thought of auxiliarists sup-

porting the merchant seaman licensing and documentation program.

In fact, the Coast Guard only assumed responsibility for licensing and documentation of merchant seaman as a temporary wartime measure in February 1942.¹ This transfer was made permanent on July 16, 1946, which marked the first time that all maritime safety functions were merged under a single agency.² It wasn't until October 19, 1996, that auxiliarists were even eligible to participate in activities outside of recreational boating safety.³ On this date, as authorized by the Commandant, the purpose of the auxiliary was changed to assist the Coast Guard in performing any Coast Guard function, power, duty, role, mission, or operation authorized by law.⁴

Today, Coast Guard Auxiliarists are not only eligible to provide support to the mariner licensing and documentation program, but are actively engaged in doing





Auxiliarists of REC RCAO Branson, Mo. work in the verification room with a merchant seaman to ensure his paperwork, fingerprints, and application are ready to send to the REC in St. Louis. From left to right: merchant seaman, AUX Carol Sarver, AUX Jerry Domann, and AUX Bill Sarver (designated Coast Guard official). USCG photo.

so at many RECs. Auxiliarists fill various functions at these RECs, from fingerprint technicians to license and document evaluators and examiners. Whatever their assignment, auxiliarists are employed by the RECs to speed up the process of license and document delivery to the customer.

Lack of security clearances and screenings originally hampered use of auxiliarists for these functions. However, as of December 31, 2007, all members of the Coast Guard Auxiliary must have received a favorable background screening from the Coast Guard security center to attain or retain membership. Additionally, any auxiliarist assigned as a fingerprint technician must receive a favorable national agency check (law enforcement and credit) determination. The same is true for all auxiliarists assigned to function within the RECs. For the first time in its history, all auxiliarists are vetted in the manner of active and reserve forces.

Training

As with any specialized job, auxiliarists involved in these types of support duties receive training sufficient to perform the tasks. This training crosses a broad spectrum, from on-the-job training, to personal qualification standards, to classroom instruction and practical demonstrations. For example, in order for auxiliarists to be designated as fingerprint technicians,

they must pass a written examination, then perform a series of practice exercises under the supervision of a fingerprint technician.

Within the marine safety and environmental protection specialty of the Coast Guard Auxiliary, two of the 16 personal qualification standards address qualifications for support to the mariner licensing and documentation program—assistant license and document evaluator, and assistant license and document examiner. These are virtually the same positions as those held by our active duty counterparts. The same standard of completion is required, and each auxiliarist must pass an oral examination and be designated in writing by the captain of the port or officer in charge of marine inspection. Only then can an auxiliarist function in any capacity as an evaluator or examiner.

Auxiliary Support

Presently, only 13 RECs utilize auxiliary personnel, with another REC in the process. However, the RECs with auxiliarists assign them to numerous duties. In some, auxiliarists are needed for duties of an administrative nature, including receptionist, telephone operator, and utility yeoman services. In other RECs qualified auxiliarists supervise examinations, conduct surveys of Coast Guard-approved training facilities, and perform evaluator duties under the guidance of an appropriate supervisor. Auxiliarists also function as “designated Coast Guard officials” and perform duties, such as administering oaths, as directed by the officer in charge of marine inspection. In a few RECs auxiliarists are involved in all of these functions.

For appointments at any Remote Customer Assistance Office, call REC St. Louis at (314) 269-2504.

Remote Customer Assistance Office
2720 Shepherd of the Hills Expressway
Branson, MO 65616

Remote Customer Assistance Office
7355 W. 88th Avenue
Westminster, CO 80021

Remote Customer Assistance Office
6228 NW Barry Road and I-29
Kansas City, MO 64154

Remote Customer Assistance Office
Henry Whipple Federal Building
1 Federal Drive
Saint Paul, MN 55111

The Regional Examination Center Remote Customer Assistance Office

One of the most exciting and important projects the auxiliary has become involved in is an offshoot of direct support to the Regional Examination Centers—the regional examination center remote customer assistance office (RCAO) project. This project was designed to reduce merchant seamen’s travel costs and decrease their document turnaround time.

For example, the auxiliary's 8th Western Rivers region has an REC main office in Memphis, Tenn., and a satellite office in St. Louis, Mo. These two offices cover the 16 state areas composed of Sector Upper Mississippi River and Sector Lower Mississippi River. In the past, in order for mariners to obtain licenses and documents, many needed to travel hundreds of miles and incur significant personal costs. In August 2006, the chief of the REC monitoring unit in St. Louis requested auxiliary assistance to provide remote customer assistance. Numerous auxiliarists volunteered to work in this special pilot program. The program was conducted in five phases and was implemented over a period of 14 months.

The mission definition—to expand the opportunities for merchant mariners to obtain their license/documents without traveling excessive distances by providing the following services:

- evaluating an applicant's application for acceptability,
- ensuring the proper amount and method of payment of fees,
- examining and verifying citizenship documents,
- fingerprinting all applicants,
- administration of the oath (if required),
- compiling all application paperwork and mailing it to the respective REC.

After careful consideration, a decision was made to create four RCAO offices located in Branson, Mo.; Kansas City, Mo.; Denver, Colo.; and St. Paul, Minn. Additionally, 23 auxiliarists were selected from a group of volunteers to receive specialized training to support the proposed mission.

First, all 23 auxiliarists completed Incident Command System courses. After this, all were certified as fingerprint technicians. An Immigration and Customs Enforcement Agency certified trainer provided forensic document examination training. Every volunteer was required to complete forensic documents examination training in order to examine and verify citizenship paperwork.

The next stage of training involved familiarization and training with REC procedures and forms. Finally, several auxiliarists were selected for specialized training to receive a letter of designation as a designated Coast Guard official (DCGO). In total, eight auxiliarists were designated as DCGOs.



Auxiliarists demonstrate fingerprinting techniques using one of the fun volunteers from the Missouri Career Center, co-located with RCAO Branson. From left to right: AUX Carol Sarver, the Auxiliary's Safety Panda, AUX Jerry Domann, and AUX Bill Sarver. USCG photo.

From inception to completion, the project required 14 months to implement. Considering that the entire project was established and run by auxiliarists, who are by definition volunteers, this is a remarkable achievement.

In the first year of operation, the RCAOs processed:

- Branson, Mo., 32 merchant mariners;
- Kansas City, Mo., 27;
- Denver, Colo., 18;
- St. Paul, Minn., 48.

This is truly amazing when one considers that each RCAO is open only two days per month.

Looking Ahead

With the qualification process, the security vetting process, and the skill sets open to auxiliarists, all RECs should be able to employ auxiliarists to provide meaningful assistance.

I think it is safe to say that the limits of the auxiliary's usefulness are only limited by the imagination of the REC personnel in charge.

About the author:

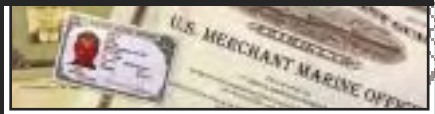
Mr. Marvin Butcher served 27 years in the U.S. Navy, where he commanded several warships before retiring at the rank of captain. He then served as a merchant marine ship's master of a U.S. Navy special mission ship. Mr. Butcher was named the U.S. Coast Guard Auxiliarist of the Year for 2006 and is currently the branch chief for regional examination centers.

Endnotes:

- ¹ Executive Order 9083 of 28 February 1942, Franklin D. Roosevelt.
- ² Coast Guard Reorganization Plan Number 3, July 16, 1946.
- ³ Coast Guard Authorization Act of 1996 (Public Law No. 104-324, 110 Stat. 3901).
- ⁴ 14 U.S.C. § 822



USCG Mariner Licensing & Documentation Program



Current Initiatives of Interest to Merchant Mariners

by CDR DEREK A. D'ORAZIO

*Chief, U.S. Coast Guard Maritime Personnel Qualifications Division
Office of Operating and Environmental Standards*

The maritime personnel qualifications division in the office of operating and environmental standards at Coast Guard headquarters develops standards, statutes, regulations, and guidance for the maritime industry regarding personnel qualifications, licensing, and certification. We work closely with the National Maritime Center (NMC) and the office of vessel activities in this regard.

Internationally, the office also represents the U.S. on the standards of training & watchkeeping (STW) subcommittee of the maritime safety committee at IMO. The STW subcommittee is responsible for the International Convention on Standards of Training, Certification & Watchkeeping for Seafarers, 1978, as amended (STCW).

Given this scope of responsibilities, we are currently involved in a number of new or ongoing rulemaking projects that may be of interest to merchant mariners and the maritime industry. As a caveat, please note that the rulemaking process is dynamic, and timeframes depend on many factors, so some of these projects may be at different stages in the process when this article is published.

Consolidation of Merchant Mariner Qualification Credentials (MMC) Rulemaking

The MMC final rule may be published. This would finalize the MMC supplemental notice of proposed rulemaking (SNPRM), published on January 25, 2007 (72 FR 3605), which supplemented the initial MMC notice of proposed rulemaking (NPRM), published on May 22, 2006 (71 FR 29462). The rulemaking combines the individual merchant mariner's document, license, certificate of registry, and STCW certificate into a single

credential, with officer, ratings and STCW endorsements placed on the credential to reflect the mariner's qualifications. This reduces the total number of credentials a mariner is required to hold. It is contemplated that the new MMC will be phased in over a period of five years upon publication of the final rule.

STCW Supplemental Notice of Proposed Rulemaking

A supplemental notice of proposed rulemaking more fully implementing the 1995 amendments to STCW may be published. The rulemaking would propose extensive changes to 46 CFR Subchapter B to continue to give full and complete effect to the 1995 amendments. It incorporates lessons learned since the publication of the interim STCW rule on June 26, 1997 (62 FR 34505), and it attempts to clarify regulations that have generated confusion within the industry.

Some of the most important changes proposed may involve:

- the requirements for attaining competence as a person in charge of medical care and as a medical first aid provider,
- training school and approved course requirements,
- acceptance of military sea service and training to qualify for an STCW endorsement,
- basic safety training requirements,
- application of STCW to mariners serving on vessels of less than 200 gross register tons (GRT) / 500 gross tonnage (GT) on international voyages,
- deck and engineer officer requirements,

- equivalencies between GRT and GT for use only with issuance of mariner credentials,
- ratings requirements.

Vessel Security Officers

An interim rule with request for comments implementing amendments to STCW that entered into force on January 1, 2008, for ship security officers has been published (73 FR 29060). A correction to this interim rule was subsequently published on June 17, 2008 (73 FR 34190). This rule requires those serving as vessel security officers on vessels subject to STCW to have an appropriate endorsement on their merchant mariner credentials. To get the endorsement, the individual must complete training and demonstrate competence as specified in STCW Regulation VI/5 and Section A-VI/5. This rule does not apply to vessel security officers on vessels not subject to STCW.

Vessel security officers on vessels not subject to STCW and all other vessel and facility personnel will be subject to new maritime security training and certification requirements contained in an upcoming 33 CFR Subchapter H update, which will be published as an NPRM. New maritime security training and certification requirements are a component of this rulemaking, which will cover many other areas such as security plans, screening requirements at vessels and facilities, and implementation of various aspects of the Security and Accountability for Every Port Act of 2006.

Training and Service Requirements for Merchant Marine Officers

The final rule for "Training and Service Requirements for Merchant Marine Officers" may be published in the future. This will finalize the notice of proposed rulemaking, which proposed a series of amendments to remove the expiration date of the radar-observer endorsement from the merchant mariner's license, allow for an apprentice mate of towing vessels to reduce sea service time for mate (pilot) of towing vessels by completing additional approved training, and provide an alternate path to mate (pilot) of towing vessels for master of steam or motor vessels not more than 200 GRT (see 72 FR 52841).

Large Passenger Vessel Crew Requirements

The final rule for Large Passenger Vessel Crew Requirements, currently applicable to only one U.S.-flag cruise ship operating in Hawaii, will be published. This rule finalizes the interim rule with request for comments allowing certain non-resident aliens to be issued

MMDs for service in the steward's department of applicable vessels. It implements section 3509 of the John Warner National Defense Authorization Act for Fiscal Year 2007 (see 72 FR 20278).

Crewmember Identification Documents

A notice of proposed rulemaking, "Crewmember Identification Documents," was published on May 14, 2008 (73 FR 27778). The proposed rule implements a Maritime Transportation Security Act of 2002 requirement, as amended by the SAFE Port Act of 2006, directing the Coast Guard to require crewmembers on vessels calling at U.S. ports to carry and present on demand ap-

FOR MORE INFORMATION:

U.S. Coast Guard Office of Operating
and Environmental Standards
Maritime Personnel
Qualifications Division
USCG Headquarters
2100 2nd Street SW
Room 1210
Washington, DC 20593-0001
(202) 372-1405
Fax: (202) 372-1926

NVICs

<http://www.uscg.mil/hq/cg5/nvic/>

Merchant Marine Personnel Advisory Committee (MERPAC)

<http://homeport.uscg.mil/merpac>

Towing Safety Advisory Committee (TSAC)

<http://homeport.uscg.mil/tsac>

propriate identification. The proposed rule applies to crewmembers on foreign commercial vessels calling at a port or place of destination in the navigable waters of the United States, and to U.S.-flag commercial vessels coming from a foreign port or place of departure. A passport is included among the proposed acceptable forms of identification.

NVICs

The office of operating and environmental standards is also working on updating various navigation and vessel inspection circulars (NVICs) providing guidance related to maritime personnel qualifications. The most significant is an update to NVIC 2-98, "Medical and





Physical Evaluation Guidelines for Merchant Mariner Credentials.” A draft of the new proposed medical NVIC was published in the Federal Register for public comment on September 26, 2006 (71 FR 56998).

It contains updated, revised guidelines for evaluating the physical and medical conditions of applicants for mariner credentials issued by the Coast Guard. Since it was published for public comment, this draft NVIC has been substantially revised in response to the comments received, and in response to additional recommendations and input from MERPAC and TSAC. As of the date this article was written, the new medical NVIC was in clearance for finalization and signature.*

Legislative Change Proposals

On the statutory front, there are a number of legislative change proposals that were submitted as part of the president’s proposed FY08 Coast Guard Authorization Act. However, as of the date this article was written, Congress had yet to pass these legislative changes, and it is not known when—or if—Congress will. Two of the more important FY08 legislative change proposals are the creation of the Merchant Mariner Medical Advisory Committee (MMMAC), and deletion of the 46 USC 8905(b) exemption allowing certain towing vessels engaged in the offshore mineral and oil industry to be operated by unlicensed individuals. MERPAC and TSAC supported these proposals.

In the alternative, the Coast Guard is planning to proceed with the creation of MMMAC under discretionary DHS authority if the statute is not enacted into law. As proposed, MMMAC will be composed of maritime medical practitioners and professional mariners to provide guidance and recommendations to the Coast Guard related to medical and physical evaluation standards for merchant mariners.

About the author:

CDR Derek A. D’Orazio was the chief of the maritime personnel qualifications division in the office of operating and environmental standards at Coast Guard headquarters in Washington, D.C. He is a licensed attorney. CDR D’Orazio is now stationed at Coast Guard Sector North Carolina, where he serves as the logistics department head. CDR D’Orazio’s previous units include Marine Safety Office Houston-Galveston, where he served as the senior investigating officer for five years.

***Update:**

NVIC 04-08 was signed on September 15th and became effective on October 29, 2008. NVIC 04-08 is available on the internet at <http://www.regulations.gov>, under this docket number [USCG 2006-25080]. It is also permanently available on the HOMEPORT internet Web site at: <http://homeport.uscg.mil/mycg/portal/ep/browse.do?channelId=-25023>.

CG-5434?!?

The Mariner Credentialing Program Policy Division.



by LT THOMAS PEQUIGNOT

U.S. Coast Guard Mariner Credentialing Program Policy Division

Months after the National Maritime Center (NMC) closed its doors in Arlington, Va., CDR Scott Budka gets off the Metro at L'Enfant Plaza and takes the daily 10-minute shuttle ride to the Transpoint Building in Washington, D.C., home of Coast Guard headquarters. CDR Budka just recently transferred to the mariner credentialing program policy division from his previous job at the office of investigations and analysis, where he was the suspension and revocation and administrative clemency program manager.

After scanning his ID badge through the usual headquarters security corral and navigating through the maze of elevators and corridors, he finds his temporary office space in the back of a cubicle farm of new and overflow HQ staff. Looking at the faded blue carpet and the reused cubicle furniture, one could think,

"What happened to the plush office with a view above the Ballston Mall?"

CAPT David Kranking, the former division chief explains, "Separating program policy from NMC's process of evaluating mariner applications is just the right thing to do. NMC's challenge is to complete the realignment of the 17 regional examination centers (RECs) under its control, and establish efficiencies and consistency in the processes of providing credentialing services to merchant mariners. The program policy division will support this objective by providing the reg-

ulatory and policy/guidance tools. This separation will help ensure industry's needs are met."

With NMC divesting itself of the policy responsibilities and moving them to the mariner credentialing program policy division, headquarters personnel can focus anew on these important policies.

Policy Functions

While the decision to establish the policy division at HQ came later in the Restructuring and Centralization project planning (approved in April 2007), it seemed like a natural evolution.

In fact, this is not the first time the policy function has called HQ "home." Approximately a year after being created as a separate command in Arlington, the NMC inherited the policy responsibilities from HQ in 1996. This was an effort to consolidate policy and program management all under one house. However, the fact that issuing policy remained a HQ function contributed to inconsistencies within the program and difficulties in publishing needed guidance. It was decided a decade later that the mariner licensing and documentation (MLD) program would benefit if the policy function did not follow the NMC as it continued to move westward to West Virginia.

In addition, having the policy division at HQ helps maintain the integrity of the appeal process. The former appeals system had local officer in charge, marine inspections decisions reviewed by the district commander, and then by NMC, which took final agency ac-



tion. With NMC focused on the process, and under centralized operations making decisions on mariner applications, it had to have its final agency action authority removed. That authority now resides with the director of prevention policy, for whom the mariner credentialing program policy division works.

Under the director of prevention policy (CG-54) are several offices, including the office of vessel activities (CG-543). The mariner credentialing program policy division (CG-5434) is one of four divisions within the office; the others manage vessel inspections and fishing vessel safety. CG-5434 develops program policy and overall management for the MLD program. This overarching mission incorporates several functions, such as:

- Reviewing NMC's performance in the areas of customer satisfaction, process cycle time, security, efficiency, and consistency.
- Playing an active role in the review committee that oversees STCW compliance at the maritime academies through quality standards system audits.
- Making revisions to the major rewrite of the Marine Safety Manual, Volume III (Marine Industry Personnel).
- Serving as one of the key Coast Guard representatives for maritime training institutions, maritime unions, and other organizations.

Transportation Worker Identification Credential

The Coast Guard has a pending regulatory project related to the implementation of the TWIC in the maritime sector.

You should keep well informed of the requirements, implementation schedule, and application process to obtain a TWIC.

All holders of merchant mariner credentials will be required to obtain a TWIC from the Transportation Security Administration.

After the implementation date, you may not operate under the authority of a mariner credential without a valid TWIC, and failure to obtain or hold a TWIC may serve as the basis for suspension or revocation of the mariner credential.

Information pertaining to the TWIC may be found at www.tsa.gov/twic.

FOR MORE INFORMATION:

Mariner Credentialing Program
Policy Division
USCG Headquarters
2100 2nd Street SW
Room 5213
Washington, DC 20593-0001
(202) 372-1207

- Commenting on a variety of issues associated with mariner security, including the transportation worker identification credential (TWIC).

Upcoming Initiatives

Moving forward in its inaugural year at HQ, the mariner credentialing program policy division will be taking on several high-profile issues, including managing regulatory updates and establishing the merchant mariner medical advisory committee (MMMAC). The most noteworthy of the regulatory initiatives is ensuring U.S. licensing compliance with STCW and implementation of the combined merchant mariner credential (MMC). The combined MMC will benefit the mariner by reducing the number of credentials mandated by U.S. regulation, merging them into a single identification and qualifications credential.

The mariner credentialing program policy division will also be facilitating TWIC implementation and the integration of the application and data exchange processes between the Coast Guard and the Transportation Security Administration. This will allow mariners to conduct MMC transactions through the mail.

About the author:

LT Thomas Pequignot has served in the U.S. Coast Guard for seven years. LT Pequignot has served in many capacities, including deck watch officer aboard CGC Sassafras, search and rescue command center supervisor, and admiral's aide in District Eleven.

Coast Guard-Approved Training Courses



by MR. JAMES CAVO

*Mariner Training and Assessment Division Chief
U.S. Coast Guard National Maritime Center*

It is a rare mariner in today's industry who does not attend some type of course or participate in a training program on a regular basis. This training includes everything from basic work safety and vessel familiarization for newly hired, entry-level mariners, to advanced ship handling for aspiring captains. Most of this training has one thing in common—it is approved by the Coast Guard.

What Training Will the Coast Guard Approve?

The Coast Guard will approve training of three basic types. The first of these is training that takes the place of a Coast Guard examination for an endorsement to a merchant mariner document.

The Coast Guard will also approve training to substitute for a portion of a service requirement to obtain a license or a document. We will approve up to two-thirds of the service for a license, and up to one-half of the service for an able seaman or QMED endorsement. The specific amount we will award is based on the type and duration of the training.

Finally, the Coast Guard will approve training that satisfies a specific requirement for a mariner to receive training. This has become the most common reason the Coast Guard will approve training due to recent initiatives like the Seafarers' Training, Certification, and Watchkeeping code.

Who Provides Coast Guard-Approved Training?

There is no "typical" approved training provider. The organizations offering approved training are as diverse as the maritime industry. There are currently almost 2,200 approved courses and training programs given by 270 different organizations. These include vessel operators, labor unions, public and private colleges, high schools, state and federal government agencies, chari-

table organizations, and a host of large and small maritime schools. While most training providers have three or less approved courses or programs, there are some with as many as 60 or 70.

Who Approves Training for the Coast Guard?

Almost all Coast Guard-approved merchant mariner training is approved by the National Maritime Center. The mariner training and assessment division has a four-person course approval branch that evaluates close to 2,500 requests per year for course approval, renewal of course approvals, or for changes to courses or addition of new instructors.

How Can I Get My Course or Training Program Approved?

Organizations wishing to have their course or training program approved should submit a request for approval to the National Maritime Center. The request should describe the program and the approval requested. The request should include a complete documentation of the course.¹ Our program goal is to respond to all requests within 30 days of receipt. We generally take courses in the order they are received.

The course is assessed against the appropriate standard to ensure it is comparable in content and that the material is covered to a similar level. We also look at whether there is sufficient equipment for the course—for example, whether there are sufficient sets of fire-fighting "turnout" gear for a firefighting course. We look at lesson plans to ensure that delivery methods are appropriate for each lesson and will be effective in accomplishing each training objective.

The course evaluation also takes into account the manner in which the training objectives are assessed. This includes the written examinations as well as any prac-



tical exercises. Written examinations are reviewed to see if they adequately assess the course material. If the training is in lieu of a Coast Guard examination, we check to see if the course's exams are comparable in scope and difficulty. Practical exercises are reviewed to see if there is a specified, objective criteria to assess student performance, and if the practical demonstrations are appropriate to the course.

Finally, we look at the instructors proposed for the course to see if their experience and qualifications are appropriate.

If the course meets all standards, we issue an approval letter and approval certificate. The approval letter identifies the approval given to the course, the location

where it can be given, and the instructors who may present it. Both original course approvals and renewals are currently valid for five years.

What If a Course Is Not Approved?

If we determine we are unable to approve a course, we contact the school, describe the problem, and advise what is needed to remedy it. If the problems with a course are relatively minor and can be quickly remedied without significant revision or effort, we contact the school by phone or e-mail and ask them to submit the additional documentation. We typically allow the school a specified amount of time (usually one or two weeks) to provide the missing information without losing their "place in line" and having to return to the queue of courses awaiting our review.

Common Misconceptions About Course Approval

The Coast Guard Will Only Approve Classroom Courses Given Ashore.

The National Maritime Center is receptive to and will consider all types of training. In addition to classroom training, we have approved programs where the training is given entirely aboard commercial vessels, is delivered as computer-based training ashore and aboard ships, or is delivered over the Internet. We also approve programs that use various combinations of these training methods.

Although we do approve distance learning and computer-based training, we have concerns about student identity and the integrity of the training. To assuage these concerns, we require that all assessments (practical and written) be conducted live, at an approved location, and in the presence of an instructor or proctor.

Schools Must Use Coast Guard Examination Questions.

While we allow schools to use questions selected from the Coast Guard's database of over 25,000 questions used on our merchant marine license examinations, we definitely do not mandate their use.

In fact, we encourage training providers to develop their own questions. If they do, we may even ask permission to use them on our examinations! Schools are not bound to use the multiple choice format we use on our examinations. We permit various other types of questions, including short answers and essays. We will not, however, allow "true/false" questions.

For courses that will substitute for a Coast Guard examination, we do require that the course be comparable in its scope and difficulty to the corresponding Coast Guard examination. If students are given questions to study or practice, the study materials must either have completely

different questions than are used on the examinations, or have a sufficient number of questions, so that students cannot easily memorize questions and answers instead of learning the material.

You Must Rigidly Follow Coast Guard Training Models.

Although we have standards for minimum content for specific training, we afford schools discretion in how to present and package training. We look at the total training and determine if the training meets our standards in the aggregate. We also allow some flexibility as to the chronology of the training. We do not require that it be done on consecutive days or in any specific time frame. We do require that the specific training schedule be identified, and will place a reasonable time limit on the time in which the course must be completed.

The Coast Guard Approves Schools to Give "The Test."

Although the Coast Guard approves courses to substitute for our examinations, we do not approve schools to give license exams. In order to be approved, the training must include a final assessment of whether the student has achieved the same level of knowledge they would demonstrate by passing a Coast Guard exam. Students must take the entire course. Simply taking a test is not permitted.

Similarly, we don't approve instructors per se. We are frequently asked "How can I become a Coast Guard-approved instructor?" Since we only approve instructors as part of a specific course at a specific school or training provider, the answer is to either become affiliated with a school having approved courses, or to develop and obtain approval for your own course(s). It is also worth noting that the approval of the instructor for a course does not authorize the instructor to teach other courses or a similar course at another school.

For more serious deficiencies, we send the school a letter explaining in detail the reasons we cannot approve the course. If appropriate, we include links to applicable policy documents and/or copies of applicable guidelines for the type of course at issue. As these courses usually require substantial revision, we do not put them “on hold,” and if the school re-submits the course, it’s placed in the queue with other courses awaiting our review.

What Happens After a Course or Training Program Is Approved?

The process does not stop when the approval is given. Schools using a dynamic instruction system design process will be continuously assessing and improving their programs and courses. Any change to an approved course needs to be submitted to the National Maritime Center for evaluation and approval. This may include adding or changing exams, adding new texts or other learning aids, or revising lesson plans.

Schools also need to routinely obtain reviews and approvals for any new instructors teaching their courses. Instructor requests are considered a priority and given expedited handling, with most approvals completed within one week of receipt.

Finally, the Coast Guard monitors and oversees the training it approves. We are currently in the midst of a comprehensive re-evaluation and revision of our oversight policies to more effectively manage and oversee approved training. When fully implemented, the new oversight policy will provide for occasional comprehensive formal audits of training providers at specified intervals, perhaps once every five years. In addition, all courses will receive some form of lesser oversight that may include less extensive audits, observation by Coast Guard personnel, or survey testing in which students may be asked to complete a Coast Guard examination appropriate to the course. We also plan to vigorously investigate complaints about approved training.

Schools should not view our plans for more rigorous oversight with apprehension. We recognize that training providers provide needed, valuable services to the industry, and that the Coast Guard needs adequate training providers ready and able to carry out this mission. Considering the service most training organizations provide, our philosophy will be to help schools work towards compliance. The oversight will provide a benefit in that it will level the playing field and ensure that all schools are operating to similar standards.

Are There Any Options for Approval Besides the Coast Guard?

Yes. For certain types of STCW training, the Coast Guard has authorized several organizations to “accept” training on behalf of the Coast Guard. There are cur-

FOR MORE INFORMATION:

U.S. Coast Guard
National Maritime Center
100 Forbes Blvd.
Martinsburg, WV 25404
(304) 433-3400
Help Desk: (888) 427-5662
USCG-approved courses:
www.uscg.mil/nmc

rently three organizations the Coast Guard has approved to act as quality standards systems (QSS): the American Bureau of Shipping, the American Council on Education, and Det Norske Veritas. Training accepted by one of these QSS organizations will carry the same weight and effect as training approved by the Coast Guard.

There are pros and cons with using a QSS rather than the Coast Guard. Chief among the disadvantages is cost. The QSS is likely to assess a fee for training evaluation and participation in its program of auditing and oversight. The Coast Guard does not charge fees for approval of courses or oversight after approval.

There are some positive aspects to using the QSS, as well. For example, the training may become more broadly recognized. At present, the Coast Guard only approves training that is either conducted in the United States and its territories, aboard a U.S. flag commercial vessel or a U.S. military vessel, or aboard a foreign flag vessel while that vessel is in a U.S. port. The QSS has the capacity to accept and oversee training given outside of the United States, granting it the same significance as Coast Guard-approved training.

About the author:

Mr. James D. Cavo is the chief of the National Maritime Center's mariner training and assessment division. Prior to coming to NMC in 1997, he worked for nine years as a deck officer on U.S. flag oil tankers and for five years as a maritime attorney. He holds licenses as chief mate any gross tons and master 1600 tons. He is a graduate of the S.U.N.Y. Maritime College, Maine Maritime Academy, and the New England School of Law.

Endnote:

¹The general requirements for course approval are specified in Navigation and Vessel Inspection Circular 5-95, Guidelines for Organizations Offering Coast Guard Approved Courses. You can find this and other NVICs on the internet at <http://uscg.mil/hq/cg5/nvic>.



Lessons Learned



from **Casualty
Investigations**



Lessons Learned
Andrew J. Barberi

Asleep at the Wheel

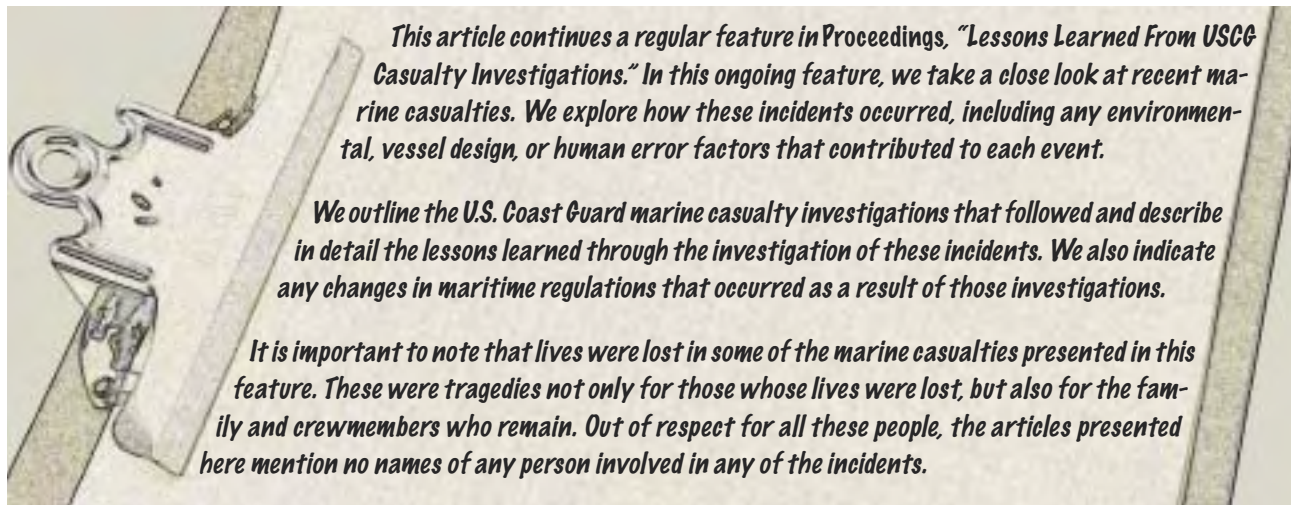
A routine transit comes to a crashing halt.

by Ms. DIANA FORBES
Staff Writer, Proceedings

Lessons Learned



from Casualty Investigations



On the afternoon of October 15th, 2003, the large passenger vessel *Andrew J. Barberi* departed Manhattan with approximately 1,500 passengers aboard for a regularly scheduled 22-minute trip to Staten Island. The voyage was ordinary in all respects until the moment it passed a buoy at the entrance to the Kill van Kull waterway, about 1,000 yards from its destination terminal. Instead of reducing speed and applying course corrections at this buoy to prepare for docking, the ferry continued on the same course, at the same speed. Two minutes later, the vessel allided with a maintenance pier 1,800 feet away from the vessel's destination slip, taking most of the crew and passengers by surprise.

As a result of the allision, 10 people died and more than 70 people were injured. An eleventh passenger died later as a result of injuries sustained in the accident. Damages totaled more than \$8 million.¹

A Regular Transit

The crew—commanded by a captain and staffed by the assistant captain, two mates, a chief engineer, an assistant engineer, two oilers, and seven deckhands—arrived for its shift as usual on the day of the casualty. The captain started the shift at 1:30 p.m. by piloting the ferry from Staten Island to Manhattan. At 2:00 p.m., the assistant captain took a turn at the helm on the return trip. This pattern continued for the 2:30 and 3:00 p.m. trips. A deckhand also served as a "lookout" on the navigation watch for each pilot.

What the deckhand may or may not have known was that the assistant captain had for years been taking several medications that may have affected his ability to perform his duties. The medications prescribed included Ambien, Tramadol, Lisinopril, Triamterine, and Lipitor. Some side effects of these medications, when taken individually, include drowsiness, unusual fa-



tigue, and unconsciousness. Taken together, these medications act synergistically, heightening the side effects.²

There are standard procedures in place to ensure merchant mariners are up to the rigors of their profession. For example, the assistant captain had to regularly turn in a merchant marine personnel physical examination report to the New York Regional Exam Center. The last time he had done so, on August 24, 2000, his doctor did not provide an accurate assessment of his overall health condition, nor did he list the five medications the assistant captain was taking. He continued taking these continuously right up to the day of the casualty. Furthermore, the assistant captain operated without a valid First Class Pilot endorsement ever since August 25, 2001 because nobody followed up on his failure to obtain an annual physical required by Title 46 Code of Federal Regulations 10.709(b).³

On top of his health conditions and prescribed medications, his grandchild had been visiting for the past several weeks, which disrupted his regular sleep/rest

patterns. The assistant captain's chronic fatigue likely caused him to lose consciousness for a moment, and, unfortunately, none of the other crewmembers were present at the time to revive him or rectify the ship's course.

Alone at the Helm

Perhaps if the deckhand lookout on the navigation watch were there to keep the assistant captain awake, the crash could have been averted. As fate would have it, however, the ferry's senior mate was following up on repairs necessary to the starboard side entrance/exit doors and had assigned the lookout the task of securing the broken doors while the vessel was underway to prevent them from swinging freely and injuring passengers. When the ferry was ready to dock, the lookout would need to untie the doors so that passengers could disembark.

About halfway into the assistant captain's second piloted trip that day (starting at 3:00 p.m.), the senior mate joined him and the lookout in the pilothouse and sat—



Post-accident view of the ferry. USCG photo.

on a padded bench, lower than the navigation area behind the controls, the assistant captain, and the lookout—in the rear of the bridge. After doing some paperwork related to the broken doors, he read a newspaper. The mate further stated that he could not observe the vessel's approach toward the Staten Island piers.⁴

According to [the senior mate], [the assistant captain] made an exclamation and looked down at the position of the vessel. [The senior mate] also stated that he observed [the assistant captain] pull back on the thrust control to the full astern position and steer the vessel



Approximately 1,500 square feet of the maintenance pier surface collapsed into the harbor. USCG photo.

Soon after the senior mate entered, after passing the Kill van Kull buoy, the deckhand left the pilothouse intending to untie the broken doors before attending to his other disembarkation duties.⁵

According to crewmembers, shortly after the ferry passed the Kill van Kull buoy, the standard procedure was for the bridge deckhand on duty to go to the pilothouse on the docking end of the ferry and make an arrival announcement. Those interviewed stated that some lookouts always waited to leave the pilothouse until the bridge deckhand arrived; however, practices varied. On the day of the accident, the lookout left the Staten Island-end pilothouse before the bridge deckhand arrived.

According to the Coast Guard Activities New York report:

“15:21 – As the ferry allided with the pier, [the senior mate] looked up from his seated position in the rear of the Pilothouse and saw [the assistant captain] at the helm who appeared to be dazed.

away from the *Coscrove*, a moored NYC DOT vessel laying ahead of the [vessel's] bow.”⁶

Immediately after the allision, the captain of the ferry ran from the New York end to the pilothouse on the Staten Island end and assumed control of the vessel. The chief engineer arrived seconds later and was able to stay in the pilothouse to help the captain transfer propulsion control to the New York-end pilothouse because the Staten Island end was destroyed. The captain then left the pilothouse and entered the New York end to accept the transfer of propulsion control from the other end.

Damages, Injuries, and Casualties

The ferry had struck the concrete maintenance pier at an oblique angle and continued to move forward, allowing the concrete to tear a 210-foot-long gash into the main deck on the vessel's side. Approximately 1,500 square feet of the surface of pier B-1 collapsed into the harbor.



According to the USCG report:

“The [vessel] allided with the southeast corner of the B-1 maintenance pier at the St. George ferry terminal on Staten Island. The [vessel] a made contact with the pier on the Staten Island end, New Jersey side of the vessel. The most significant damage was on the main deck of the vessel. The damage extended from the bow of the ferry from the outer edge on the New Jersey side to a point about 3 feet past the centerline and extended for approximately 210 feet towards the New York end of the vessel. ...

... Pier B1 ... is a pier approximately 1,000 feet long and 50 feet wide. The impact occurred on the southeast corner of the pier and approximately 1,500 square feet of the pier collapsed into the harbor. The damage to the pier did not appear to extend beyond the area of the collapsed section and the pilings that were sheared off.”⁷

Stunned Reaction

None of the crewmembers or passengers recalled hearing any warning announcements, alarms, or other alerts before the accident. The crew didn't recognize that the ferry was in danger because they didn't hear the usual sounds the ferry made as it slowed down and changed course at the Kill van Kull buoy. Only one deckhand—the lookout who had left the pilothouse to untie the broken doors—realized that the ferry wasn't slowing down at the last minute, and tried to chase passengers to the other end of the boat. Passengers who could see the impending allision estimated that they had only seconds to move away or brace themselves for the impact. Other passengers took no action to lessen the effects of the accident, such as those who had no view of the pier or who were facing the opposite direction. Passengers reported hearing no emergency instructions from ferry crewmembers after the allision, either.

After the initial impact of the incident, passengers and crewmembers tried to help as they could. Some passengers with cell phones called 911 to report the accident. A Coast Guard enlisted man, who was a regular ferry passenger, used his cell phone to contact the Coast Guard's Activities New York command center at Ft. Wadsworth, Staten Island. The director of ferry operations also called 911 requesting emergency medical assistance and then directly called the chief of the marine safety division of Coast Guard ACTNY to advise him of the situation. An off-duty lieutenant with the New York City Fire Department (FDNY) called his dispatcher in Staten Island, described the accident, and advised sending multiple units in response. He described the

scene after the allision as chaos, with people screaming and yelling.

Crewmembers helped the wounded as much as they could, moved debris, and tried to keep uninjured passengers away from the vessel's damaged areas. They also directed EMS personnel to the most seriously injured passengers, and tried to make an announcement on the public address system, but it was not working. Some radios and phones were also out of order.

The ferry reached its slip at St. George about 20 minutes after the allision. The director of ferry operations, who entered with the first responders, spoke briefly with the assistant captain. The assistant captain then pulled away and ran to the dock. The director sent two of his NYC Department of Transportation employees to track the assistant captain down at his home, where they found him with self-inflicted, life-threatening injuries. They called 911 to transport him to a nearby hospital, where he underwent emergency surgery and later recovered.

Blood and urine samples of the assistant captain obtained at the hospital were tested for evidence. While the results were negative for alcohol and illegal drugs, the analysis found 0.76 micrograms/milliliter of tramadol (a prescription narcotic-like analgesic) in the blood.⁸

Emergency Response

When the ferry docked, emergency personnel immediately entered the vessel to help the injured. Hundreds of responders, including dozens of emergency vehicles and vessels, included the New York City Police Department (NYPD), New York City Fire Department, emergency medical services, the Coast Guard, and the U.S. Army Corps of Engineers.

FDNY personnel established an incident command system to oversee rescue efforts. Emergency personnel first searched for victims and provided them with initial medical care. Those in need were stabilized and transported to area hospitals. They also worked to locate and extricate trapped victims, and helped to brace the upper decks of the vessel on the damaged side. Hundreds of personnel continued to assist during the afternoon and evening helping the injured, taking witness statements, interviewing crewmembers and passengers, organizing crowd control and traffic control, and forming a protective area around the ferry terminal.

In addition to these rescue efforts, Coast Guard Vessel Traffic Center New York established a safety zone of 400 yards around the ferry. They also broadcast to ves-

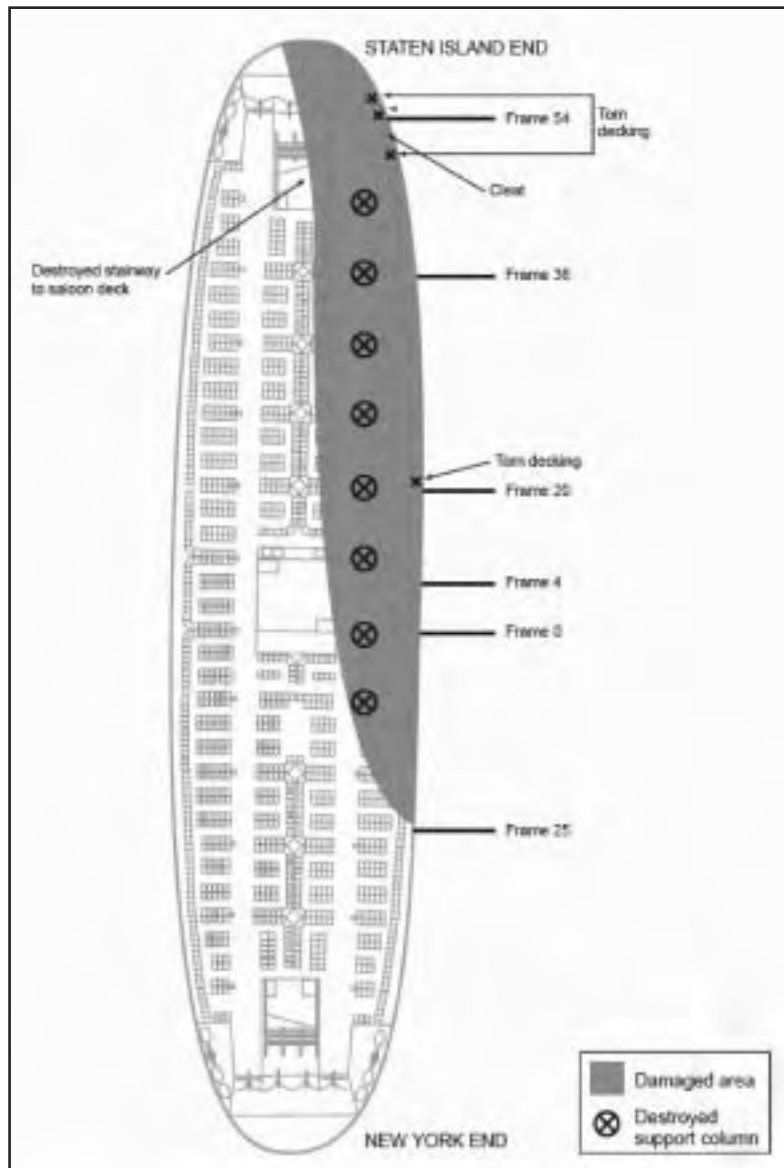
sels in the waterway about the debris field moving through the waterway as a result of the ebb tide and westerly winds, and halted all Staten Island Ferry operations. As more than one person was in the water near the scene of the accident, Coast Guard personnel conducted a search for passengers overboard. USCG remained on scene to assist with the investigation, search areas near the ferry terminal, keep water traffic away from the terminal, and monitor possible hazards in the water.

Investigation

Upon arriving at the St. George (Staten Island) Ferry Terminal, USCG Activities New York (ACTNY) marine investigators found the vessel docked at slip #5 and multiple municipal emergency response agencies on scene. ACTNY's investigation team proceeded to the pilothouse to begin interviews and conduct post-casualty alcohol testing of the crew. NYPD had already begun questioning the crew, so, upon completion of the alcohol testing, crewmembers were taken for further interviews with representatives from the police department and USCG Activities New York investigators present.

The USCG contacted the National Transportation Safety Board (NTSB) per previously established protocols due to the scope and severity of the casualty. The NTSB assumed the role of lead investigative agency and dispatched a team. The NTSB's lead investigator initiated a field investigation, which included the formation of four separate investigative teams to conduct the on scene investigation. Each team was comprised of members from the NTSB, ACTNY, New York State Department of Transportation, NYPD, and the New York City Department of Transportation Staten Island Ferry Operations Division. The on-scene investigation lasted for approximately eight days.

Shortly after the accident, the vessel's crew submitted blood and urine specimen results to the Coast Guard and the NYPD after toxicological testing in response to a combined NYPD/Coast Guard request. For all crewmembers, the results were negative for alcohol and the five drugs of abuse that the U.S. Department of Transportation screens for in post-accident testing



Plan view of the ferry's main deck highlighting damaged areas. Graphic courtesy of NTSB.

(marijuana, cocaine, opiates, amphetamines, and phenylidine).

Findings

Coast Guard Activities New York determined that the primary causal factor of this accident was the assistant captain's unexplained incapacitation while in navigational control.⁹ The failure of the New York City Department of Transportation to implement and oversee safe, effective operating procedures for its ferries, as well as the captain's failure to exercise his command responsibility over the vessel by ensuring the safety of its operations contributed to the chain of events.

Safety issues were identified in the following areas:

1. Actions of assistant captain and captain

The Coast Guard has established numerous regulations to help prevent marine casualties. Two such regulations





require that a proper lookout be maintained at all time and no less than two people stand a pilothouse watch. These requirements were violated and directly contributed to this casualty. Thus, when the assistant captain became unresponsive, there was no backup watchstander to recognize the danger and prevent the casualty.

As a licensed merchant mariner, the assistant captain had the responsibility to ensure he stood his watch in accordance with good seamanship and all applicable regulations. However, the captain is charged with the ultimate responsibility for the vessel's safety. Unfortunately, the captain knew that the crew's prevailing prac-

tices did not ensure a proper pilothouse watch, and failed to do anything about it.

The assistant captain was obviously cognizant of his poor health and the risks associated with the mix of prescription medications he was taking. He pled guilty in August 2004 to federal charges that he knowingly made a false report to the Coast Guard on his medical evaluation form, saying he didn't want them to know because he was afraid it would jeopardize his job.¹⁰ In doing so, he perpetuated a situation where he was responsible for the lives of thousands of people a day despite being physically unfit to carry out those responsibilities with minimal risk.



View of damage to the New Jersey side of main deck showing collapsed stairway to saloon deck, destroyed columns, crushed seats, ruined ceiling panels, dislodged cables and fixtures, and other destruction. USCG photo.

2. New York City Department of Transportation oversight of ferry operations

According to the conclusion of the USCG Activities New York report of investigation:

“An attitude prevailed within the ferry organization where the safety of the passengers and crew was not necessarily of paramount importance. The normal practice of the crew left the Captains and Assistant Captains alone in the Pilothouse during the highly risky maneuver of approaching the ferry terminal. The position of Non-navigating Mate [the deckhand lookout] held little responsibility for contributing to the safe navigation of the ferries, and Management knew little of

whether or not the Captains, to whom they entrusted the vessels, crew and passengers, complied with federal qualification requirements.”¹¹

3. Medical oversight of mariners

The Coast Guard has also implemented specific safety regulations in an effort to prevent mariners from being rendered physically incapable of performing their duties by requiring U.S. merchant mariners to undergo recurring physical examinations. The assistant captain and his physician failed to fully disclose his medical conditions and his prescription medications. Had they done so, it is highly unlikely he would have been able to keep his license.

Also according to the conclusion of the ACTNY report of investigation, the Coast Guard's medical oversight program at the time allowed:

"[mariners] ...to obtain a Merchant Mariner license despite not meeting the minimum health standards—whether it be intentionally or unintentionally. A physician familiar with the requirements of the maritime industry need not conduct the required physical examinations. Federal guidance to physicians, Regional Exam Centers, and Marine Safety Offices regarding what medications are acceptable for mariners is not clear and consistent. There is no proactive effort to ensure First Class Pilots comply with the annual physical examination requirement. Finally, there is no clear requirement for a mariner to report changes in his physical condition. The potential result is a mariner who, despite being unfit for service, continues to be placed in a position of responsibility and liability."¹²

4. Safety management systems

The New York Department of Transportation had not instituted a documented safety management system or standard operating procedures despite the fact that it carried more than 20 million passengers per year. Although not required by regulation, such a system would have laid the foundation for the indoctrination and training of all ferry employees and established the preventative processes and protocols necessary to ensure the safe operation of the vessels.

5. Potential contribution of navigation technology to the safety of ferry operations

The NTSB Safety Board noted that:

"At the time of the accident, the pilothouses of the Staten Island ferries lacked many of the common technological innovations that can assist operators during restricted visibility conditions in determining vessel location, heading, speed, approaching vessels, and other key navigational parameters. Modern equipment is also available to monitor vessel condition and alert operators to recognize out-of-profile or unsafe conditions. Vessels lacked even such basic instrumentation as speed indicators.

Further, bridge layout was found to be suboptimal in presenting critical information to operators ... These potential deficiencies, which can lead to deficient operator performance, were noted by the GMATS [Global Mar-

itime and Transportation School] assessment that was performed after the accident at the request of the NYC DOT."¹³

Collective Factors to Blame

The press gave the casualty much attention as the details of the investigation unfolded, paying particular attention to the role of the assistant captain at the wheel, who admitted he had blacked out shortly before the crash occurred. However, the ACTNY investigators' report of investigation gave a clearer picture of the full story:

"As is too often the case in situations such as this, many elements occur collectively and create a scenario that permits a casualty to take place. Eliminate just one element and the casualty may be averted. Tragically that did not happen in this case where a poor safety culture, noncompliance with federal safety regulations, gaps in oversight and the poor health of the assistant captain ... coalesced as causal factors that led to the deaths of 11 people and over 70 injuries."¹⁴

About the author:

Ms. Diana Forbes has been a staff writer for Proceedings since December 2006. Previously, she worked at Coast Guard headquarters as a technical writer for the Human Element and Ship Design division. There she wrote and edited a wide range of publications such as reports to Congress, instructional guidebooks, newsletters, marketing materials, and regular Proceedings Prevention Through People articles.

Acknowledgement:

Proceedings gratefully acknowledges the support of LCDR Charles Barbee, who provides final review of all "Lessons Learned" articles.

Endnotes:

1. USCG Activities New York (ACTNY), "Investigators Report of Investigation into Allision of the Ferry *Andrew J. Barberi*, Staten Island, NY 15 Oct 03," p. 1.
2. Ibid, p. 7.
3. Ibid, p. 3.
4. United States Coast Guard (USCG), "Report of Investigation into the Circumstances Surrounding the Incident Involving Allision/Personnel Casualties - *Andrew J. Barberi* on 10/15/2003," p. 70.
5. Ibid, p. 71.
6. ACTNY, p. 5.
7. USCG, p. 76.
8. ACTNY, p. 7.
9. Ibid, p. 15.
10. National Transportation Safety Board, "Allision of Staten Island Ferry *Andrew J. Barberi*, St. George, Staten Island, New York, October 15, 2003." Marine Accident Report NTSB/MAR-05/01, 2005, p. 15.
11. ACTNY, p. 13.
12. Ibid, p. 14.
13. NTSB, p. 69.
14. ACTNY, p. 12.
15. Additionally, this casualty was one of several that led the Coast Guard to seek amendment of its suspension and revocation (S&R) authority in 46 USC Chapter 77. The Coast Guard and Maritime Transportation Act of 2004 amended the bases for the S&R section by adding 7703(4), which authorizes S&R when a holder of a Coast Guard-issued Merchant Mariner Credential (MMC) has committed an act of incompetence relating to the operation of a vessel. Prior to this amendment, the Coast Guard had to establish that the act of incompetence occurred while the MMC holder was acting under the authority of the MMC. The pilot in this incident was not acting under the authority of his MMC; thus, initiation of S&R action was not authorized.

RECOMMENDATIONS—U.S. Coast Guard¹⁵

The Coast Guard's investigators report of investigation recommended:

- The Coast Guard should create and implement a marine medical examiner program similar to the Federal Aviation Administration's existing flight recertification program, which would ensure physicians are certified and familiar with the requirements of personnel engaged in the marine industry and also ensure that physical examination requirements are met.
- The Coast Guard should develop policy or regulations providing amplifying information as to when medical conditions, or medications, would preclude mariners from safely fulfilling their duties and responsibilities.
- Discontinue the practice of issuing "non-navigating mate" licenses because it is inadvisable to place a mariner with a "limited" license in a position where he would be reasonably expected to exercise the duties and responsibilities of a similar mariner whose license was not likewise constrained. Mariners with such licenses should be re-evaluated and issued an appropriate credential upon their next renewal.
- The New York City Department of Transportation should also eliminate the position of "non-navigating mate" on all Staten Island Ferries and develop other ways to manage the existing crew hierarchy within the ferry system while working toward enhancing marine safety.
- The New York City Department of Transportation should develop a safety management system structured upon existing international guidance to ensure each ferry is properly manned, all crewmembers understand their responsibilities, and all regulatory requirements are met for the vessels' safe operation.

RECOMMENDATIONS—NTSB

As a result of its investigation, the National Transportation Safety Board made recommendations to the New York City Department of Transportation, the U.S. Coast Guard, the states that operate public ferries, and the Passenger Vessel Association.

New York City Department of Transportation:

- Licensed pilots should be required to provide proof of compliance with the Coast Guard medical certification requirements.
- Adhere to October 2005 target for implementation of a comprehensive safety management system, incorporating all matters recommended by the Global Maritime and Transportation School assessment, and ensuring medical fitness oversight (requiring, minimally, assurance of compliance with Coast Guard requirements).
- As part of its response to the Global Maritime and Transportation School assessment, fully comply with the technology-related recommendations of the Global Maritime and Transportation School, and establish a recurrent evaluation process to assess the use of navigation technology.

U.S. Coast Guard:

- Revise regulation 46 CFR 10.709 to require that the results of all physical examinations be reported to the Coast Guard, and provide guidance to mariners, employers, and mariner medical examiners on the specific actions required to comply with these regulations.
- In formal consultation with experts in the field of occupational medicine, review the medical oversight process and take actions to address, at a minimum, the lack of tracking of performed examinations; the potential for inconsistent interpretations and evaluations between medical practitioners; deficiencies in the system of storing medical data; the absence of requirements for mariners or others to report changes in medical condition between examinations; and the limited ability of the Coast Guard to review medical evaluations made by personal health care providers.
- Seek legislative authority to require all U.S.-flag ferry operators to implement safety management systems, and once obtained, require all U.S.-flag ferry operators to do so.

States Operating Public Ferries:

- Encourage public ferry operators to voluntarily request application of the federal requirements at 33 CFR 96 for implementing a safety management system, if they have not already done so.

Passenger Vessel Association:

- Encourage member ferry operators to voluntarily request application of the federal requirements at 33 CFR 96 for implementing a safety management system, if they have not already done so.

Survey available online:
www.uscg.mil/proceedings



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PROCEEDINGS Magazine, Fall 2008

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Was the design and layout of this issue of *Proceedings* pleasing to the eye and conducive to readability?

Strongly Agree 5.....4.....3.....2.....1 Strongly Disagree

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Reader's Survey

Nautical Engineering Queries

*Prepared by NMC Engineering
Examination Team*

Q

uestions

1. Davit-launched lifeboats must be equipped with _____.
 - A. tanks for the storage of drinking water
 - B. ballast tanks to prevent the boat from capsizing
 - C. buoyant oars or paddles
 - D. auxiliary mechanical propulsion (Fleming gear)

2. Which of the following terms would best describe the temperature at which a liquid boils at a given pressure?
 - A. degree of saturation
 - B. saturation temperature
 - C. superheated temperature
 - D. degree of superheat

3. A crankshaft whose center of gravity coincides with its center line is said to be _____.
 - A. dynamically balanced
 - B. statically balanced
 - C. counter-balanced
 - D. resonantly balanced

4. An AC circuit has a capacitive reactance of 30 ohms in addition to an inductive reactance of 40 ohms connected in series. What is the reactance of the circuit?
 - A. 8.37 ohms
 - B. 10.00 ohms
 - C. 50.00 ohms
 - D. 70.00 ohms

- tanks for the storage of drinking water
Incorrect Answer: See 46 CFR 199.175(b) (40) and Table 199.175-Survival Craft Equipment. Tanks for the storage of drinking water are not required equipment on lifeboats.
 - ballast tanks to prevent the boat from capsizing
Incorrect Answer: Ballast tanks to prevent the boat from capsizing are not required on lifeboats.
 - buoyant oars or paddles
Correct Answer: See 46 CFR 199.175(b) (20). "Oars and paddles. Each lifeboat and rescue boat must have buoyant oars or paddles of the number, size, and type specified by the manufacturer of the boat. An oarlock or equivalent device, either permanently installed or attached to the boat by a lanyard or chain, must be provided for each oar."
 - auxiliary mechanical propulsion (Fleming gear)
Incorrect Answer: Auxiliary mechanical propulsion is not required equipment aboard lifeboats.
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- degree of saturation
Incorrect Answer: The degree of saturation, or relative humidity, is the ratio of the actual water vapor density to the saturation water vapor density at a given temperature. Degree of saturation is expressed in percent.
 - saturation temperature
Correct Answer: Saturation temperature is another term for boiling point. The saturation temperature is the temperature for a corresponding saturation pressure at which a liquid boils into its vapor phase.
 - superheated temperature
Incorrect Answer: The superheat, or superheated temperature of a liquid, is the temperature to which it has been heated above that of its saturation temperature.
 - degree of superheat
Incorrect Answer: The number of degrees by which a liquid's temperature exceeds that of the saturation temperature is called the degree of superheat.
-

- dynamically balanced
Incorrect Answer: The centrifugal forces acting on a rotating crankshaft do not act in the same plane, but at various distances from the center of the shaft. These forces will form couples (opposing forces) which, unless balanced, will cause the shaft to wobble. When these couples are completely balanced, the crankshaft is said to be dynamically balanced.
 - statically balanced
Correct Answer: When a stationary crankshaft's center of mass is on the axis of rotation, it is said to be statically balanced. With the crankshaft supported on two horizontal knife edges, the shaft will be stable at any position of the cranks, and will have no tendency to roll.
 - counter-balanced
Incorrect Answer: Counter-balanced refers to the placement of a weight equal to and acting in the opposite direction to the other parts of the rotating crankshaft in order to achieve balance.
 - resonantly balanced
Incorrect Answer: Crankshafts are not resonantly "balanced." Resonance causes an object to vibrate at a specific frequency when subjected to an external force. The vibration resulting from resonance can build up to such high levels that the object breaks. Diesel engine crankshafts utilize a vibration dampener, or energy absorber, to minimize any vibration resulting from resonance.

Note: The crankshaft assembly of a diesel engine must be statically and dynamically balanced in order to minimize vibration and component wear.

- 8.37 ohms
Incorrect Answer: Choice "B" is the only correct answer.
 - 10.00 ohms
Correct Answer: The reactance (X) of an inductor and capacitor in series is the algebraic sum of the inductive reactance (XL) and capacitive reactance (XC), which are positive and negative, respectively.
Thus: $X = X_L + X_C = 40\Omega + (-30\Omega) = 10.00\Omega$
 - 50.00 ohms
Incorrect Answer: Choice "B" is the only correct answer.
 - 70.00 ohms
Incorrect Answer: Choice "B" is the only correct answer.

Nautical Deck Queries

*Prepared by NMC Deck
Examination Team*

Q

uestions

1. The "margin plate" is the _____.
 - A. outboard strake of plating on each side of an inner bottom
 - B. outer strake of plating on each side of the main deck of a vessel
 - C. plate which sits atop the center vertical keel
 - D. uppermost continuous strake of plating on the shell of a vessel

2. The regulations that were passed to implement MARPOL 73/78 concerning oil pollution apply to a U.S. flag vessel that sails on which waters?
 - A. inland waters only
 - B. Great Lakes only
 - C. international waters
 - D. all of the above

3. What is the spoken emergency signal for "man overboard" on the VHF radio?
 - A. man overboard
 - B. securite
 - C. mayday
 - D. pan-pan

4. Which magnetic corrector(s) can be set while the vessel is on a heading of magnetic east or magnetic west?
 - A. quadrantal spheres
 - B. heeling magnet
 - C. Flinders bar
 - D. athwartships magnets

1. A. outboard strake of plating on each side of an inner bottom
Correct Answer. Inner bottom is the plating forming the top of the double bottom, otherwise known as tank top.
- B. outer strake of plating on each side of the main deck of a vessel
 Incorrect Answer. The outer strake of plating on each side of the main deck of the vessel is known as the stringer plate.
- C. plate which sits atop the center vertical keel
 Incorrect Answer. The horizontal plate that sits atop the center vertical keel is the rider plate.
- D. uppermost continuous strake of plating on the shell of a vessel
 Incorrect Answer. The uppermost continuous strake of plating located just under the sheer line of the vessel is known as the sheer strake.

Note: A strake is a horizontal strip of steel plating on the exterior hull of a vessel, running longitudinally along the vessel from the stem to the stern.

2. A. inland waters only
 Incorrect Answer. 33 CFR 151.09 (b), Oil Pollution, states that U.S. vessels operating exclusively on the internal waters of the United States or Canada do not need to comply with regulations required by MARPOL 73/78. These waters are covered under the Federal Water Pollution Control Act.
- B. Great Lakes only
 Incorrect Answer. 33 CFR 151.09 (b), Oil Pollution, states that U.S. vessels operating exclusively on the Great Lakes of North America do not need to comply with regulations required by MARPOL 73/78. These waters are covered under the Federal Water Pollution Control Act.
- C. international waters
Correct Answer. 33 CFR 151.09 (a), Oil Pollution, states that each ship operating under the authority of the United States on an international voyage is required to comply with regulations required by MARPOL 73/78. This section also refers to ships operating under the authority of the United States certificated for ocean service, certificated for coastwise service beyond three nautical miles, operating seaward of the outermost boundary of the territorial sea of the United States, or operating under the authority of a country other than the United States while at a port or terminal within the United States.
- D. all of the above
 Incorrect Answer. This answer is incorrect, since A and B are incorrect answers.

Note: MARPOL 73/78 is the main international agreement on preventing pollution to the environment by ships from operational or accidental causes.

3. A. man overboard
 Incorrect Answer. The term "man overboard" by itself is not a recognized radiotelephone emergency signal. The information relating to man overboard must be preceded by the appropriate URGENCY signal, pan-pan, for urgent information regarding a person. However, "man overboard" can be spoken aloud or announced over a vessel's internal communications system by one witnessing a person(s) in the water.
- B. securite
 Incorrect Answer. Securite is the radiotelephone SAFETY signal that indicates the sending station has an urgent message to transmit concerning the safety of navigation or to give important weather warnings.
- C. mayday
 Incorrect Answer. Mayday is the radiotelephone DISTRESS signal that indicates that a ship, aircraft, or other vehicle is threatened by grave and imminent danger and requests immediate assistance.
- D. pan-pan
Correct Answer. Pan-pan is the radiotelephone URGENCY signal that indicates the sending station has an urgent message to transmit concerning the safety of a vessel, aircraft, or person. Pan-pan is said three times, and then would be followed, in this instance, by information regarding a man overboard.

4. A. quadrantal spheres
 Incorrect Answer. Quadrantal spheres are set when a vessel is on a magnetic heading of intercardinal points 045 degrees, 135 degrees, 225 degrees, or 315 degrees.
- B. heeling magnet
 Incorrect Answer. A heeling magnet corrector is set after original even keel corrections have been made, the vessel is altered by heeling to one side, and the vessel is on a magnetic heading of 000 degrees or 180 degrees.
- C. Flinders bar
Correct Answer. The Flinders bar corrects for induced magnetism in vertical soft iron, and is set when a vessel is on a magnetic heading of 090 degrees or 270 degrees.
- D. athwartships magnets
 Incorrect Answer. Athwartships magnetic correctors are set when the vessel, on an even keel, is on a 000 degrees or 180 degrees magnetic heading.



