

U.S. Department  
of Homeland Security

United States  
Coast Guard



Summer 2005

The Coast Guard Journal of Safety at Sea

# PROCEEDINGS

of the Marine Safety & Security Council



**NATIONAL  
MARITIME  
CENTER**

Evolutionizing Mariner Licensing

# PROCEEDINGS



Summer 2005

Vol. 62, Number 2



## On the Cover

Merchant Mariner Documents have been in use since the mid-1800s and have been the responsibility of the U.S. Coast Guard since 1942. Pictured is a sampling of Merchant Mariner Documents stored at the National Maritime Center, plus a look at the most recent documents approved for use.

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# Assistant Commandant's Perspective

by Rear Adm. T. H. GILMOUR  
*Assistant Commandant for Marine Safety, Security & Environmental Protection*

This is a challenging and exciting time for the Coast Guard's Mariner Licensing and Documentation Program. For several years now, we have been exploring means to modernize and improve the way we provide service to the mariner. We have been guided in this effort by the feedback provided to us by mariners themselves, as well as by the demands of a changing operating environment. Several articles in this issue will discuss how we envision moving forward, but in general we are looking to improve nationwide consistency through centralization of certain processes, while at the same time preserving the local accessibility to Coast Guard licensing specialists. I am sure you will find the information on how we plan to reorganize these functions of value. Stay tuned for more on this topic in the coming months.

Licensing and Documentation is a program that, perhaps more than any other Coast Guard mission, focuses squarely on people—primarily the mariners we certificate. Without question, mariners are the key element in the safety and security of our marine transportation system. Their service in support of safe and secure marine operations contributes immeasurably to our nation and our way of life. Their assistance in helping to improve Coast Guard services continues to be invaluable.

Likewise, our means of delivering services to the mariner also is centered on people. The Coast Guard personnel, civil servants, and contractors—both in and out of the National Maritime Center—interact with the mariners in the RECs and provide program leadership and support.

The Mariner Licensing and Documentation Program is one of the oldest Coast Guard missions, dating back to 1838 with the formation of the Steamboat Inspection Service. It has been our task to ensure that each mariner operating vessels with cargo or passengers has the required experience, training, physical ability, and character to serve safely and competently on his or her vessel.

Our mission continues to evolve. Since September 11, 2001, the Coast Guard's Licensing and Documentation mission has become part of a broad based effort to prevent terrorist attacks within, or exploitation of, the U.S. maritime domain. We now conduct more thorough criminal record checks on all applicants for a Merchant Mariner's Document, in addition to the mariner competency evaluation screening we have always performed. This more holistic view provides us with the necessary information to minimize human threats in the maritime domain.

We are also actively increasing our awareness and knowledge of what is happening in the maritime arena at large, not just here in U.S. waters, but globally. We need to know which vessels are in operation, the names of the crews and passengers, and the ship's cargo, especially those bound for U.S. ports. Global Maritime Domain Awareness is critical to separate the law-abiding sailor from the anomalous threat. In a real sense, the Mariner Licensing and Documentation Program may be viewed as providing Domain Awareness of the People in the Marine Transportation System.

As we seek to reduce maritime risk, we continually work to balance each of the Coast Guard's essential mission requirements. The U.S. Coast Guard is our nation's lead federal agency for maritime homeland security, and the Mariner Licensing and Documentation Program helps to fulfill a crucial role within the Department of Homeland Security. Today's global maritime safety and security demands a new level of operations specifically directed at terrorism, without degrading other critical maritime safety, security and environmental protection missions. Looking at their accomplishments, it is clear that Coast Guard men and women who make up the Mariner Licensing and Documentation Program continue to rise to the challenge and deliver tangible results. I know they will continue to succeed in helping the Coast Guard deliver the vital maritime safety and security America expects and deserves.

**Adm. Thomas H. Collins**  
Commandant  
U.S. Coast Guard

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## **Statement of Ownership, Management and Circulation**

DIST (SDL No. 134)  
A: ac(2); ebfghijklmnopqrsuv(1).  
B: nr(50); cefgipw(10); bklqshj(5);  
x dmou(2); vyz(1).  
C: n(4); adek(3); blo(2); cfgjimpqr  
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E: ds(5); abcefgijklmnopqru  
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List TCG-06

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*Proceedings* (ISSN 1547-9676) is published quarterly by the Coast Guard's Marine Safety, Security & Environmental Protection Directorate, in the interest of safety at sea under the auspices of the Marine Safety & Security Council. Special permission for republication, either in whole or in part, except for copyrighted material, is not required, provided credit is given to *Proceedings*. The views expressed are those of the authors and do not represent official Coast Guard policy.

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# Champion's Point of View



by Capt. ERNEST J. FINK  
*Commanding Officer, National Maritime Center*

The Coast Guard is planning to implement a comprehensive overhaul of the Mariner Licensing and Documentation (MLD) Program beginning in 2006. Change is already taking place, but the completion of this project to restructure organizational relationships and centralize key processes will result in dramatically improved service to the MLD Program's many customers. To summarize the input received from those customers (mariners and members of the maritime industry), the services we provide need to be consistent, timely, customer-focused, and better coordinated. "The Future of the National Maritime Center" article in this issue describes the vision of the program and how the Coast Guard is planning to address the complementary demands for efficiency and consistency within the program, while fulfilling its critical obligation to the security of the maritime industry and the nation.

Redesigning the Mariner Licensing and Documentation Program to meet the high expectations of our customers, including avoiding any lapse or disruption in service during the transition, represents a significant challenge for the Coast Guard and the National Maritime Center (NMC). The MLD Program is very complex, and there is no quick or easy solution. Centralizing many of the processes currently performed by the 17 Regional Examination Centers is but one element of our strategic approach. Fortunately, centralization will be accompanied by an overdue growth in the number of personnel, to a level commensurate with the current and expected future workload, while also enabling the NMC to staff new functions intended to improve customer service. A second part of the strategy involves completing several projects to revise the governing laws and regulations. These projects are intended to streamline the credentialing requirements, completely integrate the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) into the domestic regulations, update MLD Program authorities, and reflect the security enhancements that have necessarily been incorporated into the mariner evaluation process. Finally, the Coast Guard will institutionalize a Quality Standards System (QSS). The QSS will support the MLD Program by providing the ability to continually monitor, measure, and improve its key processes.

A theme of Rear Admiral Gilmour's "Assistant Commandant's Perspective" on the facing page is *people*. In this post-September 11, 2001, security environment, the mission of the Mariner Licensing and Documentation Program has taken on greater significance. In the nation's efforts to increase its Maritime Domain Awareness (MDA), the MLD Program is in position to provide the necessary "MDA for People," by evaluating the qualifications and backgrounds of those operating and crewing vessels upon our waterways. As mentioned above, security is one of three cornerstones (along with efficiency and consistency) of our planned restructuring and centralization. Just as it is intended to improve the program for the benefit of all mariners and the American public we serve, this change will affect many of the MLD Program's greatest resource, its people. We will carefully manage the project so as to minimize the impact on our people, and at the same time to provide them with the best tools to continue to professionally render our vital service to the nation.

A handwritten signature in black ink, appearing to read "E. J. Fink".



# The National Maritime Center

*Recent history and current missions.*

by Mr. DONALD J. KERLIN, P.E.  
*Deputy Director, U.S. Coast Guard National Maritime Center*

Today's National Maritime Center (NMC) was born out of the 1996 streamlining effort at Coast Guard Headquarters. NMC originally consisted of five divisions and four subunits. Great Lakes Pilotage was briefly part of NMC before being reassigned to Headquarters. A new division, Passenger Vessel Security, was added to NMC in 1996, but in 2001 that function was transferred to the Marine Safety Center. In 1999, the Office of Compliance (G-MOC-1) moved to NMC and is now NMC-4C, and in 2000 the Container Inspection Training and Assistance Team (CITAT) was transferred out of NMC to the Office of Compliance at Coast Guard Headquarters.

## **Early Years into Adulthood**

The National Maritime Center is an independent U.S. Coast Guard Headquarters Command. The Assistant Commandant for Marine Safety, Security and Environmental Protection (G-M) exercises technical control over the Commanding Officer; the Director of Field Activities (G-MO) provides oversight.

NMC actively pursues new and innovative ways to assist the maritime community in gaining and using the services of the Coast Guard. By promoting the many missions of the Assistant Commandant for Marine Safety, Security and Environmental Protection, and by facilitating the maritime community in meeting the requirements and gaining access to these services, NMC provides and improves service to Coast Guard customers.

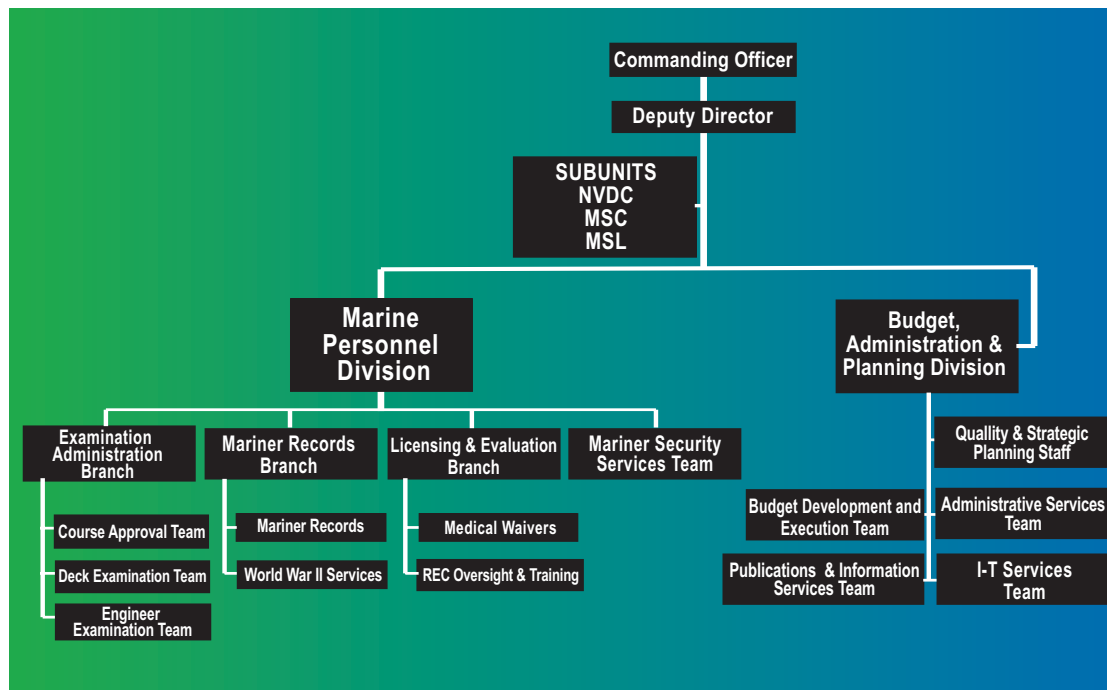
According to the Coast Guard Organization

Manual, NMC is responsible for the management, coordination, and execution of marine safety activities and services at the national level. NMC's mission statement reads:

*The mission of the National Maritime Center is to service and assist the nation's mariners and maritime industry to comply with national and international marine safety, security and environmental protection regulations and treaties. In addition, we provide special services to U.S. mariners that are authorized and directed by the United States Congress and President.*

To fulfill this mission, the Commanding Officer, U.S. Coast Guard National Maritime Center must:

- a. administer programs and maintain records for merchant mariner licensing and seamen's documentation;
- b. oversee the function, user training, and use of the Merchant Mariner's Licensing and Documentation (MMLD) database and related seamen's records;
- c. implement and interpret regulations and standards and provide policy guidance to the Marine Safety Offices (MSO) and Regional Examination Centers (RECs) regarding evaluation of personnel qualifications, licensing, certification, shipment, and discharge of merchant mariners;
- d. improve mariner qualification and training to



**Figure 1: Current National Maritime Center Organization**

provide competent, qualified mariners, supported by a responsive Mariner Licensing and Documentation (MLD) program and mariner database, fully compliant with domestic and international standards. This includes enhanced safety and security screening procedures as a result of the events of September 11, 2001.

e. develop policy and interpret domestic and international training requirements;

f. publish the *Proceedings of the Marine Safety and Security Council* and Navigation and Vessel Inspection Circulars (NVICs);

g. maintain an active public awareness and outreach program utilizing Navigation and Vessel Inspection Circulars, *Proceedings of the Marine Safety and Security Council*, etc.;

h. coordinate publication of the *Marine Safety Manual* for all field operational policies;

i. provide oversight of three subunits (Marine Safety Center, Marine Safety Laboratory, and National Vessel Documentation Center).

### Organization

The NMC's organization includes a Commanding Officer, Deputy, and two divisions with several branches. The first division (NMC-3) is the Budget,

Administration and Planning Division. The teams within this division are: Administrative Services, Budget Development and Execution, Publications and Information Services, Quality and Strategic Planning, and Information Technology Services. The second division is the Marine Personnel Division (NMC-4) and consists of three branches and one team: Mariner Records Branch (NMC-4A), Mariner Examination & Course Approval Branch (NMC-4B), Licensing and Evaluation Branch (NMC-4C), and the Merchant Mariner Security Services Team (MMSS/NMC-4D) (Figure 1).

There are currently 94 people assigned to NMC. There are six active duty military personnel (O-6, O-5, O-4, O-3, O-2, and CWO2), five Coast Guard reservists (3 Title 10), 31 civilians, and 52 contractors. We presently occupy over 15,000 square feet of office space in Arlington, Va.

Most of our current efforts are in the area of safety/security vetting, course approvals, and providing guidance to the RECs. Each one of these topics will be the subject of separate articles in this issue.

### The Future

In the near future, we will be working toward the restructuring and centralization of many of our duties. We will not look as we do now, but we will still be serving our customers efficiently, effectively, and securely.



# An Umbrella Plan

*Coordinating the efforts involved in refining the Mariner Licensing and Documentation Program.*

by Ms. MAYTE MEDINA

*Transportation Specialist, U.S. Coast Guard Office of Operating and Environmental Standards, Maritime Personnel Qualifications Division*

Continuous improvement is a very important part of any organization and allows it to keep pace with a changing environment. This is the case with the U.S. Coast Guard Mariner Licensing and Documentation (MLD) Program. This program has been keeping up with many changes that have been prompted by, for example: the implementation of the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW), 1978, as amended in 1995; the implementation of security measures emanating from the Maritime Transportation Security Act (MTSA) 2002; and customer feedback.

## **Why an Umbrella Plan?**

The MLD program has been quick to implement the necessary initiatives for continuous improvement.

Some changes have been popular and some have not been as popular, as is the case of changes that imposed a burden on seafarers and changes that necessitated implementation of new internal processes.

There are a number of efforts currently underway that refine various aspects of the MLD program: a series of regulatory efforts; refining the existing quality standard system; centralization of program implementation processes; and security screening efforts for licenses and merchant mariner documents. A number of these projects were already in process; however, because of the limited number of personnel involved and the competing responsibilities within the participants' already full work schedules, there was minimal coordination.

**There are a number of efforts currently underway that refine various aspects of the Mariner Licensing and Documentation program: a series of regulatory efforts; refining the existing quality standard system; centralization of program implementation processes; and security screening efforts for licenses and merchant mariner documents.**

To resolve this competition for resources, the Assistant Commandant for Marine Safety, Security and Environmental Protection, Rear Adm. T.H. Gilmour, chartered a team to refine the existing MLD Program. The goals were to correct the weaknesses identified in a Deloitte and Touche audit report, "Evaluation of the Quality Standard System for the MLD Program," and to ensure that the program



fully complied with the requirements of the STCW Convention. The chartering memo directed coordination among the various ongoing efforts, and among one of the deliverables was a plan that included a comprehensive task list, task sequence, milestones, resource requirements, assignment of responsibilities, and timelines.

#### **Developing the Umbrella Plan**

In August 2004 the Director of Field Activities chartered the Refining the MLD Program Team. The goal was to develop a plan to monitor the progress of and coordinate all efforts involved in refining the existing MLD Program to ensure continued compliance with U.S. statutes and regulations and the STCW Convention. The team included USCG stakeholders and existing project owners.

The team developed a plan that explained in detail how the Coast Guard will monitor and coordinate the various efforts to refine the existing MLD Program. The final plan met the requirements of the charter and provided a comprehensive task list, coordinated task sequence, milestones, assignment of responsibilities, and timelines.

The plan was developed through a series of facilitated sessions using a collaborative planning team process and application to identify existing projects and to develop, analyze, and prioritize the task list. The sessions identified 10 projects for inclusion, which were divided into three major categories:

1. MLD Restructuring/Centralization,
2. Legislative and Regulatory Changes,
3. Quality Standard Systems.

The plan also included a category titled "Pending Issues," which contained tasks that addressed gaps that, in the team's opinion, were in need of attention.

The plan only included the major tasks from each project, as these provided the best method for deter-

mining prioritization and organization of the plan. This reflects the team's belief that, while implementation details may be important, the goal of the umbrella plan is to consolidate all MLD program

**In August 2004 the Director of Field Activities chartered the Refining the MLD Program Team. The goal was to develop a plan to monitor the progress of and coordinate all efforts involved in refining the existing MLD Program to ensure continued compliance with U.S. statutes and regulations and the STCW Convention.**

initiatives into a reference guide that would provide project status, relationship between projects, and responsibilities that would assist in the prioritization of efforts and the best use of resources.

The plan was delivered in April 2005 in Microsoft Project format to ensure periodic updates; the software's capabilities can also be used to enhance the user's ability to manage implementation efforts. This plan is a dynamic document and, as such, requires periodic updates to ensure the information is accurate and up-to-date.

#### **Future of the Umbrella Plan**

The umbrella plan will be a living document. As the team moves forward, it will continuously update the information within the plan. Furthermore, the MLD Program Team will analyze what progress is made and determine whether plan revisions are required to ensure that the goals of the program are met. Changes to the plan will be submitted to the executive steering committee, who will determine whether there is a need to alter the plan.



# The Future of the National Maritime Center

## *Restructuring and centralization of the Mariner Licensing and Documentation Program.*

by Cmdr. DAVID W. KRANKING  
 U.S. Coast Guard National Maritime Center

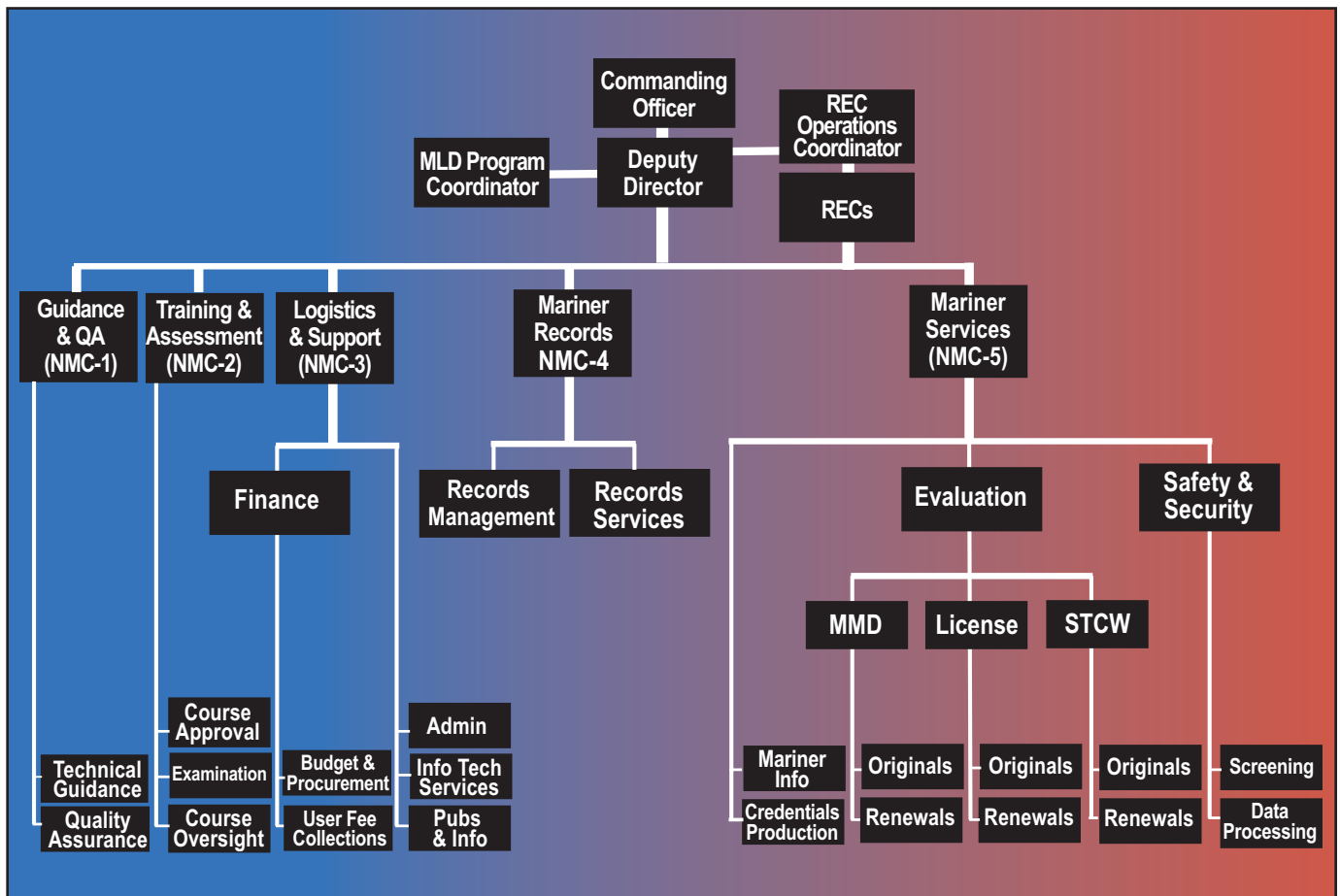


Figure 1: Future National Maritime Center organization.

The Coast Guard's Mariner Licensing and Documentation (MLD) Program has reached a state in which there is little disagreement that changes are necessary. Fortunately, the National Maritime Center (NMC) has designed a plan to address these necessary changes. NMC plans to restructure the way the MLD Program is organized and centralize its operations.

The Commandant has approved the plan to implement a comprehensive restructuring of the program by which merchant mariners obtain their credentials. The plan was developed by the National Maritime Center with the input of many stakeholders, those in industry as well as internal to the Coast Guard. The Commandant included this initiative on the short list of his unfunded priorities that was submitted to Congress in February 2005. Despite the "unfunded" status that qualified the restructuring for consideration on the Commandant's list, the Coast Guard is committed to finding a way to effect the necessary improvements to the MLD Program sooner than the normal budgeting process may allow. Ideally, NMC would begin the multi-year implementation of the plan in 2006, if possible.

#### **Current Situation**

In general, mariners consider the service provided by the MLD Program to be slow, inconsistent, and unresponsive. While not intended to minimize this public opinion, which is justified, the situation is that the staffs at the 17 Regional Examination Centers (RECs), despite doing commendable work under the circumstances, have been overcome by increases in their responsibilities.

The volume of applications for mariner credentials has resulted in delays in the processing of those applications. Mariners have become rather astute at comparing the backlogs at various RECs, choosing to submit their applications to the REC where they hope to receive faster service. Although this may satisfy their immediate need, it can make it difficult for any given REC to manage its expected workload. In addition, it can compound the fact that mariner records are not consolidated—the National Maritime Center is the custodian of the records of the issuances of Merchant Mariner Documents (MMDs), while the RECs maintain the records for licenses. (Many mariners hold both a license and an MMD.) "REC shopping," while permissible, may necessitate the shipment of records between RECs, adding to the processing time, or result in the further splitting of a mariner's official record.

Although the National Maritime Center is the MLD Program Manager, disseminating policy and issuing guidance to the Regional Examination Centers with whom the mariner customers interface, NMC is not in the chain of command of the RECs. Rather, each REC works for its respective Officer in Charge, Marine Inspection (OCMI). With 17 RECs interpreting and enforcing national policy, influenced by the discretion extended to 17 OCMI, inconsistency is admittedly a possibility. Mariner groups have cited examples whereby applications containing identical documentation for two mariners seeking the same credentials have been processed with different outcomes by different RECs—or even by different Coast Guard evaluators within the same REC.

As far as complaints regarding the program's unresponsiveness, mariners cite an inability to contact the RECs by phone when seeking general program information or an update on the status of their applications. The processing delays, actual or perceived, naturally increase the volume of calls, which in turn takes away from the time spent evaluating the application packages.

To help reverse the trend in the growing number of applications in the processing queue and, consequently, the amount of time to process an application, the National Maritime Center has placed contracted support personnel at 16 of the RECs to augment the Coast Guard staffs. This support has been invaluable; however, it has been expensive and is not expected on its own to improve the situation to the point of satisfying customer expectations. Also, the support has not enabled the permanent REC staffs to devote the necessary time to other program requirements such as the oversight of the steadily increasing mariner training course industry.

#### **How We Arrived Here**

Since 1990, the MLD Program has experienced a significant increase in both the scope and complexity of its responsibilities. However, with the exception of the temporary contractor support added at the Regional Examination Centers over the past three years, staffing levels have changed little since the regionalization of the program in 1982.

The Oil Pollution Act of 1990 (OPA 90) had a significant impact on the licensing and documentation of mariners. Drug testing of applicants was introduced, as was the requirement for applicants to submit to a check of the National Driver Register. However, the



greatest effect of OPA 90 on the RECs' workload was the change that made Merchant Mariner Documents renewable credentials, where previously they did not expire.

The 2002 implementation of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) 1978, as amended, added significant complexity to the evaluation of many mariner applications. The increased training and assessment requirements for mariners created a market for training courses to fulfill those requirements, courses that the Coast Guard must approve and oversee. An entirely new credential, the STCW certificate, also became the responsibility for the MLD Program to issue.

The imposition of user fees for application evaluation, credential issuance, and exam administration further added to the workload of the Regional Exam Centers, as they are required to collect and account for these funds. Changes to the regulations governing the licensing of mariners in certain segments of the maritime industry increased the types of credential endorsements that may be issued, each with its own specialized requirements.

Finally, as a result of the events of September 11, 2001, enhanced safety and security screening procedures were put into place. Compliance with regulatory requirements for verifying the identity and nationality of applicants and the administration of the specified oath by mariners is strictly enforced. The MMD was replaced with a new card incorporating tamper-resistant and anti-counterfeiting features. New procedures, including the NMC-centralized screening and evaluation of applicants' criminal backgrounds, were implemented to enhance safety and security of the nation and the marine transportation system.

From this description, one can see that the evaluation process for mariner credential applications has become significantly more intricate. There are approximately 210,000 active merchant mariners. The MLD Program has experienced a 25 percent increase over the past 10 years in the number of applications received annually. More than 84,000 credential transactions were processed in Fiscal Year 2004 by the RECs, which also collected and accounted for over \$7 million in user fees. The number of Coast Guard-approved mariner training courses now exceeds 1,800. Again, the MLD Program's personnel resources have not increased commensurate with the workload.



**Senior staff members meet weekly to plan the current and future direction of the National Maritime Center. From left: William St. J. Chubb; Cmdr. Edward Wingfield; Cmdr. Robert Eastburn; Stewart A. Walker; Capt. Ernest J. Fink; Perry Stutman; Cmdr. David Kranking; Donald J. Kerlin; and Albert G. Kirchner.**

## **MLD Program Vision: Security, Efficiency, Consistency**

The challenge facing the Coast Guard is far from trivial. To meet its current and future mission demands, the MLD Program has subjected itself to a critical review and developed a comprehensive plan to improve its service. Security is one guiding principle. The program must ensure that the credentialing of merchant mariners does not represent a gap in the security of the nation and the maritime industry; it must also ensure that credentials are only issued to those who are qualified and have demonstrated the necessary character.

To ensure that mariner customer service expectations are met, the MLD Program must also be designed to provide efficiency and consistency. These primary objectives will be fulfilled through the organizational restructuring of the National Maritime Center and the Regional Exam Centers, including their relationship to each other, the centralization of many of the functions historically performed by the RECs, and the implementation of several technological enhancements that are envisioned to improve the process for mariners and the Coast Guard alike. The restructuring and centralization will capitalize on production-line efficiencies, while leveraging field resources for face-to-face interaction with mariners.

### **Restructuring and Centralization**

There are four main components to the MLD Program restructuring and centralization plan. First, the organizational alignment of the RECs will be changed so that they operate directly under the auspices of the National Maritime Center rather than under the individual Officers in Charge, Marine Inspection. The Commanding Officer of the NMC will be designated as an OCMI and will become the decision-maker with respect to the issuance and denial of mariner credentials. While some interaction between NMC and the local OCMI's will still be required for area-specific license and pilotage issues, the MLD Program OCMI authorities and duties will be reassigned to NMC. A corresponding change to the appeal chain for credentialing decisions will be instituted. Aligning the RECs under the National Maritime Center also removes the burden of this complex administrative function from the responsibilities of the commanders of the Coast Guard's new Sector commands, which are being formed to create unity of command over Coast Guard operations.

The second component of the plan is to divest the National Maritime Center of its three subunits—

National Vessel Documentation Center, Marine Safety Center, and Marine Safety Laboratory. NMC will then be restructured to integrate its existing responsibilities with the centralized evaluation of applications, processing of associated user fees, production and issuance of mariner credentials, and consolidated management of mariner records. The three NMC subunits' missions are unrelated to the licensing and documentation of merchant mariners, so divestiture will have no adverse impact on the program. Instead, divestiture will better enable NMC to provide the necessary administrative and operational management to, appropriately, the RECs.

With the transfer of the functions mentioned above from the RECs to the central facility at the National Maritime Center, the third element of the restructuring and centralization plan is to focus the Regional Exam Centers on their remaining functions. The RECs will perform the important customer service tasks that require face-to-face contact with mariners and the training industry. These responsibilities will include answering basic questions concerning credential requirements and the application process; verifying applicant identity and nationality; fingerprinting applicants; reviewing applications for completeness and forwarding them to NMC, at least until such time as applications may be submitted directly to NMC; administering examinations; assisting the NMC and local Officers in Charge, Marine Inspection, with pilotage and local licensing issues; and performing oversight of Coast Guard-approved training courses.

Fourth, staffing at the Regional Examination Centers and the National Maritime Center will be adjusted to reflect the changes in assigned work. None of the RECs will close. However, all but the smallest offices will have their staff size reduced; the small RECs will actually have personnel added to be able to operate more effectively. The NMC will grow from its current complement of 95 government and contractor employees to 253 total personnel, absorbing all of the positions displaced from the RECs, while also adding an additional 40 contractors.

Figure 1 depicts the future NMC organization. Staff increases may occur throughout most of the organizational boxes shown; the following descriptions highlight the new functions and those transferred from the RECs:

- The MLD Program Coordinator will manage the transition into the new organization and become the program's long-range planning officer.

- The REC Operations Coordinator will serve as the interface between the REC Chiefs and NMC staff.
- The Quality Assurance Team within the Guidance and Quality Assurance Division will be responsible for auditing NMC's processes and procedures.
- The Course Oversight Team within the Training & Assessment Division will manage the function performed by the field (REC) Course Oversight Auditors.
- The User Fee Collections Team within the Logistics & Support Division will perform this function now performed by the RECs.
- The majority of the Mariner Services Division represents functions that will transfer to the National Maritime Center from the RECs. Of note, the Mariner Information Team will be a dedicated staff, separate from those evaluating applications, whose purpose will be to answer phone inquiries from program customers. This 800-call-center team will be trained to answer questions regarding how to apply for various credentials, what the basic requirements entail, and where in the application process a mariner's package may be.

### **New Technology**

An integral part of the restructuring and centralization initiative is to leverage technology to achieve greater efficiencies in the mariner credentialing process. One enhancement, which was fully deployed at all of the RECs by the end of 2004, is the electronic capturing and submission of applicant fingerprints. The hardware used with this system assesses the quality of the fingerprints prior to transmission, effectively eliminating the possibility of rejection due to smudges or other faults. Results of the Federal Bureau of Investigation (FBI) checks submitted with this equipment are available to the MLD Program within 48 hours, rather than the four- to six-week lag time of the past, thereby reducing the time required to process an application.

After consolidation at the National Maritime Center, mariner records will be imaged and made available

electronically to the NMC staff of evaluators and supervisors, the RECs, Coast Guard investigators, and others as necessary, eliminating the need, time delay, and vulnerability of shipping records between sites. Mariners will be able to pay their user fees and check the status of their applications online. Examinations will be administered and graded at the RECs electronically. The 800-call-center will be able to exchange information with mariners through a variety of automated or electronic means.

These information technology solutions will mark a significant change in the way current work processes are conducted. Some of these enhancements may not necessarily be implemented concurrently with the centralization. However, they are included in the envisioned end-state of the restructuring and centralization of the MLD Program. If some complicating factors can be resolved, the MLD Program would eventually hope that mariners could even submit their applications online to the National Maritime Center.

### **Conclusion**

In response to dramatic workload increases over the past decade and the demands emanating from its customer base, the Mariner Licensing and Documentation Program is poised to implement a comprehensive change intended to appropriately resource the program and improve the services provided. This change will positively affect our Coast Guard personnel, as well as the mariners and U.S. public they serve. The challenge is to establish a modern Mariner Licensing and Documentation Program that enhances homeland security and in the process maintains the face-to-face contact favored by our customers and that is essential for related security functions. The evolved program should also maximize efficiency through the incorporation of technology and centralization of processes; it should achieve the desired consistency by centralizing the program elements requiring the interpretation of regulations and policies under a single Officer in Charge, Marine Inspection. The Coast Guard is confident that the MLD Program restructuring and centralization plan meets these challenges and will provide for the secure, efficient, and consistent credentialing of merchant mariners.

# Systematic Improvement Makes Good Business Sense



## *Implementing ISO 9001:2000 for the Mariner Licensing and Documentation Program.*

by Cmdr. NANCY GOODRIDGE  
*Chief, U.S. Coast Guard Quality Standards and Assessment Division*

and Mr. ANTHONY MORRIS  
*Audit Team Leader, U.S. Coast Guard Quality Standards and Assessment Division*

The International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers, (STCW) 1978, was amended in 1995, and those amendments entered into force on February 1, 1997. Regulation I/8 of the amendments requires the Coast Guard's Mariner Licensing and Documentation (MLD) Program to have a Quality Standards System (QSS) that defines objectives clearly, aligns processes and mandates, and monitors program effectiveness.

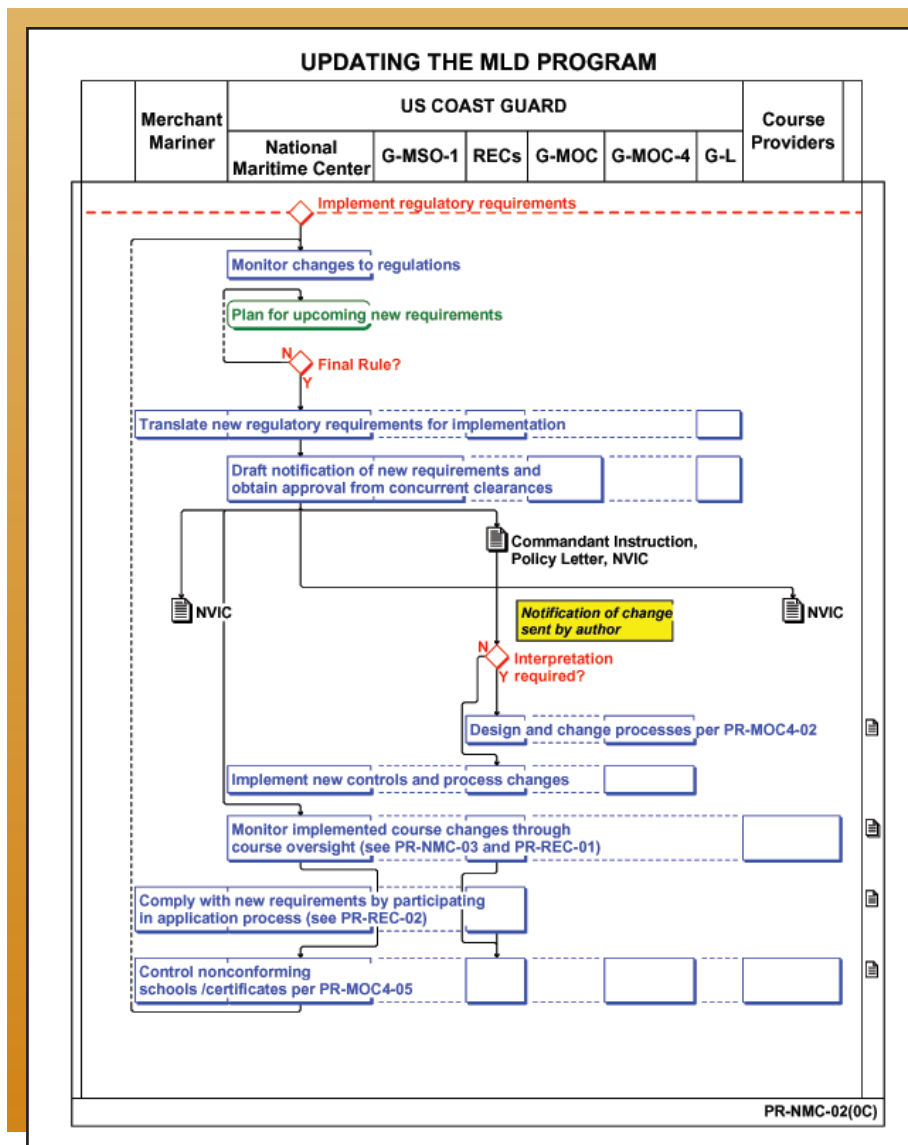
Since 1997, the Coast Guard has developed regulations and policy to meet STCW 1978, as amended. The newly established Quality Standards and Assessment Division (G-MOC-4), together with the National Maritime Center (NMC) and Quality Management International, Inc. (QMI), began developing a Quality Standards System for the MLD Program in October 2004. The development team also includes the Marine Safety Maritime Personnel Qualifications Division (G-MSO-1) and a number of other reviewing offices.

### **Quality Standards System**

STCW does not define or specify a particular Quality Standards System, so the Coast Guard chose the internationally accepted ISO 9001:2000 standard to

organize and provide structure to the system. This standard is recognized in both manufacturing and service industries and uses a process approach, where work is managed as a process and is designed, resourced, and controlled to efficiently achieve desired results. Within the MLD Program, QMI identified high-level, key processes that are essential drivers and key support processes that provide important controls. In ISO 9001:2000, the term *control* means "establishing and meeting requirements." Every process must have specific requirements that





**Figure 1. Mariner Licensing and Documentation (MLD) high-level processes.**

must be met. For example, “issue credential” would not be very prescriptive for an issuer. Compare with, “Following evaluation based on 46 CFR Subchapter B, STCW 1978, as amended, policy letters, and applicable directives found on the QSS Microsite MLD, issue credential.”

As processes are executed, the standard requires records that indicate activities were accomplished as required. So, at the end of the day, the program can prove services or accomplishments were performed correctly. Does this sound like a bureaucratic nightmare? It is not because the “proof” is collected only at critical junctures. With data showing what went well and what did not, managers can see where to improve. By using the ISO standard, which requires a process for improvement, to operate and manage

the Quality Standards System, it will be possible to drive continual improvement based on objective measurements.

**“Should” Versus “Shall”**

During the development and design phase, QMI used a graphic software tool called TeamFlow to produce flowcharts that document MLD high-level processes. These flowcharts (Figure 1) serve several purposes: (1) to enable process owners or stakeholders to easily see procedures within processes as well as interdependent links to other processes; (2) to show where the program meets ISO 9001:2000 requirements; (3) to ensure processes are aligned with mandates, policies, and objectives; and (4) to provide a top-level overview of the whole program, including inputs, outputs, and controls.



Directives and policies associated with the processes contain specific requirements that must be fulfilled. These requirements are the “shalls” and can be used for measuring success. Guidance materials, including advisories and opinions, are considered “shoulds” and serve to make work more consistent, effective, or understandable.

One “shall” is that upper level management commits to quality principals and provides human and material resources to ensure success. This is key to establishing a successful Quality Standards System. Another specific requirement is the use of controlling documents, so that everyone always has the latest version of a directive, regulation, or policy. These will all be maintained on the QSS microsite in CG Central, the Coast Guard’s new intranet portal system. A third is soliciting and using feedback to help improve processes.

The list of required “shall” elements in the standard includes:

1. understanding and fulfilling requirements;
2. document/version control and links to mandates;
3. records;
4. competencies;
5. management commitment;
6. conformity;
7. measured results analyzed for process performance and effectiveness;
8. continuous process improvements.

### MLD Quality Standard System

After analyzing the process flowcharts, establishing links, gathering various work procedures that include requirements, and controlling system documents, the next step is implementation: “Plan the work and work the plan.” QSS users should fully understand the importance of their individual roles, specifically how they contribute to overall objectives and what measures will be used to gauge program performance. To build clear requirements and instructions, QMI will collect existing procedures from the Regional Exam Centers, validate them for accuracy and consistency, and make sure the program ensures they are faithfully followed. Any gaps or conflicts that surface between what is documented and what is actually done must be reconciled for the QSS to function properly.

A system is comprised of various components that work together. The MLD Quality Standards System

contains:

- a quality manual that lists quality policy, objectives, processes, and links;
- directives and work instructions, which include all “shalls” and specifics for fulfilling requirements;
- feedback that has been collected through a hotline, customer surveys, and user comments;
- a corrective action list;
- a management review;
- a schedule that includes a calendar of required reviews, audits, corrective action milestones, and improvement project accomplishments;
- a CG Central QSS microsite that serves as a repository for all documentation and measurement reports.

### QSSD and Quality Standards, Assessment Staff

The Quality Standards and Assessment Staff (G-MOC-4) is a new division in the Office of Compliance, which establishes, then monitors and supports, the QSS. The six-person division maintains a database (QSSD) that houses the hundreds of links among mandates, processes, and requirements. The division is responsible for tracking preventive and corrective actions, maintaining the schedule defined above, ensuring version control, and performing annual internal audits. When external audits are required, as for STCW every five years, the QSS staff will provide an audit representative to assist. The effectiveness of the QSS, determined by outside audit, must be reported to the International Maritime Organization Secretary-General. The next external audit will take place in 2007.

To ensure the system is functioning as planned, internal audits will be conducted periodically. These will identify gaps within the system that will be tagged for corrective action prior to any external audit. The Quality Standards System will be flexible, ensuring the MLD Program stays compliant with regulatory, STCW, and ISO standard requirements.

In this post-September 11, 2001, climate, the Coast Guard is closely managing or monitoring risks within the maritime environment. Port safety and security are the highest priorities, while demand for ship transits is at an all time high. Installing, supporting, and accepting a Quality Standards System ensures that the credentials we issue every year are presented to deserving applicants. Besides that, working more efficiently and continuously improving just make good business sense.





# Merchant Mariner Training

*How courses are awarded the U.S. Coast Guard “seal of approval.”*

by Mr. JAMES D. CAVO, Esq.  
*Course Approval Team Leader, U.S. Coast Guard National Maritime Center*

One of the roles of the National Maritime Center (NMC) is to evaluate and approve merchant mariner training. This responsibility is handled by the Course Approval Team of NMC’s Examination and Course Approval Branch. Each year, this team processes approximately 1,500 requests from industry for the review of courses, extended training programs leading to mariner licenses or other credentials, and approval of the instructors who provide this training. NMC also evaluates and approves the “designated examiners” who assess the competence of candidates for towing vessel licenses. There are currently more than 1,800 Coast Guard-approved courses offered by more than 225 different companies or organizations.

## Why Does the Coast Guard Approve Training?

The Coast Guard may approve training for one of three reasons. The Coast Guard approves training to satisfy a regulatory requirement. Examples include the first aid and cardiopulmonary resuscitation (CPR) training required for a license or the training required to obtain a Tankerman endorsement. The Coast Guard will also approve training to substitute for a Coast Guard examination. For certain licenses and endorsements, the Coast Guard will allow a mariner to attend and pass an approved course in lieu of completing a Coast Guard-administered exam. Finally, the Coast Guard approves training to substitute for a portion of a sea service requirement.



**Figure 1: Basic fire-fighting is required for most mariners on seagoing vessels. Courtesy Alaska Vocational Technical Center, Seward, Alaska.**

In recent years, many mariners have become familiar with the first reason—to meet a regulatory requirement. From the perspective of many mariners, they may have become painfully aware of the requirement to complete Coast Guard-approved training. Indeed, required training accounts for approximately two-thirds of currently approved training.

Until fairly recently, things were quite different. Prior to the late 1980s, there were far fewer Coast Guard-approved courses. Course approval was limited to the maritime academies; a few programs for qualifying unlicensed deck and engine ratings;



**Figure 2: Mariners must be proficient in the deployment and use of survival craft.**  
Courtesy Paul Hall Center for Maritime Education and Training, Piney Point, Md.

and courses designed to meet a small number of regulatory training requirements such as the first aid and CPR training required for a license, the fire-fighting training required for upper level licenses (Figure 1), and the training required for a radar observer endorsement. For many mariners, training was limited to a few days of instruction before obtaining their original license and, at most, a few days every five years to renew a license. Until the mid 1980s, there were fewer than 100 Coast Guard-approved courses.

Beginning in the late 1980s, the maritime industry and the Coast Guard began to recognize the value of merchant mariner training and to appreciate how this education could enhance the qualifications of mariners and improve marine safety. The use of full-bridge simulators became common at this time. To encourage mariners to take courses they were not required to, the Coast Guard began to approve courses to meet some of the sea service required for licenses and endorsements. Although the Coast Guard had been approving training for this reason for many years, these approvals had been previously limited to license, seamanship, or lifeboatman programs. It was believed that an award of sea service might induce a mariner to get training that was not required, and the Coast Guard began to award

small amounts of sea service, typically 30 days or less, for shorter training courses such as ship handling and shipboard medical care.

During the late 1980s and early 1990s, training also became more widespread to introduce mariners to new equipment such as inert gas systems and crude oil washing on tank ships and automatic radar plotting aids. It was also used to qualify engineers for different propulsion modes; for example, a steam engineer needing to qualify for motor vessels.

In the mid-1990s, the Coast Guard's database of examination questions had been made available to the public, and the training for a license often consisted of a short "cram course" that involved little more than the memorization of the Coast Guard's questions and answers. Several studies indicated that effective practical training might be a better way to qualify mariners for a license than the Coast Guard-administered multiple-choice license examinations.

Seeking a way to improve the qualifications of mariners, the Coast Guard began to approve courses to substitute for the written examinations for licenses up to 200 gross registered tons and for unlicensed deck and engine endorsements, including

Able Seaman, Lifeboatman, and Qualified Member of the Engine Department. The number of Coast Guard-approved courses grew rapidly, and an entire segment of the maritime training industry catering to smaller vessels developed, almost overnight. In short time, attending an approved course became a more common way to obtain a lower level license than completing the Coast Guard exam. While it is arguable whether the original goal of a more effective alternative to Coast Guard examinations has been achieved, it appears that the option of attending an approved course instead of completing the Coast Guard's written examination is here to stay.

At about the same time the Coast Guard began to approve courses in lieu of written examinations, a series of high-profile marine casualties prompted the United States and international maritime communities to reconsider the way mariners qualify for their credentials. This led to increased requirements for training to qualify for mariner documents. Training would become required for many mariners, including personnel serving on tank ships and barges, towing vessels, and vessels over 200 gross registered tons on seagoing voyages.

Most notable among these requirements were the 1995 amendments to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW). Under STCW, most mariners serving on large seagoing vessels would be required to receive some training before being certified to perform these duties. For



**Figure 3: For mariners seeking to advance their careers more extensive training may be needed. Courtesy of Calhoun M.E.B.A. Engineering School, Easton, Md.**

existing mariners, this entailed “gap-closing” training such as basic safety training, proficiency in survival craft (Figure 2), and bridge resource management. For mariners entering the industry or seeking to advance their careers to a higher level of certification, more extensive training would be needed (Figure 3). With the implementation of STCW starting in 1997, the number of approved courses began a near exponential growth that would last several years.

Today, the growth of approved courses has slowed but still continues to rise. There are more than 1,800 approved courses, covering a wide variety of subjects, including:

- Automatic Radar Plotting Aids/Radar Observer
- Bridge Watchkeeping
- Basic Safety Training
- Cargo Operations
- Fire-Fighting
- Global Maritime Distress & Safety System
- Lifeboatman and Survival Craft
- Limited Tonnage Deck License Exams
- Medical Care
- Meteorology
- Mobile Offshore Drilling Units
- Navigation
- Passenger Vessel Safety
- Ship Handling.

In the near future, the variety of courses the Coast Guard approves can be expected to continue to grow, as the Coast Guard continues its implementation of STCW and as new technology such as electronic chart display and information systems are placed aboard vessels (Figure 4). Approved training may also be used as an option in marine casualty investigations. Attendance of an appropriate Coast Guard-approved course may be considered as an alternative to the suspension of a mariner's license.

#### **How Does the Coast Guard Evaluate Courses?**

Courses proposed for Coast Guard approval are evaluated at the National Maritime Center by the Course Approval Team, which is a part of the Examination and Course Approval Branch. The team consists of four members, all highly experienced merchant mariners with management-level unlimited tonnage licenses and experience.

At the start of the implementation of STCW in 1997, requests for course approval could wait as long as 11 months before being evaluated. Tracking of

approval requests and reporting of approvals was inconsistent and ineffective. The backlog of pending approval requests often exceeded 100 courses. To address this growing problem, the course approval team was formed, and many process changes were instituted. Within six months, the time to respond to course approval requests had been reduced to less than 30 days. Today, evaluation on most courses begins within five days of its arrival at NMC, and a determination is made in less than two weeks of receipt.

When a course approval request is received at NMC, it is logged into a tracking database and either assigned to an evaluator or placed in queue for review. Courses are generally reviewed in the order they are received.

After being taken for review, the evaluator determines the type of course approval requested and will conduct a quick review of the submitted materials for completeness. The evaluator will then identify the applicable standard for course content. This standard will include applicable regulations, model courses, Coast Guard examinations, and/or applicable Coast Guard policy documents, such as the Marine Safety Manual or Navigation and Vessel Inspection Circulars.

For instructors and/or designated examiners, the evaluator will review the candidates' qualifications, including experience, training, and the mariner licenses and documents they hold, to determine if they have substantial experience in the fields they are proposing to instruct or assess. A search of the Coast Guard Marine Information for Safety and Law Enforcement database will also be made, to determine if the candidate has been involved in marine accidents or other incidents that might impact their qualification to serve as instructor or designated examiner.

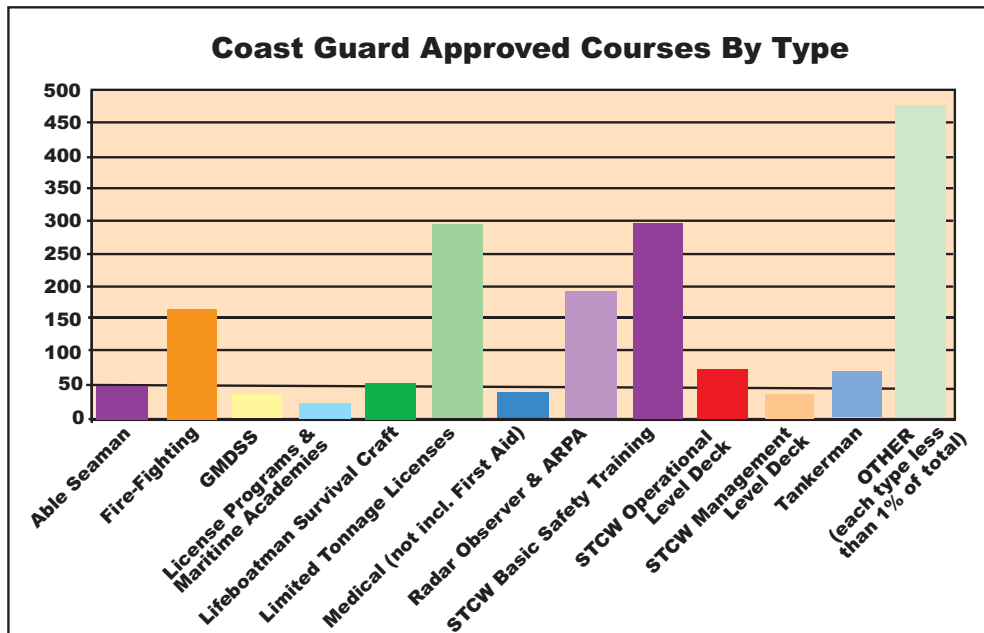


Figure 4: Coast Guard-approved courses cover a wide variety of subjects.

After evaluating the course against the applicable standards, the evaluator will either prepare a course approval letter and certificate or notify the requestor of deficiencies that must be remedied before approval. After review and signature by senior management, the approval or deficiency letter is mailed and the course request closed. If approval is granted, information about the approval is provided to field units (Regional Examination Centers) and posted to the approved courses sections of the NMC Web page (<http://www.uscg.mil/STCW/mmhc-appcourses.htm>).

The course approval team strives to continually assess and improve the way it fulfills the Coast Guard's course approval function. Recent process improvements have included electronic submission of course approval requests; moving to electronic records of course approvals and course curricula; and the use of "CG Central," a newly created Coast Guard intranet, to better communicate with field units about course approvals.

It can be expected that the maritime community will continue to embrace the benefits of training on mariner qualification and marine safety. It is foreseeable that Coast Guard-approved courses will continue. The National Maritime Center remains committed to meet this need and to provide an efficient, accurate, and equitable process for course approval.

*More information on course approvals is available on the NMC Web page at <http://www.uscg.mil/nmc>.*



# Mariner Documentation Program

*Licensing and documentation  
examinations.*

by Mr. BRENDAN SABURN

*Deck Examination Team, U.S. Coast Guard National Maritime Center*

Since the inception of licensing deck and engineering officers in the mid 1800s, onboard vessel service and the successful completion of a written examination have been the two primary and integral elements in the validation of mariner qualification. At the onset of World War II, the mariner evaluation, examination, and licensing process was transferred from the Department of Commerce to the U.S. Coast Guard. At that time, mariners were required to provide writ-

ten answers to a variety of essay questions, independently developed by the local examining office.

In the late 1940s, the Coast Guard worked to ensure that all examinations would cover a core group of topics for each license, focusing on levels of deck and engineering functions that had not previously existed, while correcting other problems that had been cited over the decades.



In the 1969 study conducted on behalf of the Coast Guard, *Licensing of Deck and Engineering Officers in the U.S. Merchant Marine*, nearly all of the problems that had been associated with the essay examinations were considered. For this project, a study group was convened, comprised of a wide cross section of representatives from the maritime industry. In general, the study participants cited that the existing testing process was inconsistent and, in cases, detrimental to the mariner seeking a license.

### Exam Disparities

Even though the Coast Guard had at this point in time compiled hundreds of deck and engine essay questions in conjunction with sample “acceptable” answers, this process still underscored several inconsistencies. In particular, one inconsistency encountered by the mariner was attributed to the wide disparity of seagoing experience each examiner brought to the process. As a consequence, experienced seagoing examiners would apply their own set of values, while subjectively grading the completed essay questions; on the other hand, a less experienced examiner would rely heavily on the canned answers. Even then, a mariner providing a comparative answer in excess of the number of words “on the back” of the question index card would lead an inexperienced examiner to provide a passing grade. In some instances, review of examinations revealed that some of the lengthy answers, while providing an abundance of appropriate key terms, did not present them in a logical manner or provide an overall accurate answer.

Although members of the 1969 study group provided nearly as many reasons as to why the examination format should not be changed, there were weightier reasons to support the change. The Coast Guard adopted the recommendations of the report and developed its plan to institute a progressive, timed process to change its examination format, which was to begin with the testing of third and second mates and engineers in 1974.

### Exam Reform

Even though there were several test modules that already incorporated multiple-choice questions, many more were required to completely populate all of the individual examination modules scheduled for mariner testing. The Coast Guard solicited new questions from the public to enhance its collection of multiple-choice questions already on hand.

Thirty years ago, the process of assembling an exam was much more cumbersome than it is today, with modern computers and word processing programs. At that time, each license test question had to be typed, cut, and pasted by hand onto a master examination form, which was then duplicated and mailed to the examination center. Once a mariner’s application was approved, a test date would then be scheduled for the mariner to return four to six weeks later, to provide sufficient time for the examination to be assembled and mailed to the test centers.

**During the early years in the use of multiple-choice questions, any problems with the questions were generally detected when a candidate either protested a question or submitted a comment about the clarity of the question.**

Even though the original process in assembling the examinations was cumbersome, labor-intensive, and time-consuming, the revamped examination process had several advantages. One important advantage was that each answer was graded and given credit objectively, according to the examination answer key. Also, every candidate testing, for example, for a third mate license on a Wednesday morning of the second week of the month used the same test module. If a mariner on the East Coast was successful in protesting a question to the Examination Branch, each candidate nationwide would also be given credit for that question. Additionally, the Examination Branch published specific pamphlets, which identified the licenses, an outline of subjects and topics that would be tested, as well as a few sample questions that a candidate might expect to find on a test module. This was a departure from the old method where the local examiner picked questions he considered appropriate, whether or not the questions administered were a true reflection of the candidate’s competence to apply the skills expected of the license.

Although the centralized Examination Branch was for a time located in Oklahoma City to take advantage of the Federal Aviation Administration’s mainframe computers to store the growing collection of questions, the development of the personal computer was to bring about other changes to the examination process.

### Random Generation Examination System

The Examination Branch was relocated to Coast Guard Headquarters in 1988, due in part to the use of the personal computer and the development of the random generation examination system. The system not only allowed each Examination Branch member to enter new questions into the deck and engine databases, it also allowed members to generate a complete set of test modules in just a few hours. The system also aided in making modifications to individual questions, which through a continuous review process were clarified by adding terms previ-

ously overlooked or, in the case of computational questions, continuously recalculated by several staff members until answers were consistently obtained.

Over the last 15 years, the random generation examination system has been itself continuously upgraded as the personal computer has been improved in capacity and speed. A module now may be populated with randomly selected questions from the appropriate database and automatically formatted into a 15-page booklet and rapidly distributed to all of the Regional Examination Centers. With the development of the Internet and e-mail, all examination modules produced can be made available almost instantaneously to each exam center nationwide, versus the slow distribution of the past via land mail.

#### Exam Review

During the early years in the use of multiple-choice questions, any problems with the questions were generally detected when a candidate either protested a question or submitted a comment about the clarity of the question. In 1988 all deck and engineering questions were published and offered for public review. At the time, a total of just under 19,000 deck and engineering questions were published. Over the intervening years, a small yet dedicated number of individuals from the public have submitted their recommendations to revise or eliminate obsolete questions, as technology has changed the complexion of

2,500 exam questions have been removed, either because they are no longer technically applicable or because shipping regulations have changed and the relevant questions are no longer applicable. During this same period the dedicated and experienced licensed masters, chief mates, and chief engineers who have comprised the Deck and Engineering Teams have not only replaced the outdated questions, but have developed another 6,000 new questions. These questions, representing the technology of today's ships, have expanded the deck and engine databases to more than 27,000 useable questions. And the database continues to grow.

Over the past few years the question review process has been improved, through improvements to the examination generation system. Throughout the year, each of the Regional Examination Centers sends in candidates' completed answer sheets. The data from the answer sheets are electronically entered into the system, allowing the deck and engine teams to generate reports indicating the percent of all questions answered correctly, as well as rate by which incorrect answers were also selected. Through the comparison of this information, the teams are better able to identify potential problems candidates may be having while attempting to select the correct answer.

Also, since the inception of the multiple-choice questions, *Proceedings* magazine has published groups of questions taken out of the databases for public comment. However, since the questions are now available on the Internet, the exam teams have redirected their focus on the publication of the database questions. Rather than merely reprinting what is available on the Internet, "frequently missed" questions have been identified and are printed in *Proceedings*. These questions also contain an explanation as to why one of the four answers is correct and the reasoning as to why each of the other three answers is incorrect. In the future, this information will also be available on the Internet.

**"Frequently missed" questions have been identified and are printed in *Proceedings*. These questions also contain an explanation as to why one of the four answers is correct and the reasoning as to why each of the other three answers is incorrect.**

the ships to be crewed by the license candidates. Since the publication of the license questions, nearly



# Course Oversight

## *Protecting the validity of mariner credentials.*



by Mr. JAMES W. CRATTY

*Marine Transportation Specialist, Licensing and Evaluation Branch  
U.S. Coast Guard National Maritime Center*

The Coast Guard's Prevention Through People initiative has yielded many alternatives directed at improving maritime safety, including mariner credentialing. A resulting report, "Licensing 2000 and Beyond," published in the fall of 1993, recommended an increasing emphasis on formal training through Coast Guard-approved courses, training courses in lieu of an examination for certain limited licenses, and strengthening of oversight of approved courses.

The Coast Guard's policy with respect to maritime training is changing as a result of several influences. These include the development of new technology; obligations resulting from the implementation of the Standards of Training, Certification, and Watchkeeping (STCW); and the economic realities faced by the Coast Guard and the maritime industry.

To improve marine safety, security, and environmental protection, the Coast Guard facilitates the development and approval of effective training courses for mariners. These courses may be offered by employers, maritime labor organizations, government agencies, and other public or private training facilities.

The Coast Guard's oversight program ensures that persons and agencies acting in lieu of the Coast Guard, by performing functions related to the issuance of mariners' credentials, are performing their duties in a manner that meets all regulatory and policy standards. Oversight of training programs ensures compliance with the course's approval letter and ensures that seafarers are provided training that meets the requirements. Oversight audits verify that stipulations in the Coast Guard's approval letter and the requirements of Title 46, Code of Federal Regulations Part 10.303, are followed, that only qual-

ified instructors teach the approved courses, and that only designated examiners (qualified assessors) conduct performance evaluations of skills and abilities.



**To improve marine safety, security, and environmental protection, the Coast Guard facilitates the development and approval of effective training courses for mariners. Courtesy of Calhoun M.E.B.A. Engineering School, Easton, Md.**

Historically, mariner credentialing regulations have allowed approved courses for any of the following reasons:

- to satisfy regulatory requirements, such as radar, firefighting, and first aid, for licenses or endorsements on Merchant Mariner Documents (MMDs);
- to present course completion certificates in lieu of completing Coast Guard examinations;
- to substitute a portion of the sea service required for obtaining a license or MMD endorsement.

Effective oversight is an essential element of verifying that a Coast Guard-approved party is maintaining the standards that led to the original approval. While courses are the most frequently approved item requiring oversight, other parties will be approved to evaluate applications, assess professional knowledge either through examinations or practical demonstrations, and perform other functions related to mariner training and issuing mariner's credentials. Any party approved or accepted to perform these functions will be subject to Coast Guard oversight.

There are currently 1,800 Coast Guard-approved courses offered by more than 225 training providers. The National Maritime Center's (NMC) Examination Administration Branch is responsible for the Coast Guard's approved course program. Information concerning regulations and policy is available upon request. These courses can be found on the Internet at [www.uscg.mil/STCW](http://www.uscg.mil/STCW).

#### **Coast Guard Organization for Oversight**

The Officer in Charge, Marine Inspection (OCMI), of each field unit with a Regional Exam Center (REC) will assign a staff member to serve as the person in charge of oversight operation under the direction of the chief of the REC. This person's duties include maintenance of case files, scheduling of oversights, and preparation of post-oversight reports.

Each REC maintains a complete case file on each approved course within the geographical area covered by the REC's operation and conducts course oversights.

#### **Types of Oversight Action**

**Announced administrative audit.** This audit is a periodic, in-depth review of all aspects of the party being audited.

**Unannounced administrative audit.** This audit is conducted in response to complaints received or information from any source indicating that an

are randomly scheduled to preclude predictability.

**Over-the-counter customer survey.** This survey usually consists of informal questions about a mariner's impression of and satisfaction with a course. Usually, it is conducted at an REC when a person applies for a credential. If an applicant mails an application to an REC, it may be done by telephone. This survey provides the Coast Guard an opportunity to get opinions and recommendations about a course.

**Survey tests.** This oversight mechanism consists of administering a special test module(s) to an applicant during an over-the-counter transaction. The purpose of the test is to determine the course's performance, not to justify denial of a mariner's credential.

**Off-site inspection.** These inspections verify that the location where a course will be taught meets the standards for space and comfort of the students and is conducive to learning. These inspections are conducted for courses taught in locations remote from the home location of the training institution.

**Covert audit.** This is an audit conducted in such a manner that the entity being audited does not know of the audit. It is usually conducted to determine if discrepancies exist in the performance of a private entity.

#### **Oversight Frequency, Approved Party Classification**

**Level I.** An announced administrative audit shall be held annually and informal visits quarterly. These entities are a course that is approved in lieu of a Coast Guard examination, a quality standards system administrator, a course with a history of non-compliance, and an independent assessor of a mariner's performance such as a designated examiner.

**Level II.** An announced administrative audit shall be held biennially with semi-annual informal visits. These are courses that grant 30 or more days of sea-service credit or courses required by regulation, other than cardiopulmonary resuscitation (CPR) and first aid.

**Level III.** Audits are at the discretion of the OCMI. This level includes first aid courses, CPR courses, locally approved courses, and courses granting 29 days or less of sea-service equivalency.

#### **Conduct of Oversight Visits**

**Administrative Audits.** An announced or unannounced administrative audit includes:

- review of course records;
- review of written examination;
- testing of simulators and training aides to



There are currently 1,800 Coast Guard-approved courses offered by more than 225 training providers.

approved/accepted entity is not performing in accordance with standards.

**Informal visit.** This is a routine visit of shorter duration than an announced administrative audit and may be announced or unannounced. Informal visits

determine that they are in good working order and that training aides and simulators in use correspond to those that have been approved for the course;

- attendance at all or part of a course to review the instructor's techniques and professionalism;
- informal discussion with attendees of the course to determine their level of progress and knowledge about the subject matter, as well as their evaluation of the course and the staff;
- course feedback provided by students should be reviewed to determine the extent that students were satisfied with the course;
- verification that the course was taught by approved instructors.

**Informal Visit.** The scope of an informal visit may include, but is not limited to, a brief record review; informal discussion with managers; audits of courses in progress; monitoring of examinations and assessments; and discussions with attendees.

**Covert Audit.** A covert audit is performed to determine if a course is being conducted in a acceptable manner without the training institution being aware of the audit.

#### Post Audit Action

**Administrative Censure.** Administrative censures are warnings for lesser discrepancies, such as, but not limited to, information missing from student files, the inability to produce required administrative files for inspection within a reasonable period of time, continual reuse of written examinations, and inappropriate advertising of courses. Discrepancies of this type are to be discussed with the training organization, followed by a written report summarizing the noted problems and setting a reasonable time period to fix the deficiencies, not to exceed 30 days.

Failure of an instructor to professionally conduct a course is also a discrepancy and will be noted in a discrepancy letter. A serious breach of an instructor's responsibility may result in the suspension or withdrawal of a course's approval until that instructor's name is removed from the list of instructors approved to teach the course.

A training organization cited with three administrative censures within a three-year period or three administrative censures in one visit may have all affected courses suspended for not less than 30 days.

**Suspension.** Suspension is the temporary removal of the approval of an approved course. It is the appropriate response to multiple and/or frequent discrepancies that would normally warrant only a letter of notification. Suspension is also an appropriate response for the following violations:

- failure to comply with the provisions of the course's approval, such as failure to provide required training aide or facilities;
- receipt of three letters of notification of minor discrepancies during any three-year period;
- use of unauthorized instructors;
- failure to adhere to the approved class schedule or length of course;
- presentation of the course in a manner that is not conducive to learning, such as inadequate or substandard facilities;
- failure to give an adequate end-of-course test;
- use of an oral examination when that use has not been authorized by the OCMI;
- allowing a student to join after the course has begun.

**Withdrawal.** Only the Commanding Officer, National Maritime Center, may withdraw a course's approval. It is appropriate when:

- a course has been suspended for a second time during a three-year period.
- a combination of three suspensions of courses offered by one training institution has occurred during any three-year period. The approval of each of the affected courses will be withdrawn.
- grave discrepancies have been revealed, including but not limited to: actions contributing to the falsification of student documents or inappropriate issuance of a course completion certificate (this may also lead to criminal action); unauthorized modification of a course; prompting students during an examination or coaching students to correctly perform a demonstration during a performance-based assessment; or deceptive practices such as advertising or conducting a non-approved course as an approved course or issuing a completion certificate stating that a non-approved course was approved.

A course with a withdrawn approval must be resubmitted for evaluation to consider reinstatement of approval. Since withdrawal indicated an unacceptable managerial system, the resubmittal must include documentation establishing methods to prevent recurrence of the errors that led to the withdrawal.



# An Industry Responds to Security Concerns

*The U.S. Coast Guard, working in concert with other maritime agencies, seeks to certify security training.*

by Mr. DAVID TEEL

*Course Approval Team, U.S. Coast Guard National Maritime Center*

One of the consequences of the terrorist attacks of September 11, 2001, was the sudden emergence of security as one of the most important issues facing the maritime industry and the U.S. Coast Guard

increase. At the present time shipboard security in port, while underway, in port and in coastal areas, and the screening of cargo for possible weapons are the biggest problems facing the maritime industry and the USCG around the world.



**Often training exercises include state and local officials and the Coast Guard. Courtesy of Seafarers Harry Lundenberg School of Seamanship.**

(USCG). Anyone who was remotely acquainted with the maritime industry prior to 9/11 is aware that national security issues were not among the maritime industry's top priorities. Prior to 9/11, piracy and the pilferage of cargo were arguably among the biggest security concerns for vessel operators. Piracy is still a concern, and such activity continues to

the Safety of Life at Sea (SOLAS) Amendments of 2002. The five main objectives of the ISPS Code are:

1. to establish an international framework involving cooperation among contracting governments, government agencies, local administrations, and the shipping and port industries to detect security threats and take preventive meas-

## **What Do We Secure, and How Do We Do It?**

The response of the Coast Guard and the maritime industry to the challenges of the security concerns prompted by 9/11 was and continues to be multifaceted. One of the first objectives was to come to grips with what to secure, such as cargo, ports, vessels, and coastal traffic zones. Access to the vessels, cargo screening, security zones around vessels, access to terminals, shore leave for seaman, and training of personnel are among the issues that the maritime industry had to face in a very short period of time.

The international maritime community has also moved forward on security concerns, in large part by the introduction and adoption of the International Ship & Port Security (ISPS) Code and

ure against security incidents affecting ship or port facilities used in international trade;

2. to establish the respective roles and responsibilities of the contracting governments, government agencies, local administrations, and the shipping and port industries at the national and international level, for ensuring maritime security;

3. to ensure the early and efficient collection and exchange of security-related information;

4. to provide a methodology for security assessments so as to have plans and procedures in place to react to changing security levels; and

5. to ensure confidence that adequate and proportionate maritime security measures are in place.

### Maritime Transportation Security Act

The Maritime Transportation Security Act of 2002 (MTSA) was the culmination of our national efforts to put in place effective maritime security measures. Section 109 of MTSA charged the Secretary of Transportation with developing standards and curriculum to allow for the training and certification of maritime security professionals. This mandate was delegated to the U.S. Department of Transportation Maritime Administration (MARAD) and the U.S. Merchant Marine Academy (USMMA). USMMA's Global Maritime and Transportation School, in cooperation with local, state, and federal law enforcement agencies, all facets of the maritime industry, USCG, and the International Maritime Organization (IMO), developed a series of model training courses. The courses that were developed were those dealing with the training of maritime personnel afloat and ashore. These courses have been developed in two groups.

The first group of model courses published included:

- Vessel Security Officer (IMO Model Course 3.19),
- Company Security Officer (IMO Model Course 3.20),
- Facility Security Officer (IMO Model Course 3.21).

At present four other model courses are under development, which include:

- Vessel Personnel with Specific Duties (VPSSD),



**Training includes preparedness drills and exercises. Courtesy of Seafarers Harry Lundenberg School of Seamanship.**

- Facility Personnel with Specific Duties (FPSSD),
- Maritime Security for Military, Security and Law Enforcement Personnel (MSLEP),
- Maritime Security Awareness (MSA).

The first group of model courses is available online from the IMO at [www.imo.org](http://www.imo.org). The second group of courses is currently in the final stages of production. All training providers are encouraged to make use of these model courses as they put together curricula for maritime security training courses and/or revise earlier editions of such courses.

### Voluntary Certification Program

These model courses have been a boon to maritime training interests. Many organizations jumped on the maritime security training bandwagon with little or no guidance on what was the point of such training, how to conduct it, and who would be an appropriate instructor for such training. Many questions were directed at the Coast Guard and MARAD

about the necessity of obtaining approval for maritime security training courses. In view of this situation, MARAD, with the cooperation of USCG, established a voluntary program for certification of maritime security training courses. This voluntary program began in early 2005. MARAD has contracted with Det Norske Veritas to evaluate and certify maritime security training courses. This program is designed to align with any potential future regulatory requirements. At present, this program is restricted to maritime security training courses that train vessel, company, and facility security officers. This program is currently offered at no cost to training providers but is limited by funding and is on a first-come, first-served basis.

The Ship Security Office model course requires 14 hours of training and assessment; the Company Security Officer and Facilities Security Officer courses call for 18 hours of training and assessment. It is recommended that the training be conducted in a classroom setting, and, if available, the use of actual vessel and/or port facilities for exercises is encouraged. A number of training institutions have followed this model to include exercises using vessels and port facilities. Often these exercises include the participation of local and state law enforcement and the Coast Guard. These three courses all cover

the same basic topics: security policy, responsibilities, threat assessment, security plan, security actions, preparedness drills and exercises. The assessments associated with these courses are generally a short written examination covering the key topics discussed in the course.

Instructors for maritime security courses should have adequate experience in maritime security matters and should have knowledge of the requirements of Chapter XI-2 of SOLAS 74 as amended and of the ISPS Code. An ideal instructor would be a management-level licensed mariner with experience and training in security. Also, instructors should have training in instructional methods, commonly known as "Train the Trainer" experience. Individuals with all of these qualifications are fairly rare. In view of this, some latitude is being given to individuals approved to instruct these courses.

At present there is no regulation that requires approval of maritime security courses. The MARAD and USCG voluntary program is in place to work toward that end and to help ensure that all personnel involved in maritime security have standardized, uniform, and quality training. It is anticipated that the current USCG regulation project will be completed in 2007.



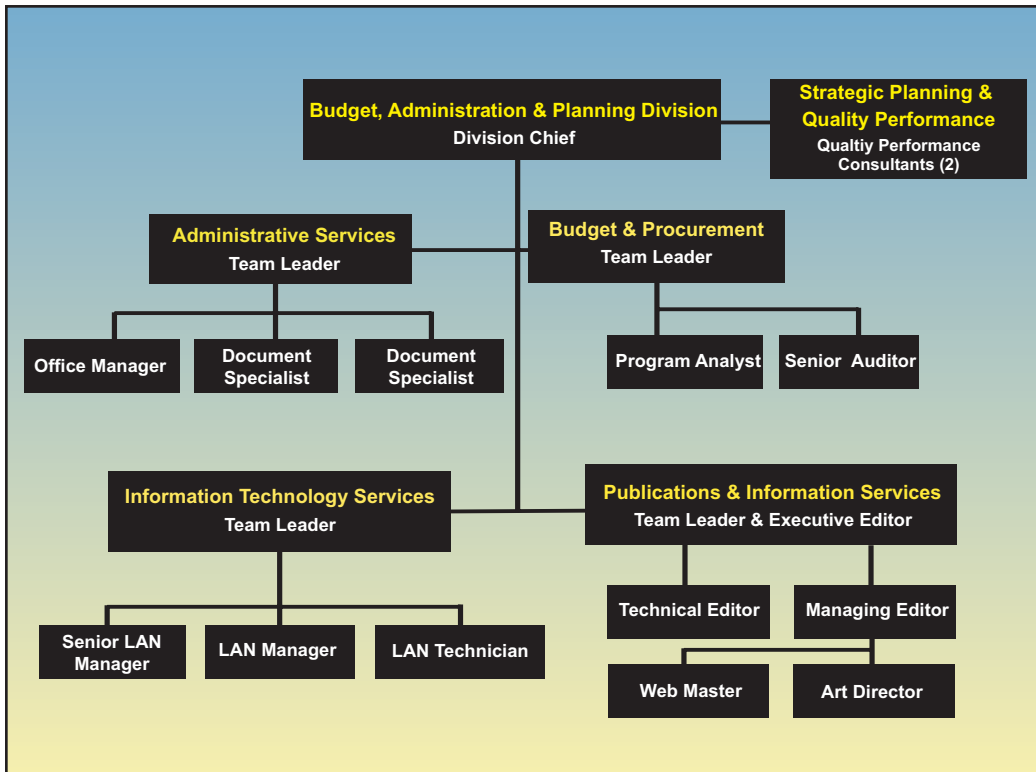
**It is recommended that the training be conducted in a classroom setting, and, if available, the use of actual vessel and/or port facilities for exercises is encouraged. Courtesy of Seafarers Harry Lundenberg School of Seamanship.**

# Keeping the Ship Running



*Budget, Administration & Planning:  
the “crew” in NMC’s engine room.*

by Mr. ALBERT G. KIRCHNER, JR.  
Chief, Budget, Administration & Planning Division  
U.S. Coast Guard National Maritime Center



**Figure 1: How the National Maritime Center’s Budget, Administration and Planning Division is organized.**

Whether it is publishing *Proceedings of the Marine Safety & Security Council*, keeping the computer workstations up and running, executing a multimillion dollar contract, or simply getting the oil changed in our government vehicles, the National Maritime Center’s Budget, Administration & Planning Division gets the call.

Six Federal employees, 11 contractors, and two Coast Guard officers staff this busy division, nicknamed the Operations Support Division because staff members know that all operations at NMC somehow depend on them (Figure 1). In a maritime context, we are like the engine department—the ship does not move without us!



## We Serve the Mariner, Too

Whenever you send mail or a facsimile to or receive mail from NMC, our division's Administrative Services Branch is part of the process. In addition to mail distribution and collection, the Administrative

Services staff transmits and tracks your Freedom of

## MISSION STATEMENT

**THE MISSION OF THE BUDGET, ADMINISTRATION & PLANNING DIVISION IS TO SUPPORT THE OPERATIONS OF THE NATIONAL MARITIME CENTER AND ITS SUBUNITS AND TO SERVE AS THE "VOICE OF THE PROGRAM" FOR THE U.S. COAST GUARD MARINE SAFETY, SECURITY AND ENVIRONMENTAL PROTECTION PROGRAM.**

Information Act (FOIA) requests. They ensure your request is routed to the right organizational element with a deadline, so that you can get the information you are looking for in a reasonable amount of time (Figure 2).

Finally, the Administrative Services branch is responsible for general office management, the maintenance and repair of office equipment, unit supplies, the unit files and records, our property inventory account, physical security, space management, and our vehicles.

### Our "Geeks" Keep Us Wired

Our Information Technology Services Branch manages the day-to-day operations needed to keep NMC's network up and operating. They are really not very "geeky" looking (not a pocket protector among them), but our four contract personnel do an outstanding job of keeping NMC's computer users online and operational. In addition to the Local Area Network, our IT staff assists with our special needs, including RGENS, the Random Generation Examination System, that produces merchant mariner licensing examinations for the Regional Examination Centers (RECs) by randomly assembling questions from a 25,000-question database. They also support local users of MMLD, the merchant mariner licensing and document database (Figure 3).

### Budget and Procurement: The Engine of the NMC

People certainly are the most important asset at the National Maritime Center, but, without funding and the means to spend those funds wisely, it is impossible for our people to be productive and useful to the industry and public we serve.

Our budget has nearly tripled over the past three years, due, in large part, to new missions in maritime security after the



**Figure 2: The Administrative Services team is responsible for general office management. Left to right, Keangela Taylor, Rochita Dunn and Dan Blechel.**



**Figure 3: Information Technology Services keeps NMC's network up and operating. From left, Guner Yarbrough, Salvatorre Rolleri, Jerome Woods, and Steven Proctor.**



September 11, 2001, attacks. With our new missions, budget transactions have grown, taxing our personnel resources to get the job done in a timely fashion and in accordance with our procurement principles:

- legal,
- necessary,
- a good value,
- a proper appropriation.

The Budget and Procurement Branch's biggest accomplishment recently has been the successful shift to a program budget form of activity-based costing that enables the unit to better understand the costs associated with each of its missions, to better allocate the resources required to do its missions, and to allow its program managers more flexibility to apply resources where they will be most effective (Figure 4).

#### Serving as the Voice of the Program

Our division's Publications and Information Services Branch (Figure 5) is the home of our flagship product, *Proceedings of the Marine Safety & Security Council, the Coast Guard Journal of Safety at Sea*. The magazine is specifically targeted to serve the marine industry by sharing lessons learned, articulating the latest policy and technical information on marine safety and security, and providing other timely information of interest to the marine industry. Over the past year, *Proceedings* has grown and matured in a manner never before seen in its 60-year history. Copies mailed quarterly increased



**Figure 4: The Budget and Procurement Branch's biggest accomplishment recently has been the successful shift to a program budget form of activity-based costing. From left, Linda Prophet, Regina Fletcher, and Eric Medved.**

recently by more than 2,000 to 10,000, the look of the magazine is more sophisticated, and the architecture of the magazine has improved to give each issue more focus and a clearer overall message. Our staff is entirely new, and, as a result, they are energetic and full of great ideas that give the magazine the most promising future it has seen in years.

The Publications and Information Services Branch also operates the Web site for the Coast Guard's Marine Safety, Security and Environmental Protection Program. With more than 25,000 pages, this Web site is the most timely and authoritative source of information on domestic and international regulatory matters for the U.S. maritime industry.



**Figure 5: The Publications and Information Services team publishes *Proceedings* magazine and NMC's technical publications and maintains the Marine Safety, Security and Environmental Protection program's Web sites. From left, Donald Valentine, Ann Aiken, Lisa Bastin, Barbara Chiarizia, and Patrick Shanks.**

Finally, the branch manages the publication and distribution of the Coast Guard's Marine Safety Manual and Navigation & Vessel Inspection Circulars (NVICs). These publications articulate regulatory information used by Coast Guard marine safety officials, vessel owners and operators, naval architects, mariners, legal representatives, and others. Presently, these documents are posted on the NMC Web page at [www.uscg.mil/hq/gm/nmc/web/index.htm](http://www.uscg.mil/hq/gm/nmc/web/index.htm); NVICs are also available for ordering from National Technical Information Services at [www.ntis.gov](http://www.ntis.gov).



**Figure 6: The Strategic Planning & Quality Staff is responsible for institutionalizing quality in NMC's internal processes. From left, LT Julie Smith and LCDR James Ferguson.**

### Getting Ready for the Future

Two reserve officers work as the unit's resource for institutionalizing quality in NMC's internal processes (Figure 6). The Budget, Administration & Planning Division is the test bed for the initial work that involves determining customer needs; developing and documenting processes to meet those needs; and developing, collecting, and analyzing performance data to improve the processes. The

division is the first to regularly collect and analyze customer feedback to refine its processes and identify new services desired by its customers.

In addition, the Strategic Planning & Quality Staff is responsible for maintaining the NMC Strategic Plan and leading the biennial submission of the unit's application for the Commandant's Quality Award Performance Challenge. Both of those activities involve closely monitoring the needs of our external customers, as well as understanding all of the services provided by NMC to the marine industry and the public.

### What Lies Ahead

The division is posturing itself to become larger in size, broader in scope, and higher in responsibility. Almost all of our service metrics will increase with respect to staff, equipment, budget, purchases, and support. Under the proposed restructuring plan, the division's name changes and its mission will include responsibility for fee collection for mariner licenses and documents, and the staff will grow from the current 18 to 32. We look forward to continuing our support role to the National Maritime Center and as the voice of the U.S. Coast Guard Marine Safety, Security and Environmental Protection program (Figure 7).



**Figure 7: The Budget, Administration and Planning Division senior staff members begin each day at a "morning huddle." From left, Barbara Chiarizia, Dan Blechel, Al Kirchner, Lisa Bastin, Linda Prophet, and Guner Yarbrough.**

# Merchant Mariner Records



**Question:**

*What do James Garner, Carroll O’Conner, and Woody Guthrie have in common?*

**Answer:**

*Each of them, along with more than 2 million other people, has a personnel record as a U.S. merchant mariner.*

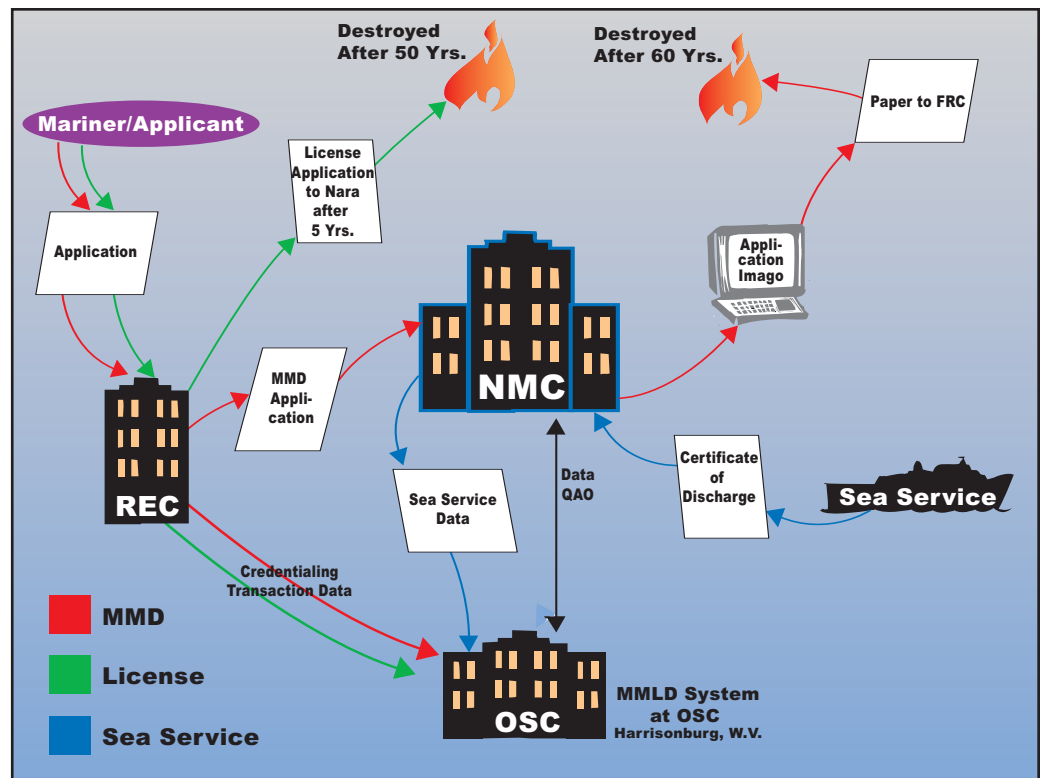
by Mr. WILLIAM ST. J. CHUBB  
 Chief, Mariner Records Branch  
 U.S. Coast Guard National Maritime Center

Mariner records have been the responsibility of the Coast Guard since 1942, when President Franklin Roosevelt issued Executive Order 9083, transferring the duties of the Bureau of Marine Inspection and Navigation (BMIN) of the Department of Commerce to the Coast Guard. This transfer of duties brought with it mariner records dating from 1936, when BMIN was formed from the Bureau of Navigation and Steamboat Inspection Service. Now, management of these records forms a major part of the responsibilities of the Coast Guard’s National Maritime Center. The Mariner Records Branch, with a staff of 11, plus a contractor support team of 15, works to ensure that these records accurately serve the needs of the mariner and the government.

Let’s review the two paper systems first. These two systems evolved separately, and a bit of background will help with understanding their complexity. The Coast Guard issues two very different credentials to merchant mariners: Merchant Mariner Documents, or

**Records Systems**

There are actually three systems of records involved. Two are paper record systems that survive from the 1930s, largely unchanged from when they first came to the Coast Guard. The third is an electronic system whose roots date back to the 1980s.



**Merchant Mariner Record processing.**



MMDs, and Merchant Mariner Licenses, which, as used here, includes the very rare Certificate of Registry issued to staff officers like doctors and pursers.

### **Licenses**

Licenses are issued to the senior managers of the commercial vessel—the persons responsible for the overall safe navigation and propulsion of the vessel. The license certifies that the holder has the experience and knowledge necessary to serve in a specified position of a particular type of vessel.

### **Merchant Mariner Documents**

Merchant Mariner Documents are issued to the crewmembers of commercial vessels for two purposes. The Merchant Mariner Document 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 in 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 a MMD. This rather confusing array of credential requirements means that some mariners have only a license record, some have only a MMD record, and some have both.

### **Separate Systems, Separate Management**

These two paper record systems, having evolved separately, are managed quite differently. The license records are maintained by the Coast Guard field office that issued the license. If a mariner, during his career, is serviced by different field offices, he may have records in each servicing office, unless he has asked for them to be consolidated. The license record is maintained at the servicing office until five years of inactivity have passed. The record is then transferred to a regional Federal Records Center (FRC), a facility operated by the National Archives and Records Administration, for storage. The record will remain in storage at the FRC for 50 years, during which it remains in the Coast Guard's custody. As you can imagine, keeping track of these records is a difficult burden for field offices that must retain transmittal information through half a century of the inevitable moves and changes that befall Coast Guard units.

The Merchant Mariner Document records, in contrast, are maintained centrally by the National Maritime Center. The rationale for the different handling of these records seems to have been lost to his-

tory. One reasonable speculation is that it made sense for records of licenses, which have always required renewal at five-year intervals, to be kept in the field so they would be available for the renewal transaction. Records for MMDs, which until 1994 were issued for life, could be held centrally.

Whatever the reason, the dichotomy prevails. For MMDs, after issuance by the Coast Guard field office, the mariner's completed application and a portion of the supporting documentation are forwarded to the National Maritime Center. There, for first-time applicants a record is created, and for existing mariners the new materials are added to the existing record. The records are kept on hand as long as the mariner is active. The National Maritime Center purges these records annually and sends those that have been inactive for three years to the Washington National Records Center (WNRC) for storage. Similar to the inactive license records that are housed in regional National Archives facilities, the inactive MMD records remain at WNRC in Coast Guard custody for 60 years. As you can see, when a new mariner comes to us with his or her first application for a MMD, we have to be prepared to keep that application for a century (assuming a 40-year career, plus the 60 years following).

While neither of these paper records systems is currently permanent, the National Archives and Records Administration has approached the Coast Guard with a proposal to give these merchant mariner records, both license and MMD, the same permanent record status that is afforded to personnel records of the Armed Forces. While the details are currently under development, it is unlikely that any existing merchant mariner record in the Coast Guard's custody will be destroyed, even though many are approaching their destruction date.

### **Merchant Mariner Licensing and Documentation Database**

Now, let's turn to the third mariner record system mentioned above: the electronic system. Known as the Merchant Mariner Licensing and Documentation database (MMLD), the system has a complex history. Like many systems that evolved during the 1990s, it was pieced together from other existing systems and augmented with new functions until it became a patchwork of capability and purpose. Its primary origin stems from an effort to reliably document the location of each of the nearly 2 million MMD records that were in storage at the WNRC. To this functionality was added the capabil-

ity to facilitate production of the MMD and license credentials themselves.

Today, the system produces the credentials and records the details of every credentialing transaction. In addition, the system is used to record mariners' sea service that is reported to the Coast Guard on Certificates of Discharge. These discharges are required to be issued to mariners engaged in certain specific services. The particulars of each mariner's voyage, such as place and date of signing on, place and date of signing off, the name of the vessel, and the capacity in which the mariner served, are recorded. This information is used in the short term to document service for advancement.

The MMLD system continues to evolve with the new millennium. Following the events of September 11, 2001, it was modified to facilitate conducting safety and security background checks on mariner applicants. As the Internet has evolved to enable expedited access to records, efforts are currently underway to enable MMLD to provide improved tracking of application processing. Initially, this will facilitate quick and accurate response by field offices to mariner's inquiries. Eventually, we hope to enable the mariner to access information about his or her application directly.

These three records systems, though complex and at times confusing, form a vital history of each mariner's merchant marine career. They enable mariners to document their experience so that they can advance their careers or embark on new ones. Sometimes, these records serve important historical purposes, like documenting the role of the merchant marine in World War II. Since 1988, when the law first authorized it, the records have been used to qualify approximately 100,000 World War II merchant mariners for veteran status and benefits. In addition, NMC's Records Branch responds to several thousand inquiries from mariners and their families annually.

As we move deeper into the 21st century, we plan to use available technology to improve the quality and serviceability of these records for future generations. The National Maritime Center has begun electronic imaging of MMD records to make them more accessible for users throughout the Coast Guard, and plans are underway to bring the MMD and license records together into a single merchant mariner record system that will simplify location, retrieval, and review by future generations.



© Disney Enterprises, Inc

In July 1944, the United Seamen's Service, Inc. of Los Angeles, Calif., requested the Walt Disney Studios to produce a patch for the Merchant Marine. An exhibition of wartime art of merchant seamen of the United Nations was scheduled at the Los Angeles County Museum from July 16 to August 13, 1944. In connection with this exhibition, the United Seamen's Service, Inc. wanted to display this new Merchant Marine patch art at a public ceremony on Sunday, July 23, 1944.

True to his commitment to the Armed Services, Mr. Walt Disney directed his artists to create a patch for the United States Merchant Marine, recognizing their efforts in the conduct of World War II. Using one of their colorful characters, Battlin' Pete, the patch was created showing Pete knocking out a humanized torpedo. The finished artwork was mailed on July 14, 1944. The actual artist is unknown as five to six artists did the bulk of the insignias for the Walt Disney studios.

Source: [www.usmm.org](http://www.usmm.org), Web site of the U.S. Maritime Service veterans.

# MARINE **R** AS OF DEC. 31, 2004 CREDENTIALS

After a 10-year hiatus, *Proceedings* is again publishing statistics on the make-up of the U.S. merchant marine. It is our plan to make this a regular feature of the summer issue.

Technology improvements have enabled us to improve the utility of the published statistics. Previous statistics were based on hand-compiled tallies of annual licensing transactions. While the data provided a general idea of licensing activity and program workload, the figures could not be used reliably to provide a breakdown of the U.S. merchant marine population and its qualifications.

The numbers provided with this article represent mariners with the qualification indicated as of December 31, 2004. The U.S. licensing and mariner documentation program is a complex one that meets a broad spectrum of industry needs. There are literally hundreds of different permutations and combinations of licenses and ratings issued to U.S.

mariners. It is not possible in the space available to list all of these alternatives. We have patterned the listed categories after previous reports, and it is our hope that these provide sufficiently informative detail. Where qualifications are in transition (for example, the transition from Operator Uninspected Towing Vessel to Master Towing) and there are mariners holding both qualifications, they have been combined.

Many mariners hold more than one qualification. The numbers presented here endeavor to capture all of those qualifications. For example, a mariner holding a license as a 1600-ton Master and an unlimited second mate would be counted in each category. Similarly, a Chief Engineer, Steam and Motor, is counted in each propulsion category.

We hope this breakdown is useful to *Proceedings'* readers. We welcome your suggestions for improvements.

## U.S. Merchant Marine: Summary Statistics

	TOTAL NUMBER WITH STCW	
Mariners with an MMD only	66,870	16,322
Mariners with a license only	95,789	4,166
Mariners with both a license and an MMD	42,176	28,674
	<b>TOTAL 204,835</b>	<b>49,162</b>

## U.S. Merchant Marine: MMD-holder Statistics

	TOTAL NUMBER
Mariners with one or more qualified Deck Dept. ratings	36,618
Mariners with one or more qualified Engine Dept. ratings	16,921
Mariners with any Tankerman rating	18,214
Mariners with only entry-level ratings	43,339
Mariners with only entry-level ratings + lifeboatman	2,598



## Licensed Deck Department

Description	Number of Mariners
Master Ocean Any	3,411
Master Near Coastal Any	93
Chief Mate Ocean Any	875
Chief Mate Near Coastal Any	3
Second Mate Ocean Any	1,417
Second Mate Near Coastal Any	8
Third Mate Ocean Any	3,475
Third Mate Near Coastal Any	102
Master Ocean Not More Than 1,600 tons	5,089
Master Near Coastal Not More Than 1,600 tons	2,742
Mate Ocean Not More Than 1,600 tons	286
Mate Near Coastal Not More Than 1,600 tons	985
Master Ocean Not More Than 500 tons	579
Master Near Coastal Not More Than 500 tons	1,269
Mate Ocean Not More Than 500 tons	78
Mate Near Coastal Not More Than 500 tons	181
Master Ocean Not More Than 200 tons	180
Master Near Coastal Not More Than 200 tons	2,184
Mate Near Coastal Not More Than 200 tons	972
Master Near Coastal Not More Than 100 tons	2,662
Master Uninspected Fishing Industry Vessel	804
Mate Uninspected Fishing Industry Vessel	204
Master (OSV)	130
Chief Mate (OSV)	1
Mate (OSV)	19
Master Great Lakes and In. Any	305
Mate Great Lakes and In. Any	222
Master Great Lakes and In. Not More Than 1,600 tons	155
Mate Great Lakes and In. Not More Than 1,600 tons	53
Master Great Lakes and In. Not More Than 200 tons	30
Mate Great Lakes and In. Not More Than 200 tons	12
Master Inland Any	1,049
Mate Inland Any	241
Master Inland Not More Than 200 tons	438
Mate Inland Not More Than 200 tons	353
Master Inland Not More Than 100 tons	7,451
Mate Inland Not More Than 100 tons	40
First Class Pilot	3,541
OUTV/Master Towing	13,336
2ND-Class OUTV/Mate (Pilot)	185
Apprentice Mate (Steersman)	84
Operator Uninspected Towing Vessel	30,518
Assistant Towing Endorsement	21,332
Offshore Installation Manager (OIM)	1,784
Barge Supervisor (BS)	632
Ballast Control Operator	351

## Licensed Engine Department

Description	Number of Mariners
Chief Engineer Motor	3,175
1ST Asst. Eng. Motor	1,062
2ND Asst. Eng. Motor	1,151
3RD Asst. Eng. Motor	3,940
Chief Engineer Steam	2,204
1ST Asst. Eng. Steam	985
2ND Asst. Eng. Steam	1,108
3RD Asst. Eng. Steam	3,974
Chief Eng; Turbine	2,256
1st Asst. Eng. Turbine	876
2nd Asst. Eng. Turbine	934
3rd Asst. Eng. Turbine	2,105
Chief Engineer (Limited-Ocean)	1,466
Assistant Engineer (Limited-Ocean)	448
Chief Engineer (Limited-Near Coastal)	438
Designated Duty Eng.	2,379
Chief Eng; Uninspected Fish. Ind. Vsl.	589
Assistant Engineer Fish. Ind.	114
Chief Engineer MODU	114
Assistant Engineer MODU	0
Chief Engineer (OSV)	534
Engineer (OSV)	7

## Licensed Radio Officer and Certificates of Registry

Description	Number of Mariners
Radio Officer	335
Chief Purser	189
Purser	65
Sr. Asst. Purser	26
Jr. Asst. Purser	138
Medical Doctor	86
Professional Nurse	85
Surgeon	3



# MARINE CREDENTIALS

## Merchant Mariner Document Ratings

RATING	Number of Mariners
<b>Able Seamen</b>	
AB-Special	3,649
AB-Limited	3,491
AB-Unlimited	11,870
AB-Special(OSV)	3,241
AB-MOU	2,463
AB-Fishing	173
AB-Sail	299
<b>Qualified Member of the Engine Department</b>	
QMED-Deck Engine Mechanic	179
QMED-Deck Engineer	924
QMED-Electrician	1,199
QMED-Engineman	191
QMED-Junior Engineer	1,505
QMED-Machinist	755
QMED-Oiler	4,583
QMED-Pumpman	1,303
QMED-Refrigerating Engineer	859
QMED-Fireman/Watertender	2,382
QMED-Any Rating	865
<b>Lifeboatman</b>	
Lifeboatman	19,810
<b>Tankerman</b>	
Tankerman-Pic	4,291
Tankerman-Pic (Barge)	8,71
Tankerman-Engr	901
Tankerman-Asst	4,464
<b>Licensed Officer Ratings</b>	
Any Unlic Rating in Deck Dept Except AB	995
Any Unlic Rating in Deck Dept Includ AB	12,214
Any Unlicensed Rating in Engine Dept	11,137
Cadet/Deck or Engine	3,587
Entry Level Mariners	43,339



# Merchant Mariner Physical Examination



*A critical part of the mariner credential  
application process.*

by Lt. j.g. PATRICK A. DRAYER  
U.S. Coast Guard National Maritime Center

Applicants for U.S. Coast Guard-issued merchant mariners' credentials must fulfill numerous qualifications and requirements before being approved for issuance. In addition to professional competencies and character standards, applicants must also meet stringent guidelines for physical condition.

The regulations requiring that mariners be medically competent are found in Title 46, Code of Federal Regulations, Part 10 (for licensed officers) and Part 12 (for ratings).

The regulations are amplified in Commandant's Instruction Manual 16000.8B; Marine Safety Manual, Volume III; and Navigation and Vessel Inspection Circular 2-98 (NVIC 2-98), Physical Evaluation Guidelines for Merchant Mariner's Documents and Licenses. With regard to the physical exam process, the goal is to ensure that the applicant is physically and medically competent to safely carry out the demands required of a credentialed mariner. This helps to ensure the safety of the mariner, passengers, and the general public, while allowing the mariner every opportunity to maintain his or her credential for employment.

## The Current Process

The physical examination process begins when the applicant undergoes the actual physical exam. The

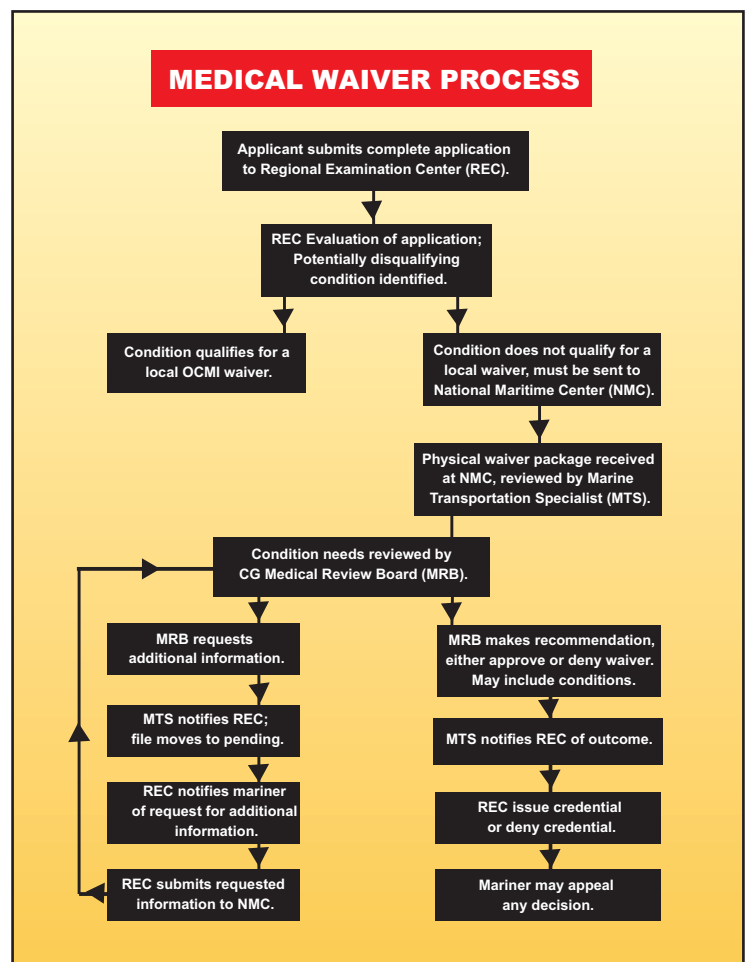
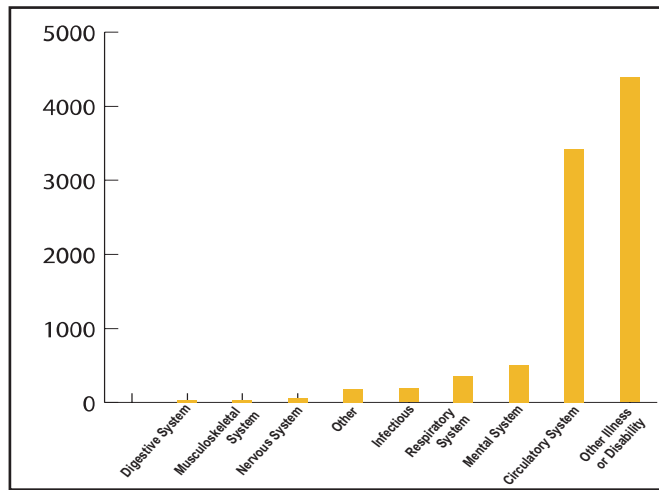


Figure 1: Medical waiver process flowchart.

applicant can obtain a physical exam form (CG-719K) from the Coast Guard, which will make the process easier for the examining medical practitioner,



**Figure 2: Waivers requested during a three-year period, ending February 2005.**

er, the applicant, and the Coast Guard’s evaluators. An applicant can have an exam conducted by a physician or physician’s assistant who is certified by a state medical board or equivalent body.

When the Regional Examination Center (REC) receives a mariner’s credential application package, an evaluator will review the package to determine if the mariner is qualified for the requested credential. When reviewing the physical form, the evaluator will determine if there are reported conditions that are not within the standards mentioned above. The evaluator makes one of three decisions at that time. If the applicant is within the physical standards, then medical approval is granted. However, if the applicant has a condition that does not meet the standards, he or she may be disqualified medically, or the Officer in Charge, Marine Inspection (OCMI), may feel that the applicant could still safely perform the duties required and may recommend that a waiver be granted (Figure 1).

For some conditions, such as correctable vision impairment, the OCMI may grant a local waiver. For more serious conditions, such as cardiac conditions or diabetes, the OCMI may request a waiver for the applicant from the National Maritime Center (NMC). In accordance with the regulations, it is the OCMI, not the applicant, who requests the waiver. If an applicant does not meet the physical standards, the applicant must provide to the OCMI information that shows that he or she is capable of performing the rigorous and strenuous duties required onboard a vessel. If the OCMI feels that the applicant has ade-

quately proved this, then the OCMI may request that a waiver be granted for the applicant. Under those conditions, the applicant’s medical record is forwarded to the NMC. In the three-year period ending February 2005, NMC received an average of 1,600 waiver requests a year (Figures 2 and 3).

When NMC receives a physical waiver request package, a Marine Transportation Specialist reviews it to verify that it is complete before submitting it to the Medical Review Board. The board is made up of U.S. Public Health Service physicians assigned to the Coast Guard. After reviewing the waiver request, the Medical Review Board can make one of three recommendations: that the waiver be granted, the waiver be denied, or additional information is required to fully evaluate the applicant’s condition. In the waiver process, it is the Coast Guard’s policy to allow the applicant to be issued a credential provided he or she can safely perform the duties required of the mariner.

Regardless of the outcome, the appropriate Regional Exam Center will be notified immediately. If the waiver is denied, leading to a denial of the application, the applicant may appeal the decision, following the procedures contained in 46 CFR 1.03.

### Current Guidelines

Navigation and Vessel Inspection Circular (NVIC) 2-98 contains the guidelines used in the physical examination process. While it is not all-encompassing, this circular addresses most conditions. Some of the most common conditions for which waivers are requested are cardiovascular diseases and psychiatric disorders. Listed along with these conditions are the medications prescribed to treat them.

If a person is taking a narcotic medication or a controlled substance, defined as substance requiring a Drug Enforcement Agency control number, the applicant is usually not granted a medical waiver and the application will be denied.

It is a common misconception that everyone’s physical health can be determined by the same information. That is not so. While two people may have the same type of disease, one person’s specific condition may require further review in the waiver process. The information requested on the physical examination form may not be the only information that the Coast Guard must review. The Medical Review Board may feel that it needs additional information to make the appropriate decision about whether or not an applicant can physically manage the duties required.

These duties are not just limited to conning a vessel or standing an engine room watch. Mariners may have to don fire-fighting equipment to combat a shipboard blaze, assist in bringing an injured person back onboard the vessel, or quickly don an exposure suit to abandon ship. If an applicant cannot physically conduct these types of activities, then he or she becomes a safety risk to the vessel.

With the overall negative change in the health of our country's population, as well as the general aging of our merchant mariners, it is anticipated that more and more physical conditions will need to be addressed. Obesity, Type II diabetes, and cardiovascular diseases are three examples of diseases whose numbers are rising. In the maritime community, these types of diseases can be the root cause of a major disaster. A mate or master who loses consciousness while piloting a vessel can lead to a catastrophic loss of life. In its report on the 2003 allision of the Staten Island ferry *Andrew J. Barberi*, the National Transportation Safety Board determined the assistant captain's unexplained incapacitation to be a causal factor in the allision. The report further recommended that the Coast Guard review several issues in the physical examination process. These issues include inconsistencies among the RECs, tracking of performed medical exams, and the limited capability of the Coast Guard to review medical evaluations made by personal health care providers. The report also recommended that the Coast Guard review the medical oversight process with experts in the field of occupational medicine.

### Future Changes

At the time of this writing, numerous changes are being considered for the physical examination process. The recommendations made by the NTSB are being reviewed, and methods for implementing these recommendations are being considered. NVIC 2-98 is being revised, with an estimated release date of early to late fall 2005. The NVIC will clarify the physical standards that an applicant for a merchant mariner's credential must meet, as well as set guidelines for those conditions for which a waiver may be issued. The revised NVIC will also attempt to reduce perceived inconsistencies in the licensing and documentation program.

Once the revised NVIC has been approved and released, the Coast Guard expects to revise the physical examination form to reflect the new standards. Some of the proposed changes include having the physician administering the examination initial every page and list the specific medical tests that the Medical Review Board requires. This will help to reduce additional requests for information needed to make a waiver decision, leading to a more efficient waiver processing system.

The responsibility for safety at sea belongs not only to the Coast Guard, but to all members of the maritime community. Professional mariners must take personal responsibility to ensure that they are physically able to perform the duties required of them, and, if they are not, they must recognize that and take action to ensure that their condition does not put others or the environment at risk.

## Waivers Requested by Condition

<b>CIRCULATORY SYSTEM</b>	<b>MENTAL SYSTEM</b>	<b>OTHER</b>
Heart .....1323	Psychiatric Disorder ..... 23	Debilitating Allergies ..... 4
Hypertension .....1750	Depression ..... 466	Other Eye Disease ..... 4
Heart Disease .....174	Attempted Suicide .....1	Glaucoma .....60
Cardiac Surgery .....52	Alcohol Abuse .....3	Recent or Repetitive Surgery .....103
Blood Disorder/Vascular Disease ..27	Loss of Memory .....5	Sleepwalking .....1
<b>Total= .....3421</b>	<b>Total= .....508</b>	Severe Speech Impediment .....1
<b>DIGESTIVE SYSTEM</b>	<b>MUSCULOSKELETAL SYSTEM</b>	<b>Total= .....173</b>
Digestive Disorder .....31	Amputations .....11	<b>OTHER ILLNESS OR DISABILITY</b>
<b>Total= .....31</b>	Impaired Range of Motion .....21	Cancers .....29
<b>ENDOCRINE SYSTEM</b>	Impaired Balance/Coordination ... 2	Medication .....3670
Thyroid Dysfunction .....289	<b>Total= .....34</b>	Vision .....272
Diabetes .....594	<b>NERVOUS SYSTEM</b>	Hearing .....206
<b>Total= .....883</b>	Epilepsy/Seizure .....54	Anxiety .....52
<b>INFECTIOUS</b>	Dizziness/Unconsciousness ..... 5	Arthritis .....28
Communicable Disease ..... 2	Paralysis .....4	Gastro-esophageal Reflux Disease ..50
Hepatitis A, B, or C .....183	<b>Total= .....63</b>	Headaches/Migraines .....6
HIV .....3	<b>RESPIRATORY SYSTEM</b>	Back Problems .....40
Tuberculosis .....1	Asthma .....264	Gout .....34
<b>Total= .....189</b>	Lung Disease .....97	<b>Total= .....4387</b>
	<b>Total= .....361</b>	

Figure 3: Waivers requested by condition during a three-year period, ending February 2005.



# Merchant Mariner Security Services

*September 11, 2001, necessitated better screening for government-issued Merchant Mariner's Credentials.*

by Cmdr. ROBERT EASTBURN  
Branch Chief, Merchant Mariner Security Services  
U.S. Coast Guard National Maritime Center

The terrorist acts of September 11, 2001, forced all levels of law enforcement and emergency management agencies to evaluate operations, realizing that national security was now a top priority. The U.S. Coast Guard, then an element of the Department of Transportation and currently the largest agency within the Department of Homeland Security, was no different. The Coast Guard has the lead as the federal agency responsible for the safety and security of

The maritime industry is critical to the vitality of commerce in the United States and is also a source of employment for nearly 300,000 mariners. Over the last 30 years, non-U.S. citizens who are legal permanent residents of the United States have been serving diligently in the merchant marine, contributing to the strength and vitality of the industry. The attacks on New York and Washington, D.C., were carried out by illegal aliens with falsified identification. It became



**The U.S. Coast Guard has the lead as the federal agency responsible for the safety and security of approximately 185 deep-draft seaports and approximately 12,000 miles of U.S. coastline.**

obvious to all government agencies, including the Coast Guard, that a better screening process was required for individuals applying for government-issued credentials. Merchant Mariner's Credentials, for example, give the holder access to any number of maritime areas that, if destroyed, could cripple a city, a state, or an entire

approximately 185 deep-draft seaports and approximately 12,000 miles of U.S. coastline, all of which are vulnerable to attack. The maritime industry presents one of the softest targets for terrorists or others seeking to do harm to the United States. The maritime environment provides a number of key locations ideal for an attack intent on delivering a devastating blow to the United States' commerce, transportation industry, and public assets.

region physically, economically, and psychologically. The Coast Guard needed to safeguard against this quickly, without crippling the vital manpower needs of the maritime industry.

## **Unprecedented Credential Review**

During the fall of 2002, the Coast Guard identified the need to review the status of all current holders of

Merchant Mariner Credentials (MMCs). This review was completed to ensure that the individuals holding these credentials were legally entitled to possess them. During the course of this review, a number of issues were discovered that would disqualify many current holders. The Coast Guard found many instances of application fraud and persons with extensive, sometimes violent, criminal histories going to sea aboard U.S. ships. These individuals increased the risk to marine safety and national security, due to their potential vulnerability to exploitation by criminal and/or terrorist elements. The Coast Guard's review also identified three key elements surrounding the management of the Merchant Mariner Credential's (MMC) program:

1. The Coast Guard's criminal record reviews were insufficient in a post-9/11 era.
2. No national security protection measures were in place.
3. A decentralized credentialing administration lacked consistency in processing and record maintenance.

The Coast Guard's National Maritime Center (NMC) worked in conjunction with the Coast Guard Investigative Service (CGIS) and Coast Guard Judge Advocate General (JAG) to develop a process to review the background of each mariner possessing a MMC to determine whether the mariner was: (1) a threat to national security; (2) a marine safety risk and; (3) suitable for service in the merchant marine. Once developed and approved, this process was put into action February 3, 2003. By the summer of 2003, the NMC's Merchant Mariner Security Services (MMSS) Team and CGIS had screened approximately 200,000 mariners, which was the entire active mariner population. To complete the process, the MMSS Team prioritized the security screenings, due to events surrounding the nation's affairs in the Middle East. First in line for screening were those employed by the Military Sealift Command (MSC) working on ships supporting military operations. Background investigations were then completed on

mariners who were actively sailing and, finally, on those mariners employed ashore or applying for "continuity" credentials.

### NMC Merchant Mariner Security Services

The NMC's Merchant Mariner Security Services Team has evolved to become the Coast Guard's centralized mariner security screening and background investigations entity. The process developed by the MMSS Team includes an extensive background investigation that has the capability to accurately resolve those issues discovered in the review previously mentioned.

The application and issuance program required enhancements, specifically, screening of all individuals at the time of application. One significant requirement of the new application process is that the applicant must physically appear at a Regional Examination Center (REC) to present two acceptable forms of identification (for a list, refer to [www.uscg.mil/STCW](http://www.uscg.mil/STCW)). One form of identification must include a photo for visual verification. In addition, the applicant is required to provide fingerprints. The newly developed process requires that 100 percent of MMD applicants' fingerprints be captured and submitted to the FBI to identify and verify pertinent criminal history.



**The merchant mariner security services team has identified several persons that have possible ties to terrorism.**

## New Technology

As the vetting process continues to evolve, new technology is being evaluated and introduced, such as a digital fingerprinting process called LiveScan. Each of the 17 RECs received at least one complete LiveScan system, including a laptop computer loaded with application and connectivity software and a scanner used to capture the applicant's fingerprints. The scanner is also capable of accepting fingerprints recovered in the traditional "ink and card" method. This is useful for applicants who may have badly scarred hands. The scanners also facilitate remote usage. The LiveScan technology has enabled the fingerprint results to be returned within two business days.

When an applicant's security screening uncovers issues that require a full background investigation, a MMSS Team investigator works to uncover the underlying issues, ultimately formulating a recommendation for the Officer in Charge, Marine Inspections (OCMI). Upon receipt of the recommendation and final determination by the OCMI, the REC arranges for the applicant to receive his/her MMC or informs the individual of the results of the background investigation and suggests what must be done to resolve any issue(s) discovered. Sometimes, MMSS recommends that the applicant be denied a credential or recommends the applicant receive a denial with an imposed assessment period. After completion of the assessment period, the applicant would then be eligible to reapply for a MMC. This would generally be based on information that the applicant tried to conceal by failing to disclose conviction information when making application. MMSS Team recommendations are based on the authority in 46 CFR Subparts 10 (License and Certificate of Registry applicants) and 12 (MMD applicants), which hold the applicants to the standards identified by regulation.

## Results

To date, the MMSS Team has identified several persons that have possible ties to terrorism. Investigations have also identified individuals who

have had active extraditable warrants for motor vehicle offenses or criminal charges. There have also been a number of individuals discovered to have been using Social Security numbers issued to other persons, including deceased persons and applicants who were discovered to have been in violation of U.S. Immigration Laws.

As with any change, the newly instituted security screening process initially created some consternation among those applying for MMCs, the Regional Exam Centers, and the NMC's Merchant Mariner Security Services. The improved security screening process identified that many of the more than 200,000 mariners possessing Merchant Mariner Credentials were in violation of the regulations as identified in 46 CFR Parts 10 and 12. These revelations resulted in suspension and revocation hearings. Additionally, many first-time applicants found that they were not entitled to possess Merchant Mariner Credentials. To educate the mariner population, applicants have been referred to the NMC Web site mentioned above. The Web site enables the applicants to locate information about the criteria necessary to apply and to download applications.



As a source of employment for nearly 300,000 mariners, the maritime industry is critical to the vitality of commerce in the United States.

The NMC's Merchant Mariner Security Services is comprised of a core of three Coast Guard officers, a retired Coast Guard officer serving in the capacity of Senior Investigator, 21 contract employees, and a firm contracted to perform the security screenings and background investigations. Each of the contract employees has an extensive security background, working mainly in the U.S. defense industry. Under the guidance of the Merchant Mariner Security Services Team core staff, the MMSS Team began full service to the RECs and to those applying for Merchant Mariner Documents in 2003 and has now conducted approximately 60,000 background investigations through March 2005.

# The New U.S. STCW Endorsement



*Enhanced security features for the revised U.S. STCW Endorsement.*

By Mr. R. JON FURUKAWA

*Program Analyst, Mariner Records Branch, U.S. Coast Guard National Maritime Center*

The U.S. Coast Guard currently issues three credentials to U. S. Merchant Mariners:

- Merchant Mariner's Document (MMD),
- Merchant Marine Officer's License, and
- Endorsement required by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended in 1995 (STCW).

This article discusses recent changes to the last of these three credentials.

The integrity of merchant mariners' credentials has been an ongoing issue worldwide for many years. While known incidents of altered or counterfeited U.S. mariner credentials have been rare, the wide acceptance of these credentials for a broad spectrum of purposes makes it particularly important that we safeguard their integrity. Several efforts have been undertaken in recent years.

## **Security Measures for Merchant Mariner's Documents**

Prompted largely by the need to make license forms more compatible with computer generation, the Coast Guard began issuing reengineered license forms in January 2002. These forms retained the high quality printing of previous U.S. Bureau of

Engraving renditions, and they incorporated additional security features such as microline printing and higher quality, watermarked paper.

In February of 2003, prompted largely by heightened emphasis on identity document security in the wake of September 11, 2001, events, the Coast Guard began issuing a revised Merchant Mariner's Document form. These new forms incorporated a variety of new security features including higher quality printing (including microline text), serial numbers, variable optical elements, and an ultraviolet sensitive seal.

Having implemented the above improvements to the license and MMD, the STCW Convention endorsement became the obvious weak link in the U.S. merchant mariner credential chain. We have now taken steps to strengthen that link.

The former STCW endorsement was laser printed on plain paper by the Regional Examination Center issuing it. Following printing, a photograph was applied and impressed with the unit seal.

**Figure 1 (p. 48-49): With the improvements to the revised STCW Endorsement, all U.S. Coast Guard credentials issued to merchant mariners will be extremely tamper- and counterfeit-resistant.**

# DEPARTMENT OF HOMELAND SECURITY

USCG, CG-5611

## New U.S. STCW Endorsement

SERIAL NUMBER

*STCW Endorsement Issued*

*Full Name:* \_\_\_\_\_

*SSN#:* \_\_\_\_\_

*or*

*M.M.D#:* \_\_\_\_\_

*Date:* \_\_\_\_\_

*Issued by:* \_\_\_\_\_

DEPT. OF HOMELAND SECURITY, USCG, CG-5611 (01-05)

# United States of America

JSCOA

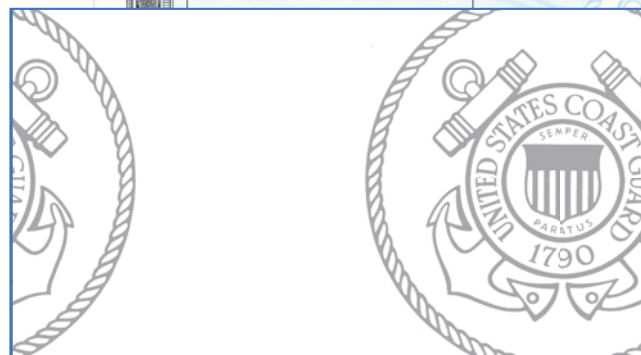
NOTING THE ISSUE OF A CERTIFICATE UNDER THE PROVISIONS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED.

The Government of the United States of America certifies that Certificates No. 9999999 & 9999999999 have been issued to the undersigned Public, who has been found duly qualified in accordance with the provisions of regulation(s) II/2 & VI/1 of the above mentioned Convention to serve in the capacity or capacities listed below, subject to any limitations indicated until 10 August 2003. This endorsement is not valid unless accompanied by a valid U.S. Merchant Mariner's license or document.

FUNCTION	LEVEL	LIMITATIONS APPLYING (IF ANY)

The lawful holder of this endorsement may serve in the following capacity or capacities specified.

CAPACITY	LIMITATIONS APPLYING (IF ANY)



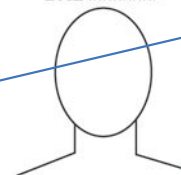
Endorsement No.: 9999999 & 9999999999 issued on September 30, 2002 at New York

Date of birth of the holder of the certificate

BAL #####

Signature of duly authorized

Signature of certificate holder



Name of duly authorized

John Public



# Design with Security in Mind...

The U.S. form was originally a black and white 8.5" x 11" document. The following enhancements have been made to the endorsement to make it a more secure and accountable document.

## FORMAT CHANGE:

The new 8.5" x 11" forms will be supplied to the Coast Guard issuing offices on perforated pages in bound books. The forms are detached from the stub for preparation. The remaining stub provides a record of who the endorsement was issued to, by whom, and when. This provides a backup to electronic records.



## SERIAL NUMBERS:

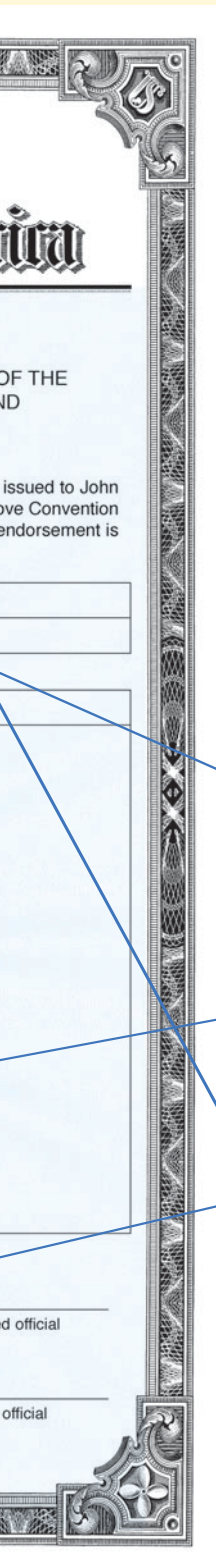
The stub and endorsement will have matching serial numbers. This allows precision when referring to specific endorsements, and it ensures that each endorsement is unique.

## WATERMARKS:

As another safeguard against counterfeiting, a watermark depicting the U.S. Coast Guard Seal is chemically etched into the paper.

## NEW GRAPHICS:

The biggest improvements to the endorsements are the new graphics. They make it difficult to alter the form or to make a credible reproduction. Micro-printing, non-reproducible blue ink and fine line details make this document more secure. The micro-printed line that can only be seen with magnification, light blue ink that is difficult for copiers or scanners to reproduce and fine line details that get lost if copied, combine to make copied documents quickly recognizable. The photo of the mariner will be printed directly onto the endorsement. The photo will be maintained in the Coast Guard's national database of seafarer information.



### Updated STCW Endorsement


In an effort to make the best use of resources available to address this issue, the Coast Guard consulted with both the Bureau of Engraving and Printing and with the Forensic Documents Laboratory of the Immigration and Customs Enforcement Agency. These experts provided invaluable recommendations regarding methods for thwarting counterfeiting or altering credentials. After extensive design work, the Bureau of Engraving and Printing was engaged to provide the STCW endorsement forms. Modeled after the revised Coast Guard license, the forms incorporate a broad spectrum of anti-counterfeiting technology including:

- Chemically etched paper with multiple watermark seals of the U.S. Coast Guard,
- Non-reproducible light blue ink background,
- Micro-printed words "USCOASTGUARD,"

- Engraved-quality details that are lost when photocopied,
- Multiple serial numbers for supply and issuance records,
- Digitally printed mariner photograph,
- Bound stub books for recording issuance as backup to system data.

The STCW Endorsement flyer appearing in the center of this issue (p. 48–49) provides a detailed illustration of these features.

The new forms will significantly enhance the security of our STCW endorsement and form the final link in the chain of secure U.S. mariner credentials. In addition, they provide the U.S. Merchant Mariner with a high quality credential whose professional appearance is worthy of the effort it takes to earn it.





# Fishing Tips from Bill Dance

To provoke a reaction strike from a moody bass, try a spinnerbait or jig in a hot color such as blaze orange or chartreuse.

**Here's another tip . . . to keep yourself safe on the water, take a boating safety course. It could save your life.**

Bill Dance and the U.S. Coast Guard remind you:  
**"You're in Command. Boat Responsibly!"**

Visit [www.uscgboating.org](http://www.uscgboating.org) or call the Boating Safety Infoline at 1-800-368-5647 for more information.



**BROUGHT TO YOU BY THE U.S. COAST GUARD.** [www.uscgboating.org](http://www.uscgboating.org)

# Why Change Merchant Mariner's Documents?



*Consolidating credentials is the right thing to do for taxpayers and mariners.*

by Mr. R. JON FURUKAWA  
 Program Analyst, Mariner Records Branch, U.S. Coast Guard National Maritime Center

U.S. Merchant Mariners are required to carry several different credentials to document their identity and qualifications, and it appears that more are on the way. The U.S. Coast Guard is working to minimize the impact of these pending requirements.

Tables 1 and 2 show the worst-case scenario for a licensed, oceangoing merchant marine officer.

Merchant Mariners' Document (MMD)
Merchant marine officer's license (deck or engine)
Endorsements to the above, required by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended in 1995 (STCW Convention)

**Table 1: Currently required U.S. Merchant Mariner ID and/or competency credentials.**

Transportation Workers' Identification Credential (TWIC)
International Labor Organization 185th Conference - Seafarers' Identity Document; (ILO185-SID)

**Table 2: Proposed U.S. Merchant Mariner ID and/or competency credentials.**

This officer is now carrying three credentials issued by the Coast Guard and, eventually, could carry up to five. This list does not include other credentials

such as a passport or, for the Military Sealift Command mariner, the Geneva Conventions identification. The Coast Guard does not control some of these credentials, but, for the ones we do, we want to use affordable technology that may enable us to combine some or all into a single credential.

### Challenge One: MMD/License/STCW

The Coast Guard currently issues three credentials: the Merchant Mariner Document (MMD), the merchant marine officer's license, and the endorsement to the International Standards of Training, Certification and Watchkeeping for Seafarers Convention, 1978, as Amended in 1995 (STCW Endorsement). The MMD is issued to mariners who sail on vessels of 100 gross tons or more on waters other than rivers. The MMD is already a consolidated credential dating from the 1940s, when the separate Certificate of Identification and Certificate of Service were combined into the MMD. The merchant marine officer's license is issued to deck officers, engine officers, pilots, and various operators. Most licenses are issued to operators of domestic smaller tonnage vessels who are not issued a MMD. The STCW Endorsement is issued to mariners to document their compliance with international competency standards established by the International Maritime Organization (IMO). Table 3 shows that 30 percent of active U.S. Merchant Mariners are currently issued more than one credential.



CREDENTIAL(S)	NUMBER OF MARINERS
MMD Only .....	51,000
License Only .....	92,400
License & MMD .....	13,200
License & STCW .....	5,300
MMD & STCW .....	15,800
MMD & License & STCW .....	27,500
TOTAL MARINERS .....	205,200

**Table 3: U.S. mariners with unexpired credentials as of December 31, 2004.**

### Challenge Two: TWIC

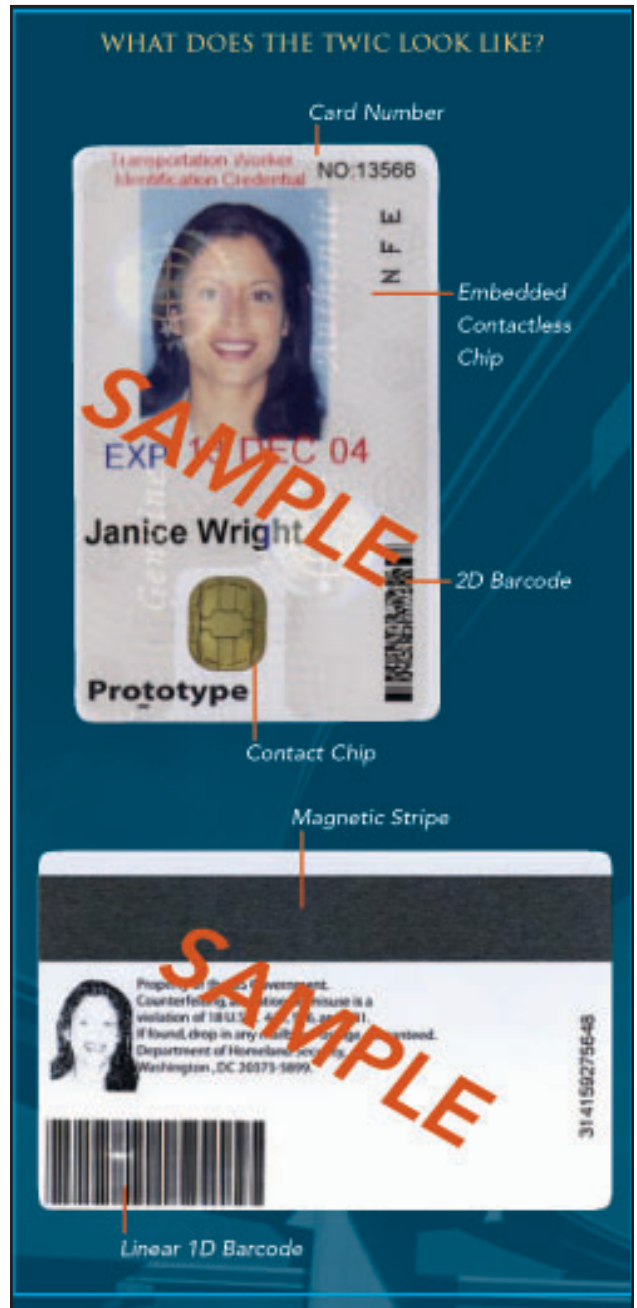
Congress mandated a Transportation Security Card in the Maritime Transportation Security Act of 2002 (MTSA). Anyone requiring unescorted access to the 3,000 MTSA-regulated facilities or the 10,000 MTSA-regulated vessels will be required to have this Transportation Security Card. The MTSA also requires that the Transportation Security Card applicant must undergo a background record check for terrorist risk, criminal history, and immigration status. The Transportation Security Card is to have a biometric to ensure that identity is managed very closely to reduce incidents of fraud.

Transportation Security Administration (TSA) is the lead Department of Homeland Security agency in developing a common Transportation Workers' Identification Credential (TWIC), which will encompass all transportation (Figure 1). The maritime industry will be the first transportation industry to implement the TWIC. Therefore, the Transportation Security Card will be the TWIC as it applies to the maritime mode. Eventually, the TWIC will be required for all transportation industry workers requiring unescorted access to federally regulated air, maritime, pipeline, rail, trucking, and mass transit facilities.

On August 10, 2004, the Transportation Security Administration awarded a \$12 million contract to business system integration company Bearing Point, Inc. to begin a voluntary TWIC prototype in three regions of the country: the Mid Atlantic Ports of Camden, N.J.; Islip, N.Y.; Philadelphia, Pa.; and Wilmington, Del.; the Southern California Ports of Los Angeles and Long Beach; and 14 major ports in Florida. This pilot phase is currently underway. Part of the purpose of the pilot is to identify issues that will have to be resolved to combine the TWIC with other credentials such as the MMD.

### Challenge Three: ILO185 SID

Following September 11, 2001, and at the prompting of the IMO, the International Labor Organization (ILO) convened and began revamping its 1958 Seafarers' Identity Documents Convention to facilitate a more secure means of identifying mariners as they travel. Facilitation of seafarers' shore leave became a principle focus of the revised



**Figure 1: A priority of the Department of Homeland Security and the U.S. Coast Guard is to reduce the number of required credentials through the use of the congressionally mandated Transportation Workers' Identification Credential (TWIC).**

convention. As adopted, the Seafarers' Identity Document Convention (Revised), 2003, (ILO185) is at odds with U.S. requirements for visas, which casts doubt on U.S. ability to ratify the convention. Nevertheless, efforts continue with a view to resolving conflicting issues.

The revised convention requires the ILO185 Seafarer's Identity Document (SID) to have a detailed issuing procedure; an accessible national database; and standardized topology including personal information, photo, and fingerprints. The intent is to allow the SID to function as a visa. The ILO185 SID includes bar codes, magnetic stripes, and machine-readable zones but specifically disallows the use of smart chip technology. Four countries—France, Jordan, Nigeria, and Hungary—have ratified the convention, which went into effect on February 9, 2005. While the U.S. will probably not ratify the convention in its current form, the Coast Guard is following the evolution of the ILO185 SID closely, with a view to incorporate as much of the international requirement as possible into its own credentials.

#### **Opportunity: Modern Technology**

Advancements in integrated circuit chip (ICC) technology provide the opportunity needed to meet the challenge of the future. Additional credentials are not the answer; smarter ones are. The TWIC will make use of an ICC, or smart card technology. With planning and coordination, this will enable the Coast Guard to consolidate the various U.S. Merchant Mariner credentials.

#### **Conclusion**

The consolidation of credentials will require substantial effort, planning, coordination, and, perhaps most of all, cooperation. Many complex and sensitive details will have to be considered, including revision of current statutes and regulations. While the opportunity for benefit is substantial, change is always difficult, especially in an industry steeped in tradition. If we can work together to manage and accept the correct changes, technology will enable us to bring U.S. maritime credentialing quickly from the 19th to the 21st century.

For more information please see the following web sites:  
TWIC: [www.dhs.gov](http://www.dhs.gov); ILO185-SID: [www.ilo.org](http://www.ilo.org);  
and MMD/License/STCW: [www.uscg.mil/nmc/](http://www.uscg.mil/nmc/).

## Upcoming in:

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# Obtaining a Mariner's Credential

*An overview of the process.*

by Mr. STEWART WALKER  
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Evaluation of an application for a mariner's credential is the process performed at a U.S. Coast Guard Regional Examination Center (REC), where the application is reviewed in light of the standards that apply to the requested credential. The standards include reviews 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, the minimum age is 21. A Merchant Mariner's 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 of age. 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 service on vessels that do not exceed five net tons. A 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 currently valid 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. In the event that an applicant cannot prove citizenship and age through the documents discussed, the REC will work with the applicant to determine what documents may be available for this purpose.

**Physical competence:** Mariners must be in good health and physically able to perform the duties required by the credential. Deck Officers must be able to distinguish colors so as to identify aids to navigation and colored lights that provide information about the course of a nearby vessel. The colors printed on navigational charts also provide information to a navigator. Engineer Officers are only required to distinguish between the colors red, green, blue, and yellow.

Some qualified ratings are required to meet physical standards. For example, an Able Seaman must meet the same physical standards as a Deck Officer, and a Qualified Member of the Engine Department must meet the same standard as an engineer officer.



**Mariners must be in good health and physically able to perform the duties required by the credential. Courtesy Paul Hall Center for Maritime Education and Training, Piney Point, Md.**

The regulatory requirements for each rating should be reviewed by an applicant to determine if he or she meets the physical requirements.

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 the STCW applies.

If an applicant is unable to pass the physical examination, but the local Officer in Charge, Marine Inspection (OCMI), believes that he or she is able to perform the duties of the position endorsed on the credential, the OCMI may recommend a waiver be granted. The recommendation is forwarded to the U.S. Coast Guard National Maritime Center (NMC) for review and determination by the Medical Review Board, composed of Public Health Service physicians on duty with the Coast Guard. The board may recommend that a waiver be granted, that a waiver be denied, or request additional information. A report of a physical examination may be reported on Coast Guard Form CG-719K. If the mariner is only required to demonstrate physical competence, such as strength, coordination, agility, and balance, the report may be submitted on Coast Guard Form CG-719KE.

**Experience and training:** An applicant must demonstrate that he or she has completed any training required to qualify for a credential. Upon completion of training, the trainee will be presented a course completion certificate, attesting to successful completion of the course. The trainee should present that certificate to the REC as part of the application package. It will be verified and returned to the applicant.

Many licenses, certificates of registry, and qualified ratings require the applicant to present evidence of seagoing service. This may be done by certificates of discharge, letters, or other documents certifying the amount of experience and the names, tonnage, and horsepower of the vessels upon which the service was acquired.

**Character:** The Coast Guard must be assured that the holder of a mariner's credential can be entrusted with the duties required of a holder of the credential. Most applicants are fingerprinted, and the results reviewed through national databases to determine if he or she has a criminal background or terrorist affiliation. In addition, the National Driver Register

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

**Fees:** User fees are required for the processing and issuance of mariner's credentials. User fees are divided into three areas: evaluation, testing, and issuance. Each area represents a major subdivision of the entire process of qualifying for and being issued a mariner's credential. The evaluation fee for most license and MMD transactions is either \$50.00 or \$100.00. The evaluation fee was established as a result of studies of the actual amount of time required to process an applicant.

When the evaluator completes the review of the information provided by the applicant, 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 will be 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. Once an application is approved, it is valid for one year, during which the applicant must pass the 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. Incomplete applications, such as those lacking major pieces of information, will be denied and returned to the applicant.

Applicants will help themselves if they review their applications before submitting them to the REC for evaluation to ensure that the application is complete and legible. The two most common errors are failure to initial the indicated spaces on the form and failure to provide complete information about any convictions or criminal history. Incomplete applications delay processing time and result in the applicant being notified that he or she must provide additional information before the evaluation can proceed. If an applicant is uncertain what information is required or what documents are needed to support the application, further assistance is available at [www.uscg.mil/stcw/index.htm](http://www.uscg.mil/stcw/index.htm).





# An Overview of Regional Examination Centers

*Strong teamwork has reduced the number of  
pending mariner applications over the past few years.*

by Lt. Cmdr. ANTHONY C. CURRY  
Assistant Chief, Licensing and Evaluation Branch  
U.S. Coast Guard National Maritime Center

Approximately 38,000 mariner licenses, 25,000 Merchant Mariner Documents, and 13,000 STCW certificates were issued in 2004 by the Coast Guard's 17 Regional Examination Centers (REC). The 221-person REC workforce is composed of 160 government personnel and 61 contractors. These RECs are located throughout the United States and vary in size from 4 to 40 people, who fulfill the demand for mariners' credentials, which has been increasing by 2 percent annually over the past 10 years (Figure 1).

## Demand for Credentials

The backlog of mariner applications has been significantly reduced from 5,109 applications in February 2004 to only 2,324 applications in February 2005 (Figure 2). In fact, the backlog is essentially non-existent at all but five RECs. Two of the below charts compare the REC backlog situation in February 2004 (Figure 3) to February 2005 (Figure 4). Please note that the Coast Guard defines "backlog" as applications that have not begun the process of being evaluated

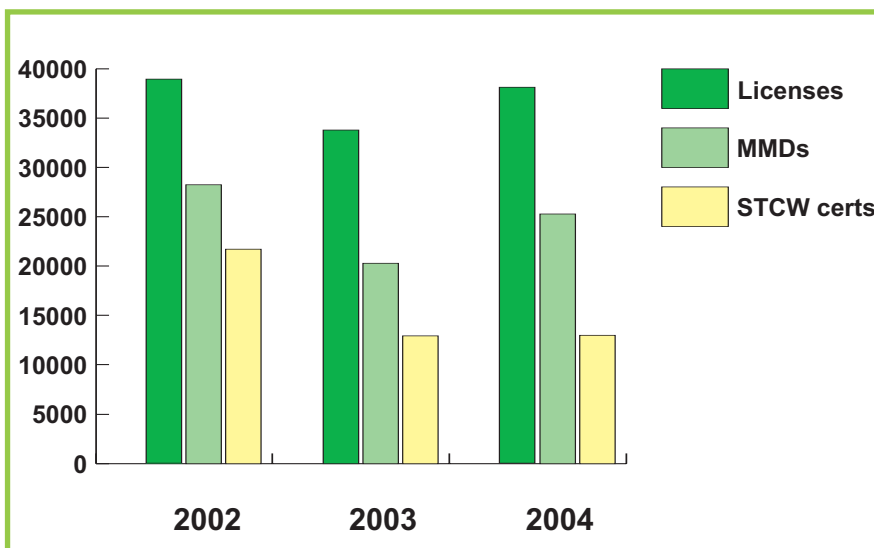


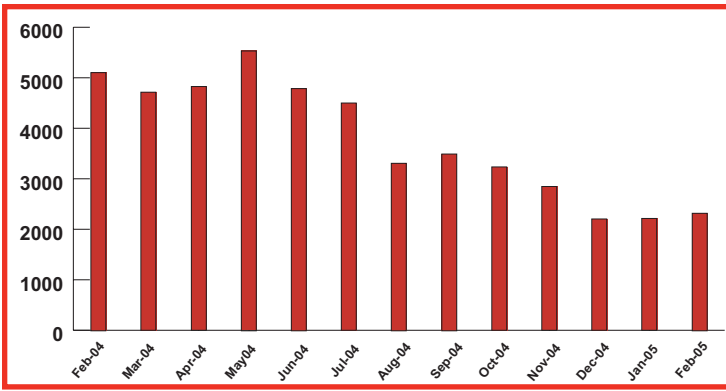
Figure 1: Number of mariner credentials issued over a three-year span.

The number of pending applications has been reduced but is still a very serious issue at the RECs. Pending applications are those that are active and have had an evaluation initiated, but no credential has been issued. In April 2004, there were a staggering 16,751 applications in "pending" status. Fortunately, that number had decreased to 12,932 in February 2005. Presently, 2,500 of these pending applications are located at the largest and busiest REC in New Orleans, La.

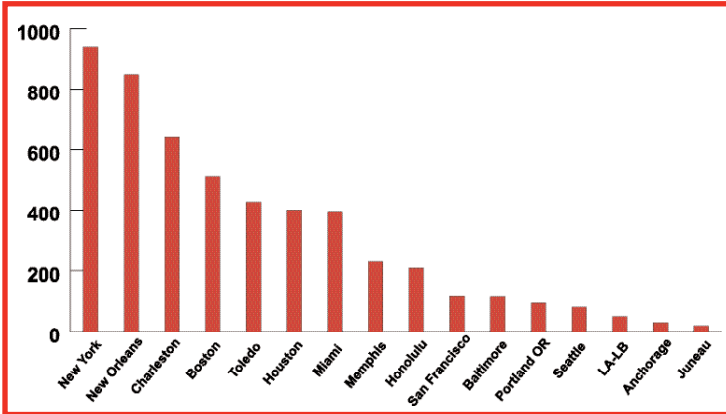
Why are there so many applications in pending status? This seems to be a simple enough question, but the answer is a little more complex. More than 40 percent of applications received at the RECs go into pending status for a variety of reasons, including:

- the application is incomplete,

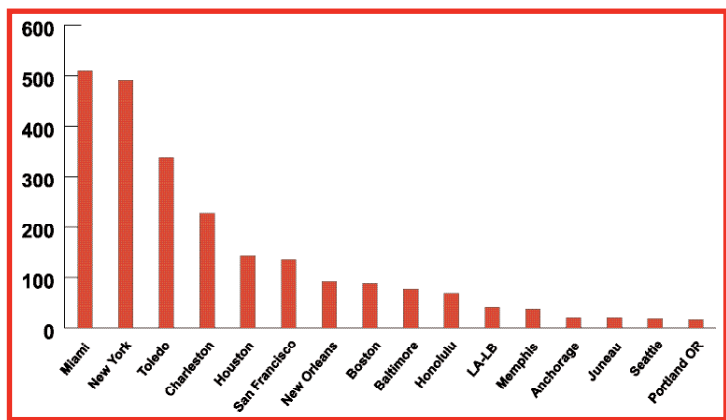




**Figure 2: Backlog of mariner credential applications February 2004 through February 2005.**



**Figure 3: Total REC backlog, February 2004: 5,109 applications.**



**Figure 4: Total REC backlog, February 2005: 2,324 applications.**

- the application is suspected to be fraudulent,
- the applicant requires a medical waiver,
- the applicant must complete/pass required examinations.

The “pending” phase of the mariner credential process is the chokepoint of the entire system (Figure 5). With approximately 13,000 mariners in pending status, the efficiency of the RECs is greatly diminished. Hard-pressed REC personnel are over-

whelmed with phone calls from mariners who have problems with their applications. The REC personnel want to help every mariner possible, but, with a workforce of only 221, the number of requests for help can be overwhelming.

### Application Process Requires Teamwork

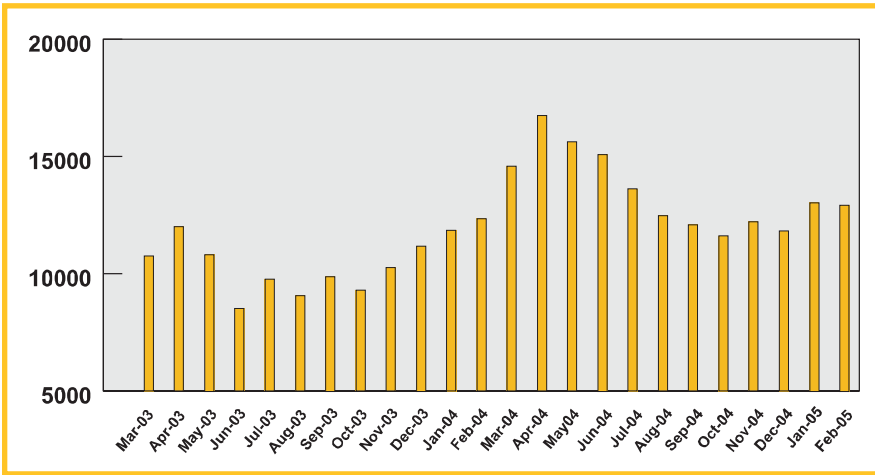
The application process is a team effort between the Coast Guard and the mariner. Mariners can do themselves and the Coast Guard a big favor by following these steps before submitting their applications:

- Carefully review all pertinent application information.
- Ensure your application is complete.
- Ensure that each question is answered truthfully, accurately, and completely.

Several new challenges have been placed on both the RECs and the mariner. These recent challenges are illustrated on the timeline below (Figure 6). The implementation of International Convention on Standards of Training, Certification and Watchstanding for Seafarers, 1978, as amended in 1995 (STCW) caused a temporary spike in demand for STCW95 certificates in 2002, but demand in subsequent years has leveled off at approximately 13,000 certificates annually. In response to the September 11, 2001, terrorist attacks, the Coast Guard implemented Operation Drydock, which was a Coast Guard initiative to conduct background checks on thousands of mariners in an attempt to uncover any potential terrorists and also to uncover possible criminal histories within the U.S. merchant marine. This operation was concluded in March of 2004. In-depth background checks were made a requirement for Merchant Mariner Document applicants in February 2003 and will continue as a permanent part of the application process.

### Tiger Teams

All of these challenges have added to the workload at the Coast Guard RECs. In response, the National Maritime Center spearheaded the Tiger Team initiative in 2002, which placed contractors at several key RECs to augment and support REC operations. This was the first attempt made to utilize contractors at Coast Guard RECs. At first, 24 contractors were



**Figure 5: Total cumulative pending applications, March 2003 to February 2005.**

added to just six RECs: Boston, Charleston, Houston, Miami, New Orleans, and Los Angeles. The contractors had an immediate positive impact on REC operations and helped reduce the backlog at these sites. The Tiger Teams were so successful in enhancing REC operations that the Coast Guard has consistently increased the Tiger Team contracting effort over the past two years to the impressive present level of 61 contractors placed at all but two of the Coast Guard’s RECs.

There are three types of contractor employees that compose the Tiger Teams:

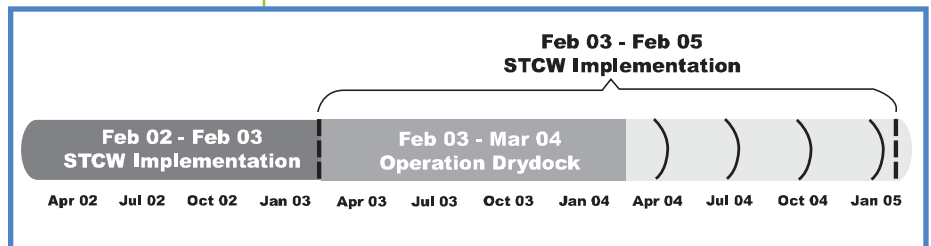
- **Contractor Evaluator:** The contractor evaluator focuses on the technical evaluation of applications for mariner credentials. At present, there are 25 contractor evaluators engaged at 13 sites.
- **Contractor Forensic Document Examiner (FDE) clerk:** The FDE clerk focuses on the forensic examination of the many forms of identification utilized by mariners in the application process. In addition, these FDE clerks also perform general clerical duties to support REC operations. At present,

there are 15 FDE clerks at 15 sites.

- **Contractor clerk:** The contractor clerk focuses on performing general clerical duties to support REC operations. At present, there are 21 contractor clerks at 13 sites.

The Potomac Management Group (PMG) is the contractor for this very complex and challenging effort. The PMG Tiger Teams have regularly produced double the amount of license/MMD application work than is required by contract terms. Close teamwork between the Coast Guard and PMG has been a vital element in the enormous success of the Tiger Teams. Much has been learned from the Tiger Team initiative regarding the REC workforce. Although the concept of the Tiger Teams was very unpopular at first, the Coast Guard has realized that contractors can play a very important role in the future REC workforce.

Several new challenges have been added to the mariner application process. The Coast Guard realizes the significant impact that these new challenges place on the process. The requirement for background checks for certain civilian positions in the transportation community have become a necessary reality since the 9/11 terrorist attacks on New York,



**Figure 6: Several new challenges have been placed on both the RECs and the mariner, as this timeline illustrates.**

Washington, and Pennsylvania. The Coast Guard also realizes that simply adding more staff at the RECs is not the long-term answer. Ultimately, the entire Merchant Mariner Licensing & Documentation program needs to be restructured and centralized to provide the most secure, efficient, and effective service to the U.S. maritime industry.

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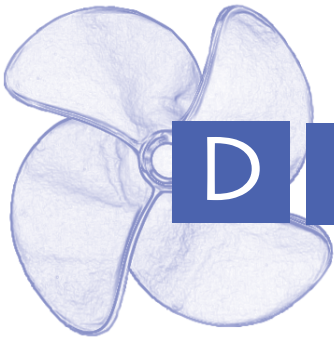
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# The Marine Safety Center

*A commitment to partnerships.*



by Capt. ROY NASH, U.S. Coast Guard Marine Safety Center  
and Lt. Cmdr. DOUG SIMPSON, U.S. Coast Guard Marine Safety Center

It's been a year since the marine industry implemented Maritime Transportation Security Act requirements. To help shoulder the increased workload, the Coast Guard added 585 marine safety program billets nationwide in fiscal year 2005 alone. After nearly four years since 9/11, the pendulum is coming to rest at our new normalcy. As we reorganize field units into sectors and realign capabilities to meet mission requirements, partnerships will remain crucial for bridging gaps, maintaining awareness, and pushing toward greater accomplishment.

## Dedicated to Partnership

Recently, U.S. Coast Guard Commandant Adm. Thomas H. Collins touted partnerships as smart, effective ways of getting the job done. In his remarks to the Harbor Safety Committee (HSC) Convention, Adm. Collins noted how Houston's HSC has formed an industry-staffed command, control, and communications team for the Captain of the Port during times of heightened security—a reliable and needed force multiplier during security surge operations and other response crises. In his State of the Coast Guard address, he cited the effectiveness of interagency cooperation and confirmed that the Coast Guard would “aggressively pursue closer partnerships with private industry and all levels of government.”<sup>1</sup>

Both the Coast Guard's Maritime Strategy for Homeland Security and the FY 2005 Report identify partnerships as a key means to accomplish Coast Guard goals. Throughout the Coast Guard and reinforced at the highest levels, partnerships are a key to successfully executing our missions.

## Partnership Defined

Four years ago *Proceedings* published an issue showcasing the effective and enduring results of partnerships. Teamwork and commitment yield results that the Coast Guard cannot achieve alone. The issue's opening article defined partnership as two or more parties sharing: “a formal relationship, based upon commitment to common goals, involving mutual trust, achieved through open and frank communication.”<sup>2</sup>

This definition evokes two compelling thoughts. First, not all relationships are partnerships; true partnerships have overt substance grounded in commitment, trust, and interaction. They are not adversarial. They focus on real impact. Second, successful and healthy partnerships take work; without it, they revert back to some lesser kind of relationship.

The prime mover behind a partnership is a mutual desire to achieve certain goals by committing to the next level of cooperation. Each party might bring exclusive insights or expertise that, when shared, can form problem-solving synergy and breakthroughs. Perhaps resources can be shared resulting in mutually beneficial risk reduction, operating efficiencies, or lower overhead. Frequent and open communication engenders trust between the partners, and achieving goals strengthens resolve.



**Partnerships and Coast Guard Roles**

*“They will always keep in mind that their countrymen are freemen, and, as such, are impatient of everything that bears the least mark of a domineering spirit.”*  
 – Alexander Hamilton.<sup>3</sup>

It is within the spirit of Mr. Hamilton’s historic instruction that the Coast Guard executes its overarching roles of maritime security, maritime safety, national defense, protection of natural resources, and maritime mobility.<sup>4</sup> Our unique partnerships—Prevention Through People Quality Partnerships, advisory councils, area and security committees, and standards bodies—attest to our culture of including in our deliberations those we regulate and with whom we work.

Table 1 illustrates how partnerships align to enhance Coast Guard roles and Department of Homeland Security (DHS) goals. For example, interagency agreements can be leveraged across all Coast Guard roles and DHS goals. Sharing patrol resources that have response capability aids the Department of Homeland Security’s goals of awareness, prevention, protection,

and response. Agreeing to preestablished roles for incident or threat response strengthens our prevention, protection, response, and recovery posture. Sharing resources in a post-incident situation mitigates recovery and more quickly reestablishes service.

**Managing Partnerships**

Partnerships are only as useful as the commitment of the involved parties. When establishing a partnership, it is often best to limit its duration to a specific timeline or set of goals. This allows participants to reexamine their continued commitment. Partnerships that have reached their effective lives or are subject to lesser commitment may no longer be an asset and can become a resource drain. Even though the involved parties choose to dissolve a partnership, they have already established relationships, met goals, and can choose to reengage in the future.

Long-term partnerships can be kept focused and energized by creating subcommittees or working groups to tackle specific goals. Consider merging partnerships that have overlapping agencies or even the same participants to increase commitment and reduce burnout.

Regardless of the type—regulatory or not, strategic or tactical, environmental, safety, or mobility related—committed partnerships founded on trust and solid communication will help the Coast Guard achieve goals that it could not achieve on its own.

<b>Leveraging Partnerships for USCG Roles and DHS Goals</b>	
<b>DHS Strategic Goals</b>	
<b>USCG Roles*</b>	
<b>Partnership Opportunities</b>	
<p>* The Mission Programs and Alignment Table on p.14 of USCG FY2005 Report includes the USCG role of National Defense. Aside from interagency agreements, most partnerships relating to national defense better relate to the maritime mobility and maritime security roles.</p>	

**Table 1**

<sup>1</sup>Adm. Collins’ remarks to the Harbor Safety Committee Convention of April 18, 2005, and the Annual State of the Coast Guard Address of April 21, 2005. Adm. Collins’ speeches can be found at the Coast Guard’s web site, [www.uscg.mil](http://www.uscg.mil), and clicking on the link “News.”  
<sup>2</sup>Capt. Timothy Close and Ms. Jennifer Blaine Kiefer, “The Value of PTP Quality Partnerships,” Proceedings of the Marine Safety Council, V. 58, Number 3, pps. 4-5. Proceedings, V. 58, #3 is about partnerships that are non-regulatory in nature. Nonetheless, partnerships can exist within a regulatory framework and, like any partnering relationship, require commitment and hard work.  
<sup>3</sup>Letter of Instructions to the Commanding Officers of the Revenue Cutters, Department of the Treasury, June 4, 1791.  
<sup>4</sup>Coast Guard roles are explained in Coast Guard Publication 1, p. 5-12.



# The U. S. Coast Guard Marine Safety Laboratory



## *Our history and missions.*

by DR. WAYNE R. GRONLUND  
*Manager, U.S. Coast Guard Marine Safety Laboratory*

The Marine Safety Laboratory (MSL) is the U.S. Coast Guard's forensic laboratory for oil spill source identification or "fingerprinting," a term adopted in the mid-1970s when the Coast Guard Research and Development Center developed the oil spill identification methodology. MSL supports field investigators and various federal, state, and local agencies by providing forensic analysis of spilled oil samples and suspected source samples. MSL then works closely with the National Pollution Fund Center (NFPC) and the Department of Justice (DOJ) in the prosecution of responsible parties. The analytical results produced by the Marine Safety Laboratory provide support for both law enforcement and cost-recovery benefits. MSL chemists provide expert witness testimony for hearings and court proceedings as needed.

MSL is currently a subunit of the National Maritime Center, but planning is underway to move the laboratory under the Coast Guard's Office of Investigations and

Analysis (G-MOA). MSL serves as a powerful tool to aid Coast Guard pollution investigators in determining the source of oil spills as mandated by federal law. The laboratory provides the means to fix oil pollution responsibility, assess penalties, and help recover federal pollution cleanup funds expended during an incident. MSL also serves as a deterrent to deliberate oil pollution discharges and encourages the reporting of and acceptance of responsibility for accidental spills.



**Figure 1: Front row, from left: MSTC Steve Natale, MST3 David Martinez, MST3 Logan Brien, MST1 Duane Wilson, MST2 Chris Horn, Ms. Kristy Juaire. Back row, from left: MSTC Rusty Harbuck, SK1 Roger Matros, YN2 Seth Puskarenko, MST3 Bernie Grosso, Dr. Wayne Gronlund.**

As part of an effort to improve the visibility, enhance the quality, and broaden the utility of the Marine Safety Lab, we are in the initial stages of seeking accreditation by the American Society of Crime Laboratory Directors Lab Accreditation Board. Ten Coast Guard personnel staff the laboratory: two civilians and eight military members (Figure 1). Their backgrounds provide a unique blend of scientific and academic expertise, operational and pollution investigation experience, as well as technical and administrative competence (Figure 2).

the wise forensic investigator will always remember that he must bring all of his life experiences and logic to find the truth. This means common sense, informed intuition, and the courage to see things as they are. Then he must speak honestly about what it all adds up to.”<sup>1</sup>

Having performed both navigation and forensics in the Coast Guard, I find this philosophy particularly applicable to the responsibilities and challenges I face in my role as manager of the Marine Safety Lab.



**Figure 2: MSTC Rusty Harbuck in the walk-in cooler where the Marine Safety Laboratory maintains secure stowage of oil samples that are preserved as evidence for future legal proceedings. Dr. Wayne Gronlund, USCG.**

In the prologue of his popular book, *Cracking Cases, The Science of Solving Crimes*, Dr. Henry C. Lee describes an interesting similarity between forensics and seagoing navigation:

“At the outset, permit me to define the term *forensics* as the direct application of scientific knowledge and techniques to matters of law. The study of modern forensic investigations is similar to navigating the high seas, in that this subject is both an art and a science. The seafarer may have taken his sun line correctly and fine-tuned his position on his chart for the effects of tide and current, but if his senses are telling him his vessel is in another spot on the sea, then he must combine his findings with his intuition and common sense to adjust for a proper course. This is especially important to remember today, since, just like navigation, technology is making great strides in providing the forensic scientist with ever-improving data. Still, even with all of this precise information,

### Overview of Oil Spill Identification Methodology

The Oil Identification System (OIS) uses several complementary chemical tests that exploit the unique, intrinsic properties of petroleum oil that make it possible to match spilled oil to the correct chemical source. The system is based on multiple analytical methods: Infrared Spectroscopy (IR), Gas Chromatography (GC), and Gas Chromatography-Mass Spectrometry (GC-MS). These analytical methods profile different chemical properties of an oil sample (Figures 3 and 4). If two oils are chemically similar, they are said to derive from a common source. In many of our cases, oils from other suspected sources will be simultaneously eliminated from consideration as the pollutant source, because they are chemically different as determined by the test methods. It is important to note that the chemical source of a spill is not necessarily the same as the physical source of the spill.

Lab results must be corroborated with a physical investigation to be substantiated.

Interpretation of the analytical test results is often not straightforward, because of the increased analytical complexity brought about by “weathering” or contamination of the spilled oil. Weathering includes: evaporation, dissolution, biodegradation, oxidation, and other chemical, physical, and biological environmental changes that alter the makeup of the spilled oil. The degree of weathering will vary with each particular case; advanced weathering significantly complicates the analyst’s job.

MSL prepares a written analysis report for each case. This report is a self-contained record that includes all of the legal documentation, quality control information, analytical results, and chemical data interpretation, including the expert opinion of a trained



chemist with extensive experience in oil identification. These results are available to authorized users through the Marine Information for Safety and Law Enforcement network.

In addition to its primary mission, the Marine Safety Lab is tasked to:

- provide consultation to Coast Guard field investigators, district offices, hearing officers, as well as to the National Pollution Fund Center, Department of Justice, and other federal agencies concerning the Oil Identification System (OIS) and MSL analysis reports;
- provide expert opinions and testimony at legal proceedings as required;
- maintain a system of adequate quality controls to assure the integrity of the Oil Identification System;
- evaluate new methods and advancements in technology that may increase the accuracy, reliability, and efficiency of the Oil Identification System;
- participate in activities that enhance the credibility and legal acceptance of MSL analyses, including membership in the American Society for Testing and Materials;
- provide long-term secure storage of oil samples (i.e., evidence) that MSL has received from field units in support of oil pollution cases.

### How Can MSL Help You?

MSL personnel are available to provide on-call assistance to Coast Guard field investigators; district personnel; hearing officers; and NPFC, DOJ, and other government officials on all aspects of the Oil Identification System. This assistance includes but is not limited to:

- planning sampling strategies in complex cases,
- answering questions and explaining the sig-



**Figure 3: MST1 Duane Wilson preps an oil sample for Gas Chromatography (GC) analysis. Dr. Wayne Gronlund, USCG.**

nificance of test results,

- evaluating test data from other laboratories,
- providing expert witness support.

An efficient and effective Oil Identification System depends upon good communication and understanding between the various users and Marine Safety Lab personnel. Please give us a call; we're eager to help!

Additional information is available at the Marine Safety Laboratory Web site at [www.rdc.uscg.gov/msl/](http://www.rdc.uscg.gov/msl/).

### Endnotes

<sup>1</sup>Lee, Henry C. Dr. with O'Neil, Thomas O. (2002) *Cracking Cases, The Science of Solving Crimes*. Amherst, NY: Prometheus Books.



**Figure 4: MSL chemist Kristy Juaire compares two oil chromatograms. Dr. Wayne Gronlund, USCG.**



National Vessel  
Documentation  
Center

# The Long Journey Home

## *Centralizing the National Vessel Documentation Center.*

by Mr. THOMAS WILLIS  
*Director, U.S. Coast Guard National Vessel Documentation Center*

One of the Coast Guard’s newest units, the National Vessel Documentation Center (NVDC) in Falling Waters, W.Va., has one of the longest histories of any current Coast Guard function. It also serves the Coast Guard’s largest external customer base. During calendar year 2004, the 100 NVDC employees issued more than 59,000 documents and renewed 180,000 more. In addition, 276,000 abstracts of title—the vessel equivalent of a title search on real estate—were issued. In its role as a facilitator of maritime finance, NVDC recorded mortgages totaling more than \$40 billion during the same time period. Conclusive evidence of the efficiencies achieved by the centralized unit is the fact that annual program costs have been reduced by approximately \$1.5 million since its establishment.

To meet its goals of efficiency and good customer service, NVDC has achieved a series of firsts. It was the first unit in the Coast Guard to utilize an automated “fax back” service, which permits customers to obtain forms and instructions by fax any time of day or night without speaking to an NVDC employee. Time is of the essence when issuing abstracts of title; to facilitate that process, NVDC was the Coast Guard’s first unit to accept payment by credit card. Using fax service, abstracts are normally issued within 24 hours of the request, which is an improvement of more than 48 hours over the express mail and check system in place at the former ports of documentation. Customers often need copies of recorded instruments for legal proceedings. The NVDC was the first Department of Transportation unit to obtain electronic copies of instruments that had been transmitted to the Federal

Records Center. More than 300,000 files were bar-coded so that they could be located easily.

At the end of its first 14 months of operation that began in 1995, NVDC had achieved an average turn-around time of one day on commercial applications and five days on recreational applications. The backlog of more than 55,000 cases dating back more than 18 months had been eliminated through innovation in business processes and leveraging of technology. In recognition of this feat, the NVDC was awarded the Secretary’s Award for Customer Service in 2005.

Although NVDC is often cited as a Coast Guard success story, the journey from the earliest days of documentation, with vessel registers written in a copperplate hand, to today’s computer-generated Certificates of Documentation (COD) has been a lengthy and often tortuous one. Prior to becoming a Coast Guard function, vessel documentation services were delivered by the Bureau of Navigation, first under the Treasury Department and then under the Commerce Department. Responsibility for documentation was then transferred back to the Treasury Department, this time under the Bureau of Customs.

### **NVDC Timeline**

**1789:** The Eleventh Act of the First Congress established vessel documentation to ensure unfettered maritime commerce among the original states. In addition, the documentation system provided a vessel “passport,” establishing vessels engaged in foreign trade as vessels of the United States. More than 200



### VESSEL DOCUMENTATION

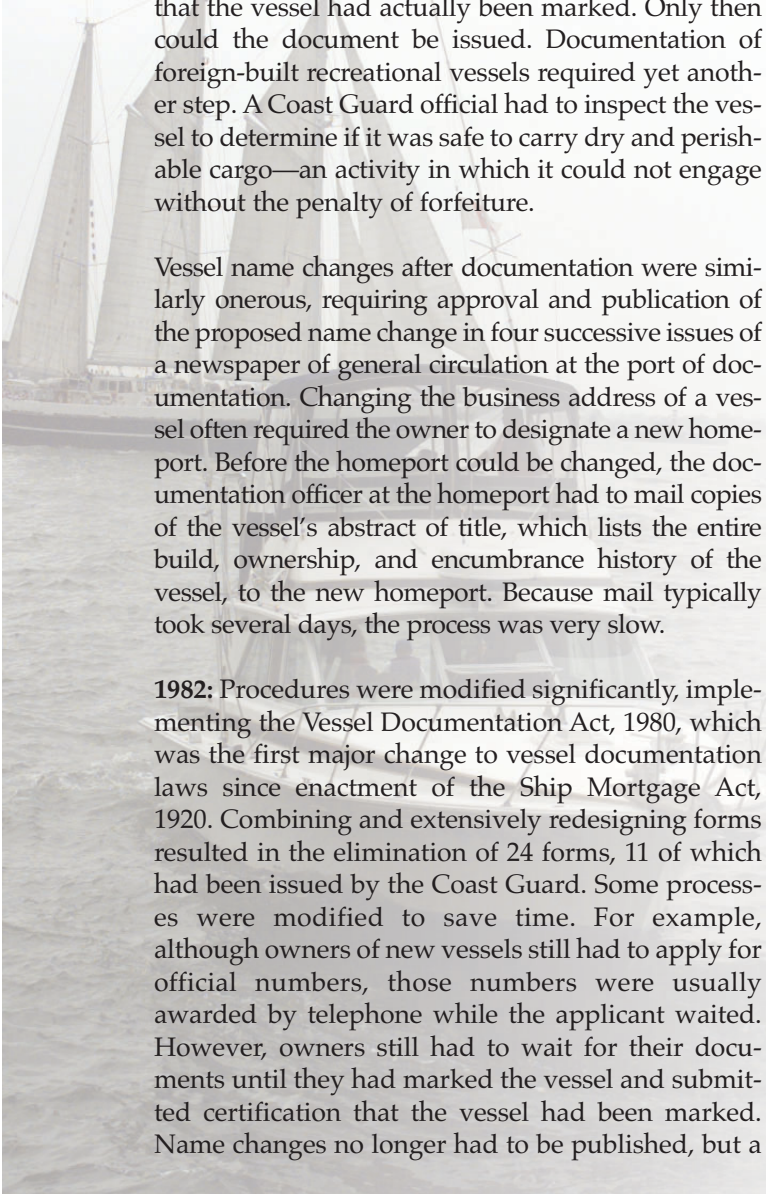
A Certificate of Documentation (COD) is conclusive evidence of nationality for international purposes. A vessel to which a COD is issued is, by definition, a U.S.-flagged vessel, regardless of whether or not it complies with inspection and other port state requirements. A situation that arose during Operation Desert Storm provides a clear example of the effect of documentation: Concerns about the safety of their vessels led the Kuwaitis to transfer several tankers to a U.S.-managed company. Once CODs were issued in the name of that company, the tankers were entitled to the protection of the United States. The fact that all of the stock was foreign-owned was immaterial, since the vessels were not engaged in domestic trade in the U.S. Also, once the vessels were documented under U.S. law, they had to remain documented as U.S.-flagged vessels until the U.S. Maritime Administration (MARAD) consented to their being reflagged as foreign vessels. In allowing vessels to be reflagged as foreign, MARAD made a judgment about whether the vessels should remain under U.S. flag to ensure their availability for national defense.

The second reason vessel documentation continues to exist is to admit certain vessels to restricted trades. Under U.S. law, only certain vessels may enter the fisheries of the United States or coastwise trade, commonly known as "Jones Act" trade. Generally, only vessels built in the U.S. may be employed in the fisheries or coastwise trade. In addition, U.S.-built vessels lose eligibility to engage in those trades if rebuilt outside of the United States. Vessels are deemed built in the U.S. only if all major components of the hull and superstructure are fabricated in the U.S., and the entire vessel is assembled in the United States. Engines, items of outfitting, and other components not integral to the hull and superstructure may be of foreign origin but must be installed in the United States. The Director of the U.S. Coast Guard's National Vessel Documentation Center is responsible for determining if a vessel is built in, or outside of, the U.S. In addition, that official is responsible for determining if a vessel that has been built from structural parts of an existing vessel, is a new vessel, or simply a rebuilt vessel.

years later, those basic purposes remain unchanged, although new functions have been added.

**1920:** Congress enacted legislation that gave a new reason to document vessels. Originally intended as a mechanism to encourage modernization of the commercial fleet following World War I, the Ship Mortgage Act, 1920, elevated preferred mortgages to the level of maritime liens. Maritime liens, which arise as a matter of law, are created whenever fuel, repairs, stevedoring, or other maritime necessities are provided to a vessel. So-called ordinary mortgages are subsidiary to maritime liens, regardless of whether or not the ordinary mortgage arose before the maritime lien. As a result, lenders were in a precarious position when financing vessels and improvements to vessels. Although the Ship Mortgage Act was not intended to make more money available for the purchase of vessels, creative maritime attorneys and financiers found ways to use preferred mortgages as a vehicle to finance new vessels. The act, which required strict adherence to a rigid set of requirements, added new duties for vessel documentation personnel, who became responsible for recording bills of sale, mortgages, preferred mortgages, notices of claim of lien, and other instruments affecting the title of U.S.-documented vessels. In addition, a provision of the Ship Mortgage Act provides for personal liability of those responsible for providing vessel documentation service to any person who "suffers pecuniary loss" by virtue of those responsible to "properly perform any duty" for the amount of the loss. Understandably, personnel were cautious and demanded absolute adherence to every provision of the law.

**1967:** As part of the establishment of the Department of Transportation, vessel documentation and tonnage measurement functions were transferred from the Customs Bureau to the U.S. Coast Guard under Reorganization Plan No. 1. At the time, the equivalent of 142 fulltime Customs employees provided tonnage documentation services at more than 100 ports. Although all of the ports remained open on paper, the Coast Guard immediately reduced the number of physical ports to 66 but made no significant regulatory or procedural changes. The remaining ports were operated by a staff of 142, most of whom were transferred from Customs. At that time, there were fewer than 70,000 documented vessels, with about 20,000 documents issued and 36,000 documents recorded annually. A staff at Coast Guard Headquarters provided guidance but not direction.



Cumbersome paperwork requirements, most found in statute, prevented the Coast Guard from doing much to simplify the process. Typically, applications for initial documentation required a minimum of eight forms, some in duplicate, some in triplicate, or even in quadruplicate. Because many of the forms were confusing and some required the taking of an oath before a documentation officer or notary, most customers came to a documentation office to make application, even though doing so might involve travel of a hundred miles or more. In addition, the process was time consuming. Before a vessel could be documented for the first time, application had to be made for an official number. This required mailing a form to Coast Guard Headquarters. Headquarters in turn would mail the number back to the port of documentation. The documentation officer had to notify the vessel owner, who would then have to mark the number and return a certificate to attest that the vessel had actually been marked. Only then could the document be issued. Documentation of foreign-built recreational vessels required yet another step. A Coast Guard official had to inspect the vessel to determine if it was safe to carry dry and perishable cargo—an activity in which it could not engage without the penalty of forfeiture.

Vessel name changes after documentation were similarly onerous, requiring approval and publication of the proposed name change in four successive issues of a newspaper of general circulation at the port of documentation. Changing the business address of a vessel often required the owner to designate a new homeport. Before the homeport could be changed, the documentation officer at the homeport had to mail copies of the vessel's abstract of title, which lists the entire build, ownership, and encumbrance history of the vessel, to the new homeport. Because mail typically took several days, the process was very slow.

**1982:** Procedures were modified significantly, implementing the Vessel Documentation Act, 1980, which was the first major change to vessel documentation laws since enactment of the Ship Mortgage Act, 1920. Combining and extensively redesigning forms resulted in the elimination of 24 forms, 11 of which had been issued by the Coast Guard. Some processes were modified to save time. For example, although owners of new vessels still had to apply for official numbers, those numbers were usually awarded by telephone while the applicant waited. However, owners still had to wait for their documents until they had marked the vessel and submitted certification that the vessel had been marked. Name changes no longer had to be published, but a

change in homeport still required transmittal of copies of the abstract of title to the new homeport before documentation could proceed. Thirty ports of documentation that were staffed on a part-time basis by personnel from other offices were closed, resulting in fewer homeport changes. Although the requirement for oaths before a documentation officer or notary was eliminated, many customers continued to come to the documentation office.

**1983:** Service backlogs continued to rise. To improve efficiency, the Coast Guard further reduced the number of ports of documentation to 15. Generally, the offices were established in major cities and not necessarily where our customers lived or did business. Some offices restricted incoming telephone calls to two hours a day to try to process cases. Headquarters personnel found themselves responding to frequent congressional inquiries regarding the growing backlog.

**1987:** Headquarters personnel began an outreach program, meeting for the first time with such groups as the Maritime Law Association of the United States (MLAUS). Members of that group, who represented many of our customers, provided valuable commentary that led to planning for future changes in both regulation and process. Instead of continuing business in the same old manner, documentation personnel were encouraged to question the value of certain procedures and requirements that seemed to have survived from time immemorial. More importantly, this was the first step in a careful review of the Ship Mortgage Act, 1920. That review would lead to a collaborative effort by the MLAUS, the Maritime Committee of the American Bar Association, the National Marine Bankers, MARAD, the Coast Guard, and other stakeholders to successfully modernize and codify the Ship Mortgage Act, 1920.

**1988:** The vessel documentation module of the Marine Safety Information System (MSIS) was deployed May 5. Some of the paperwork burden on Coast Guard personnel was reduced, as, for the first time, documentation personnel did not have to type an individual renewal notice for every vessel in the fleet. In addition, it was no longer necessary for documentation officers to send copies of every document to Coast Guard Headquarters. Official numbers were awarded sequentially by MSIS immediately upon application. Later that year, Congress enacted Public Law 100-710, codifying the Ship Mortgage Act. Although minor benefits were realized immediately, such as elimination of the need to endorse mortgages on vessel documents, the real

benefits would not appear until January 1994 when final rules fully implementing the codification of the Ship Mortgage Act became effective.

**1992:** The office at Honolulu, Hawaii, which had been reduced in size to a one-person operation, was closed, and the billet and all records for that port were transferred to the documentation office at Seattle, Wash. Despite the distance, customers in Hawaii, Guam, and the rest of the Pacific saw an immediate improvement in service.

**1994:** New vessel documentation rules went into effect on January 1, significantly reducing paperwork for customers and Coast Guard employees. The number of forms necessary to obtain an initial document was reduced to two for most transactions. Documents were issued upon application, proof of citizenship, title to the vessel, and qualification of the vessel to engage in trade. Marking the official number was no longer required before issuance of the COD, although it continued to be a requirement before vessel operation. The Information Collection Budget—the cost of preparing and submitting paperwork for documentation—was slashed by more than \$7 million annually.

Despite these changes, however, many of the 14 remaining Vessel Documentation Offices continued to be plagued by backlogs of up to 18 months, while others were able to provide same-day service. Because the process continued to rely on paper applications, it was difficult to transfer work between offices to balance service evenly. Customer dissatisfaction was typical.

In March, personnel from the Merchant Vessel Documentation and Tonnage Survey Branch at Headquarters (Commandant G-MVI-5) reluctantly advised the Chief of the Office of Merchant Marine Safety and Environmental Protection (Commandant G-M) that full centralization of documentation functions was the only way to gain maximum production from the available staff. Upon gaining approval from G-M, G-MVI-5 personnel began looking for a suitable location for a centralized office. After reviewing extensive data on many sites, including information from the U.S. Chamber of Commerce, G-MVI-5 recommended placing the new office in or near Martinsburg, W.Va. That decision was based on reasonable proximity to Washington, DC, good highway access, cost of office space and housing, personal safety, commuting times, and other quality of life factors.

During the following months, consolidation was evaluated at the highest levels of Coast Guard man-

agement. In the fall, the Commandant decided to centralize vessel documentation functions at or near Martinsburg, W.Va. During the period of September through November 1994, G-MVI personnel held a series of public meetings in large cities in most Coast Guard Districts to tell an apprehensive customer base what to expect. Predictably, there was a great deal of anger and concern, both from personnel and customers. One particular concern expressed was the inability of those representing mortgagees to bring such instruments to a documentation office within minutes after execution. Coast Guard personnel responded by saying that they would make arrangements for filing by facsimile. Despite promulgation of a final rule for such filings, some members of the maritime bar remained concerned about its legal effect. To allay that concern, the Congress enacted legislation clearly permitting electronic filing, provided original instruments were delivered within 10 days. Because the concern was particularly acute in the New Orleans area, the Coast Guard agreed to maintain a satellite vessel documentation office in that city until the new center had proven itself workable.

Although Headquarters personnel had a vision for the program, they knew that the real process experts were the people in the field offices who processed applications and recorded instruments on a day-to-day basis. Accordingly, an advisory team of supervisors and journeymen from the field and Headquarters personnel spent several days meeting at the Operations Service. Working together, they produced a proposed organizational chart and outlined most business processes. The model they provided was the basis for describing and classifying new positions.

During the same period, telephone conferences were held with personnel who would be affected by the consolidation. The Headquarters Civilian Personnel unit began working with field offices to find alternative jobs and arrange early retirement for personnel who did not wish to transfer to the NVDC. The Chief of Staff agreed to delay the effective date of consolidation to permit all employees who chose to retire or resign instead of transferring to qualify for a \$25,000 buyout. As a result of those diligent efforts, although more than 100 employees declined to transfer to the NVDC, only one employee was the subject of a Reduction in Force. All others who declined the transfer either took retirement with a buyout or accepted another federal position with same pay.

The search for space for the NVDC began in earnest. Despite diligent searching by G-MVI-5 representatives and personnel from the General Services



Administration (GSA), by December it became clear that no existing vacant building was suitable.

**January 1995:** GSA and G-MVI-5 personnel began planning for a new building. In addition to drawing proposed floor plans, meetings were held with prospective builders and landlords. Late in the month contracts were signed so that the process could proceed. However, at the end of April, the new facility remained bare ground. The building would not begin to take shape until months later.

**February 1995:** Notices started going out to affected personnel, asking them to indicate whether or not they would transfer with their function. Fewer than 40 indicated any interest in transferring. During this period, plans for the transfer of files and establishment of a new filing system were drawn up. Solicitations were sought for office furniture and a telephone system. Letters were sent to the existing offices directing them to send their computer equipment at the time of transfer. Office supply needs were calculated. Colors were chosen for carpets, cubicles, and chairs. But there was still no sign of construction at the new office site.

**March 1995:** Permanent Change of Station (PCS) orders were cut for personnel planning to move, allowing them to put their homes on the market and take house-hunting trips. The outline of the NVDC was laid out on the ground. Staffing models were refined. It was decided that the Headquarters staff would be dismantled, eliminating the Records and Publication Section, transferring the Tonnage Section to the National Maritime Center and sending all remaining personnel except for Chief of Documentation and Tonnage to the NVDC.

**April 1995:** Contractors finally began erecting walls for the NVDC. Utilizing an Indefinite Delivery Indefinite Quality contract already in place, arrangements were made for the delivery of paper files from the ports to a staging warehouse prior to delivery to the NVDC.

**May 1995:** Staffing models were finalized. The Chief of Documentation and Tonnage Survey was designated as the Director of the NVDC.

**June and July 1995:** Personnel began moving to the Martinsburg area and set up temporary quarters in a "triple wide" office trailer on the grounds of the Operations Systems Center in nearby Kearneysville, W.Va. As files were needed, newly transferred person-

nel traveled to the temporary warehouse, willingly moving heavy boxes of files to find what they needed to service our customers. The warehouse had poor lighting and no air conditioning, and the ambient temperature was often more than 95 degrees F.

**August 1995:** While painters worked around them, NVDC personnel began transitioning to their new office while drywall contractors and painters and telephone installers finished their work. Setting up the file room proved to be especially challenging. No universal filing model had existed among the former ports. Some had filed by vessel name, sometimes forgetting to re-label the folder when the name was changed, and others filed by the official number, which always remains constant. Some had used letter-size folders; others used legal-size folders. Some filing systems showed the information at the top of the folder; others along the side. As a result, it took several weeks to fully integrate all of the files. Telephone service was another initial challenge as the telephone company provided the wrong number to customers calling directory service.

Finally, on August 21, 1995, less than a year after the final decision to centralize, the National Vessel Documentation Center was formally dedicated by Vice Adm. Kent Williams as Acting Commandant of the Coast Guard and Rear Adm. James Card, Chief of the Office of Marine Safety and Environmental Protection. Senator Robert C. Byrd delivered the keynote address. Onboard was an initial complement of 39, including two employees in the New Orleans satellite office.

Since its inception, the NVDC has continued its innovative ways. As vacancies have occurred, staffing models have been changed to better meet our needs in serving our customers. We continue to leverage technology. At the present time the NVDC is engaged in transitioning to a process involving electronic scanning of all incoming work and preparing for a truly paperless system. Even at the present time, incoming paperwork is transferred to a Federal Records Center with only the electronic copy retained at the NVDC. For more than a year, the NVDC has not created a new paper vessel folder but simply maintains all new vessel files in an electronic format. The proof of the success of the NVDC lies in the fact that the predictors of failure prior to its establishment are now among the strongest supporters of the NVDC. The satellite office at New Orleans was closed after several years of operation because our customers told us that it was no longer needed. Despite the miles, service from the NVDC has proven to be better than what could be obtained locally.

# Partners in Mariner Service

*The interagency relationship between  
the National Maritime Center  
and MARAD.*



by Mr. CHRISTOPHER E. KRUSA  
*Maritime Training Specialist  
U.S. Department of Transportation Maritime Administration*

The scope of people involved in the U.S. Department of Transportation Maritime Administration's (MARAD) maritime education and training program responsibility includes high school graduate entrants to the U.S. Merchant Marine Academy (USMMA), the six state maritime academies, and applicants to industry-operated schools. Program responsibility extends to ships' crew personnel who may be active mariners or inactive mariners who wish to maintain their sailing credentials.

Since September 11, 2001, an additional responsibility has been added: maritime security training under Section 109 of the Maritime Transportation Security Act of 2002 (MTSA). As a consequence, the scope of maritime personnel has been expanded to include all personnel employed as maritime security professionals throughout the maritime industry, on U.S.-flag ships, and in the nation's seaports.

The relationship that MARAD has with the National Maritime Center (NMC) is critical to achieving success in training personnel for these maritime transportation operations that now include national anti-terrorism security duties and responsibilities. This interagency activity began under a MARAD/USCG Policy Statement dated September 6, 1974, when the importance of coordinating and improving maritime training with



**The relationship that MARAD has with the National Maritime Center is critical to achieving success in training personnel for maritime transportation operations. Courtesy MARAD.**

marine safety was recognized as a way to better prevent marine fire and collision disasters.

## **Training Support and STCW**

The federal support for the USMMA and the training ships at the six state maritime academies requires unique oversight that MARAD and NMC ensure through cooperation and agreement. Quality assurance for this maritime training is dependant



**As the U.S.-flag fleet has declined in number, the available pool of mariners has also declined. Courtesy MARAD.**

on the effectiveness that MARAD and NMC can bring to the table in a cooperative fashion. The following are significant examples.

Implementation of the International Maritime Organization (IMO) Standards of Training, Certification, and Watchkeeping of 1995, as amended, (STCW), is a major ongoing project for NMC and MARAD. In the fall of 1998, MARAD agreed to partner with the Coast Guard in the formation of a Quality Standard System, or QSS, to provide standardized quality assurance for the core deck and engine programs at the seven maritime academies. This resulted in the formation of the Joint MARAD/USCG Maritime Academy Review Committee, chaired by MARAD. The committee's charter provides a quality assurance system that includes internal and external program audits leading to final approval from NMC to establish compliance with STCW standards for licensed deck and engine officer graduates. The seven maritime academies have all come into compliance and will be subject to external audits by the review committee five years from their respective program approval dates. During the initial five years, the academies have agreed to establish internal STCW committees and conduct internal audits. Findings are then reported to the joint review committee.

To improve working relationships between the designated academy points of contact and the respective Regional Examination Centers (REC) in Boston, New York, Houston, Oakland, and Toledo, NMC, with MARAD support, developed a draft Standard Operating Procedure (SOP). This SOP is designed to

clarify and standardize the new documentation required by STCW, such as training record books to ensure improved administration of deck and engineer officer license examinations for maritime academy students. The maritime academies' senior deck and engineering personnel were active participants in developing this SOP.

### **Section 109**

Section 109 of the Maritime Transportation Security Act of 2002 (MTSA) (P.L. 107-295) charged the Secretary of Transportation with developing "standards and curriculum to allow for the training and certification of maritime security professionals." MARAD and USMMA developed the required standards and curriculum through a collaborative process, including interagency cooperation with the Coast Guard and the Transportation Security Administration. MARAD and USCG developed policy for carrying out the MTSA Section 109 mandate, monitored the development of model courses designed for maritime security professionals, and provided guidance for developing a voluntary course certification system pursuant to MTSA 109. NMC expertise and leadership is critical for success in this ongoing work.

During development of the maritime security training model courses, MARAD and the Coast Guard received many comments from training providers seeking a means through which to have their courses "approved," or otherwise designated as courses that incorporate the standards and curriculum developed under the MTSA. Similar requests were received from port facility and vessel operators wishing to enroll their security personnel in courses employing the model courses that were developed by USMMA in coordination with NMC.

In response to these comments and to assist parties charged with implementing the education and training provisions of the MTSA, MARAD and NMC have developed an optional program for maritime security training course certification. This voluntary system is designed to align with any potential future regulatory requirements. Information and guidance for training providers who may wish to consider course assessment and approval on a voluntary basis is available at [www.marad.dot.gov](http://www.marad.dot.gov) under "Maritime Security Training Course Approvals."

### **Mariner Recruitment and SOCP**

Historically, our nation's strategic sealift crewing needs were supplied by a large U.S.-flag fleet. As the



U.S.-flag fleet has declined in number, the available pool of mariners has also declined. Exacerbating the exodus from the pool of qualified mariners is the additional training and administration required by the STCW code.

In response to these concerns, a government/industry conference was convened, spearheaded by the Commanding Officer of the National Maritime Center. It was called "Maritime Careers: Implementing the Action Plans for Recruiting and Retaining American Mariners" and was held at USMMA in May 2001. Several tasks were assigned to working groups that led to fruitful discussions regarding potential mariner shortages.

As a direct result of the conference, MARAD's Ship Operations Cooperative Program (SOCP) team organized a special Mariner Recruitment and Retention working group to develop strategies for raising public awareness about careers and employment opportunities in the maritime industry. Marketing in the form of public service announcements, DVD presentations, brochures, career fairs, and classroom presentations have taken place. MARAD and the SOCP Mariner Recruitment and Retention working group also support high school maritime technology apprentice programs by supplying surplus equipment where possible, providing entrée to potential resources.

### Two Program Opportunities that Lie Ahead Seafarer's Identity Document

Since 9/11, MARAD and the Coast Guard have been working aggressively to improve seamen's identity documents, an issue that encompasses NMC's responsibility for administering Merchant Mariner

Documents in the United States. MARAD's SOCP team is coordinating a smart card demonstration project called Mariner Administrative Card (MAC) with federal agencies that are evaluating the implementation of similar technologies to improve business operations and security. NMC is a critical participant to the success of this activity. Standards that have been developed promoting interoperability for the smart card, biometrics, data transfer, and systems communications will be used in the MAC project. The ultimate goal of the MAC system demonstration is to reveal to mariners, ship operating companies, and possible program sponsors the potential capabilities that this type of system could provide to the entire maritime industry.

The MAC system is designed to provide interoperability with other emerging applications such as the Transportation Workers Identification Card



**MARAD and NMC are striving to ensure availability of the best possible training quality and to achieve a reliable supply of highly skilled mariners, spanning the spectrum of job specialties. Courtesy MARAD.**

(TWIC). The MAC development team continuously monitors developing standards and is mindful of the new International Labor Organization Seafarer Identity Document Convention (ILO 185) requirements that were adopted in 2004 and that are now in force internationally. The MAC demonstration will be considered a success if a sponsor accepts ownership of the MAC demonstration system and chooses to take on continued develop-

ment and implementation.

### **Crews and Training for LNG Shipping**

There is general agreement among industry and government sources that seaborne Liquefied Natural Gas (LNG) shipments will increase dramatically over the next several years. According to *Trade Winds* (London), the world's active LNG tanker fleet grew to 175 vessels by January 2005. More than 100 tankers were on order, of which 67 were ordered in 2004 alone, and the world fleet is projected to grow to approximately 380 ships by 2010. Although the United States has been broadly self-sufficient in natural gas for more than half a century, except for imports from Canada, within the next five years imports are expected to expand rapidly. Within 10 years, the United States is projected to become a leading gas importer worldwide. Ten LNG Deepwater Port applications have been filed with MARAD, and seven proposed applications are under consideration. MARAD has approved three applications: Port Pelican, LLC.; Gulf Gateway Energy Bridge, LLC; and Gulf Landing, LLC.

MARAD believes that the expected increase in LNG shipments and the safety and security issues concerning liquefied petroleum create a need to ensure that crews aboard LNG tankers be trained to the highest standards. MARAD and NMC are collaborating to meet this need. Effective March 1, 2005, NMC approved the U.S. Merchant Marine Academy Liquefied Gas Tanker PIC (Person-In-Charge) course. MARAD and NMC expect to work with state maritime academies that may be interested in developing similar curricula. In addition, MARAD and NMC are aware that many U.S. maritime industry schools are also updating their LNG training programs in view of new LNG operational technology.

### **Conclusion**

MARAD and NMC are striving to ensure availability of the best possible training quality and to achieve a reliable supply of highly skilled mariners, spanning the spectrum of job specialties. This professional relationship of two government agencies with different mandates has survived the departure of the Coast Guard from the Department of Transportation to the Department of Homeland Security. The ability to provide a coordinated approach without conflicting either agency's distinct mandate has been strengthened as a consequence of 9/11. Improved maritime security and efficient U.S. maritime transportation are the results.

## **MARITIME ASSOCIATIONS AND LABOR UNIONS**

### **ASSOCIATIONS**

Whether called a council, a committee, an organization, an institute, or a service, an association exists to 'associate' individuals within a particular trade or business to facilitate a sharing of information and resources within that chosen field. Association membership gives members up-to-date news and information that is focused on a particular field.

### **UNIONS**

The primary purpose of a union is to represent workers and to negotiate contracts that improve wages, benefits, and working conditions for its members.

There are many associations and labor unions that serve the maritime community. For an up-to-date listing, please see <http://marad.dot.gov/Publications/emmgtlab.htm>

## **MARITIME ACADEMIES/TRAINING SCHOOLS**

MARAD's "A Career Afloat" ([www.marad.dot.gov/acareerafloat](http://www.marad.dot.gov/acareerafloat)) Web page was launched in 2003 and serves as a centralized clearing house for a wealth of information about maritime academies, technical training schools, and employment within the maritime industry.

# Standards of Training, Certification, and Watchkeeping

*Yesterday, today, and tomorrow.*



by Ms. MAYTE MEDINA

*Transportation Specialist, U.S. Coast Guard Office of Operating and Environmental Standards,  
Maritime Personnel Qualifications Division*

The Subcommittee on Standards of Training and Watchkeeping (STW) is the body of the International Maritime Organization (IMO) chartered to deal with issues related to maritime training and qualifications, including the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW), 1978, as amended in 1995. The STW is one of nine subcommittees that carry out the technical work on behalf of the Maritime Safety Committee (MSC).

As an IMO member, the United States participates in annual STW meetings, which are traditionally held in January. The U.S. Coast Guard Office of Operating and Environmental Standards serves as the head of the delegation, upon Department of State approval. The delegation is traditionally comprised of U.S. Coast Guard (USCG) experts from the National Maritime Center (NMC), the Maritime Personnel Qualifications Division, the Quality Standards and Assessment Division, other government agency experts, and U.S. maritime training and qualifications industry experts. Although there are restrictions on the number of members on a delegation, the U.S. has a longstanding tradition of bringing at least one expert for every issue.

Industry experts play a key supporting role to the USCG delegates and are selected based upon their experience, background, and expertise in the areas under discussion. They must also represent a broad-base constituency such as unions or consortiums.

In the past three years, the USCG Merchant Personnel Advisory Committee (MERPAC) has played a key role in the preparation for the STW

meetings. On numerous occasions MERPAC's recommendations to the Coast Guard have addressed issues under discussion at STW subcommittee meetings. Examples of such recommendations include the duties and responsibilities for the Ship Security Officer and Company Security Officer, which were included in the International Ship and Port Facility Security (ISPS) Code, and the training and certification requirements for Ship Security Officers that will be included in the STCW Convention.

The United States continues to participate in the STW meetings by engaging in discussions of issues that have been brought up by other parties and by forwarding issues for discussion requiring broad international acceptance.

## **The United States and STCW**

The United States is a party to STCW, which sets qualification standards for masters, officers, and watch personnel on seagoing merchant ships. STCW was adopted in 1978 by IMO and entered into force in 1984. The convention was significantly amended in 1995, and these amendments entered into force on February 1, 1997. USCG subsequently took steps necessary to implement the revised requirements to ensure that U.S. licenses and documents would be issued in compliance with the 1995 amendments.

USCG published an Interim Rule on June 26, 1997, incorporating the changes considered necessary to implement the revised requirements. These changes ensured that U.S. documents and licenses were issued in compliance with the 1995 amendments to the convention. Subsequently, in June 1998, in accor-

dance with Article IV, regulation I/7 and section A-I/7 of the STCW code, the United States communicated to IMO the steps taken to comply with the STCW Convention. MSC confirmed that the information provided by the United States demonstrated that full and complete effect was given to the convention.

In February 2003, in accordance with Regulation I/8 (Quality Standards) of the STCW Convention and Section A-I/8 of the STCW Code, the U.S. communicated to IMO the results of an independent evaluation of the U.S. licensing program. The independent evaluation is required to be carried out at five-year intervals. The evaluation's goal is to verify that the administrative and operational procedures at all levels of the Quality Standard System are being managed, organized, undertaken, and monitored to ensure that the United States is carrying out its responsibilities under the provisions of the STCW Convention. MSC confirmed that the information provided demonstrated that the U.S. continues to give the convention full and complete effect.

The next U.S. independent evaluation pursuant to Regulation I/8 of the STCW Convention and Section A-I/8 of the STCW Code is scheduled for 2007.

### Security

Security is the major issue that has had an impact on a number of conventions, including the STCW Convention. The 36th session of the STW Subcommittee just finalized mandatory training and certification requirements for Ship Security Officers for inclusion into the STCW Convention. Once adopted, these amendments should come into force

in 2009. At the 36th session STW also approved a guidance document on training and certification for Company Security Officers. This is not the end of the road, since the STW Subcommittee will review and amend, as appropriate, the STCW Convention, so as to include other security-related provisions.

### STCW and Other Instruments

The 1995 amendments set a number of precedents that are now being followed within IMO and by other United Nations specialized agencies. In 2003, IMO at its 23rd assembly, adopted resolution A.946(23), Voluntary IMO Member State Audit Scheme, to assess how effectively member states implement and enforce relevant IMO Convention standards and to provide them with feedback and advice on their current performance. This model scheme gets its roots from two of the most significant amendments agreed on in 1995:

- 1) establishment of a quality standard system, as oversight for training, assessment, and certification of procedures; and
- 2) communication of information to IMO, to allow for mutual oversight and consistency in application of standards.

In 2002, IMO at a diplomatic conference adopted the International Code for Security of Ships and Port Facilities that follows the same structure as the STCW Convention: a set of regulations and a code containing a mandatory and a recommendatory section. In 2003 ILO decided to also apply the STCW structure to its convention that consolidates a large number of labor maritime conventions currently under development.

## STCW: 10 Years after the 1995 Amendments

The 1995 amendments to the STCW Convention are regarded, and rightly so, as major accomplishments to establish a global minimum standard of competency for seafarers. Ten years have passed since the 1995 amendments were adopted, and countries have made every effort to bring their standards into line with the STCW Convention. This is supported by the number of countries, confirmed by MSC, to have communicated information demonstrating they are giving full and complete effect to the relevant provisions of the convention. As of December 2004, 116 of the 135 parties have been confirmed by the Maritime Safety Committee.

Just as with other conventions, STCW is not perfect; there are still inconsistencies embedded in the convention and the current text allows flexibility on the interpretation of the requirements. No major revisions have been made to the STCW Convention, particularly to the mandatory parts (e.g. convention and Part A of the STCW Code), in an attempt to allow the amendments to enter into force and learn from the experiences gained during implementation. A number of amendments were made to Part B of the STCW Code, as well as a number of

guidance circulars issued, to clarify some of the interpretation and inconsistency issues. In the intervening years since implementation, countries have gathered lessons learned from implementation and have just started to identify these consistency issues for discussion at IMO. This is the case in the interpretation of the requirements for continued proficiency and lifeboat training.

There are a number of subjects that were not included in the 1995 amendments that are now resurfacing and gathering momentum and support for incorporation into the convention by IMO-member governments. Manning provisions are one of the subjects excluded from the amendments but will be revisited in the near future, due to the increase in seafarer duties and responsibilities, fatigue, and other factors. Unlicensed personnel was another issue that was discussed during the development of the draft amendments but was abandoned, since it belonged with the International Labor Organization (ILO). ILO has formally transferred responsibility for development of training requirements for unlicensed ratings, except for ship's cooks, to IMO for potential incorporation into the STCW Convention.

# Merchant Marine Personnel Advisory Committee



## *The relationship between MERPAC and NMC is a busy one.*

by Mr. ANDREW MCGOVERN  
*Chairman, Merchant Marine Personnel Advisory Committee*

The purpose of the Merchant Marine Personnel Advisory Committee (MERPAC) is to serve as a deliberative body to advise the U.S. Secretary of Homeland Security, via the Commandant, U.S. Coast Guard, on matters relating to the training, qualification, licensing, certification, and fitness of seamen serving in the U.S. Merchant Marine. To this end, MERPAC acts solely in an advisory capacity. We will advise, consult with, and make recommendations reflecting our independent judgment to the Secretary, via the Commandant, on matters concerning personnel in the U.S. Merchant Marine, including, but not limited to, the above-mentioned issues.

MERPAC may conduct studies, inquiries, workshops, and seminars in consultation with individuals and groups in the private sector and/or state and local government jurisdictions to acquire the information needed to provide the best possible advice to the Secretary on matters under our purview.

### **MERPAC Membership**

The membership of MERPAC consists of 19 members who are appointed by the Secretary of Homeland Security. To assure a balanced representation, members are chosen, insofar as practicable, from the following groups:

- Nine active U.S. merchant mariners, including three deck officers, two of whom shall be licensed for oceans any gross tons, one of whom shall be licensed for inland or river

route with a limited or unlimited tonnage; three engineering officers, two of whom shall be licensed as chief engineer any horsepower, one of whom shall be licensed as either a limited chief engineer or a designated duty engineer; two unlicensed seamen, including one Able Bodied Seaman, and one Qualified Member of the Engine Department and one Pilot.

- Six marine educators, including three from maritime academies, two of whom should be associated with state maritime academies; and three from other maritime training institutions, one of whom should be associated with the small vessel industry.
- Two individuals from shipping companies employed in ship operation management.
- Two from the general public.

In addition the U.S. Secretary of the Army, the U.S. Secretary of the Navy, and the U.S. Maritime Administrator are authorized and encouraged to each designate a representative to participate as an observer on MERPAC. At this time only the Secretary of the Navy has done so.

To produce the large amount of work product and to achieve its goal of broad representation, MERPAC subcommittees and workgroups chaired by committee members are populated with representatives from the public.

MERPAC has been working with its sponsor, Marine Personnel Qualifications Division (G-MSO-1), and the National Maritime Center (NMC) since its inception in 1993.

For many years MERPAC concentrated on the implementation of the Standards of Training, Certification, and Watchkeeping (STCW) 1995 Convention. The recommendations requested of or offered by the committee ran the entire gamut, including the production of 19 assessment guideline packages, the issue of solo watchkeeping at night, IMO model courses, mariner physical and medical standards, license/certificate synchronization, hawse piper programs, and even the recommendation to add a module to the Basic Safety Training course regarding the protection of endangered species.

### September 11, 2001

The committee was just winding down from this immense task and starting to devote more time to matters relating to coastwise and inland mariners when everyone's life changed. September 11, 2001, was a wake-up call for both government and industry regarding the lax security standards and practices prevalent in the United States. The events of 9/11 did not change our relationship with NMC; however, it obviously changed the nature of the advice the committee has been offering and has been requested to supply.

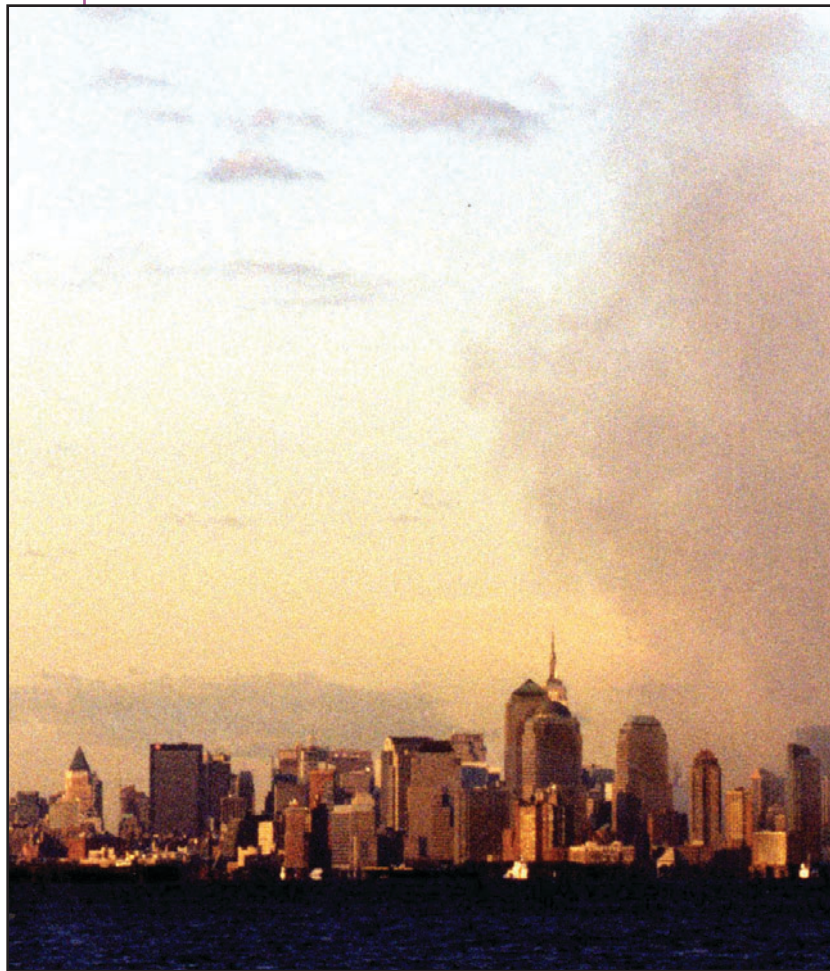
Since MERPAC's fall 2001 meeting was already scheduled for September 23 at U.S. Coast Guard Headquarters, the committee was able to meet and immediately make recommendations relative to security. Some of these recommendations were:

- more stringent background checks (via both national and international databases);
- one-time synchronization of renewal dates for each mariner's Merchant Mariner Documents and licenses, to facilitate these measures for the Coast Guard and the mariner;
- mail-in renewals be replaced by "drop off" renewals at an appropriate federal facility that would be able to verify the identification of the mariner (such as a passport center at a post office);
- institution of a security awareness campaign and the use of the National Response Center 800 number to report security concerns or incidents (because it is already posted on every

vessel's bridge);

- redesign of documents to reduce forgery, the use of smart card technology to ascertain a more positive ID and the termination of temporary MMDs;
- additional personnel at the RECs to reduce the expected backlog;
- for investigative purposes, logbooks, crew manifests, and cargo manifests should be required and maintained on board all vessels;
- the USCG should submit to the IMO a requirement for minimum security background checks for all mariners and the internationally recognized documentation of such.

Since that first meeting after September 11, the committee and the Coast Guard have been tackling many security-related issues in addition to its original commitments to the safety and fitness of mariners. Members of MERPAC were also involved in crafting sections of the International Ship and Port Security (ISPS) Code relating to mariner's rights.



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## A Look to the Future

An issue that NMC initiated many years ago, utilizing military sea service and training for STCW certifications, has been brought to the forefront by MERPAC. NMC and MERPAC feel that much of the military's training and assessment programs will qualify for STCW certification, with possibly only minor changes to the documentation of the program. The reasons for pursuing the issue are: first, to allow a member of the military to have the option of a career in the maritime industry without having to start at the bottom; and second, the real shortage of qualified mariners. This is a long-term and important project for MERPAC and NMC. The U.S. Navy and the U.S. Army have been participating for some time, and we hope to have the U.S. Coast Guard on board shortly.

Recruitment and retention of mariners is an ongoing problem for many reasons, and MERPAC, along with the Coast Guard, has been involved in trying to address them. Unfortunately, some of these are beyond our control, but we are working to alleviate

the issues we can.

NMC has involved MERPAC in each of the many attempts to reorganize and streamline the licensing and documentation program, including NMC's present restructuring and centralization effort.

MERPAC has been involved in setting the duties, responsibilities, and training requirements for Ship Security Officers, persons with specific security duties and security awareness for all crewmembers under the ISPS code. The committee has been involved in this process from the authoring of the ISPS code right through to the amending of the STCW Code Chapter 6.

At the request of NMC, MERPAC recently reviewed the potential revision of Navigation Vessel Inspection Circular (NVIC) 2-98, dealing with the physical and medical requirements of active mariners. The latest incident involving the Staten Island Ferry is obviously going to require a whole new look at not only the NVIC but the entire program.

MERPAC is presently involved in developing the United States' position at IMO with regards to the transfer of the oversight of Able Bodied Seaman and Qualified Members of the Engine Department from the International Labor Organization to the International Maritime Organization.

MERPAC has addressed the Officer in Charge of a Navigation Watch as related to the U.S. implementation of STCW and is now pushing forward with issues relating to the Officer in Charge of an Engineering Watch.

Another hot issue MERPAC has undertaken on behalf of the Coast Guard is the development of training requirements for personnel serving on tankers, including oil, chemical, and liquefied gas, for possible inclusion in the STCW code.

The relationship between MERPAC and NMC is a busy one. The communication between the staff and members of MERPAC is almost constant. Without the assistance of staff from NMC and G-MSO-1, the committee would not have the great reputation it does for turning out large volumes of high quality work product.



er 23 at U.S. Coast Guard Headquarters, the committee was able to meet



# National Maritime Center and Military Sealift Command

*Partnering to win against terrorism.*

by Mr. FRANK RANDALL  
*U.S. Navy Military Sealift Command, Public Affairs Office*

During World War II, four different government agencies competed for commercial merchant marine ships and crews to aid the war effort. This chaotic situation plagued both Fleet Admiral Chester Nimitz and General of the Army Dwight Eisenhower.

In December 1948, Secretary of Defense James Forrestal decided that all military ocean transportation would be consolidated under U.S. Navy command. By July 1949, funding issues had been worked out, and newly appointed Secretary of Defense Louis Johnson issued a memorandum officially forming the Military Sea Transportation Service (MSTS) under Rear Adm. William M. Callaghan.

Within a year, MSTS began to prove its worth during the Korean conflict and has served the nation well ever since. In 1970, the service was renamed Military Sealift Command (MSC).

### Military Sealift Command Today

MSC operates an average of 120 ships every day around the globe in support of U.S. strategies and policies.

Thirty-seven Naval Fleet Auxiliary Force ships provide combat logistics support to carrier and amphibious strike groups, replenishing food, fuel, parts, and equipment at sea to keep Navy combat forces on station and ready to face any aggressor.

Twenty-three Special Mission ships chart ocean bottoms, conduct undersea surveillance, lay and repair undersea cables, monitor strategic missile launches, and support

deep submergence vessels and special operations experimentation.

Thirty-six prepositioning ships strategically place combat vehicles, equipment, and fuel in locations around the world, ready to deploy U.S. Army, Marine Corps, Air Force, and Navy cargo to any location for any contingency.

A combination of approximately 25 commercial and government-owned, commercially operated ships provide sea transportation for U.S. Department of Defense cargo, carrying combat gear to U.S. field commanders worldwide.

### Global War on Terrorism

The world is much changed since the terrorist acts of September 11, 2001, and the United States is now involved in a truly global war on terrorism. Although major efforts are being focused on

3. NAME(S) AND ADDRESS(ES) OF SELLER(S)		RECORDED: BOOK _____ PAGE _____ PORT (IF NOT FLAG PORT)
3A. TOTAL INTEREST OWNED (IF LESS THAN 100%) _____ %		DOCUMENTATION OFFICER _____
4. NAME(S) AND ADDRESS(ES) OF BUYER(S) AND INTEREST TRANSFERRED TO EACH:		
4A. TOTAL INTEREST TRANSFERRED (100% UNLESS OTHERWISE SPECIFIED) _____ %		
4B. MANNER OF OWNERSHIP. UNLESS OTHERWISE STATED HEREIN, THIS BILL OF SALE CREATES A TENANCY IN COMMON, WITH EACH TENANT OWNING AN EQUAL UNDIVIDED INTEREST. CHECK ONLY ONE OF THE FOLLOWING BLOCKS TO SHOW ANOTHER FORM OF OWNERSHIP: <input type="checkbox"/> JOINT TENANCY WITH RIGHT OF SURVIVORSHIP <input type="checkbox"/> TENANCY BY THE ENTIRETIES <input type="checkbox"/> COMMUNITY PROPERTY <input type="checkbox"/> OTHER (DESCRIBE) _____		
5. CONSIDERATION RECEIVED _____		
(ONE DOLLAR AND OTHER VALUABLE CONSIDERATION UNLESS OTHERWISE STATED)		
6. (I/WE) DO HEREBY SELL TO THE BUYER(S) NAMED ABOVE, THE RIGHT, TITLE AND INTEREST IDENTIFIED IN BLOCK 4 OF THIS BILL OF SALE, IN THE PROPORTION SPECIFIED HEREIN.		
VESSEL IS SOLD FREE AND CLEAR OF ALL LIENS, MORTGAGES, AND OTHER ENCUMBRANCES OF ANY KIND AND NATURE, EXCEPT AS STATED ON THE REVERSE HEREOF. VESSEL IS SOLD TOGETHER WITH AN EQUAL INTEREST IN THE MASTS, BOWSPRIT, SAILS, BOATS, ANCHORS, CABLES, TACKLE, FURNITURE, AND ALL OTHER NECESSARIES THERETO APPERTAINING AND BELONGING, EXCEPT AS STATED ON THE REVERSE HEREOF.		
7. SIGNATURES OF SELLER(S) OR PERSON(S) SIGNING ON BEHALF OF SELLER(S)		8. DATE SIGNED _____
9. NAME(S) OF PERSON(S) SIGNING ABOVE, AND LEGAL CAPACITY IN WHICH SIGNED (E.G., OWNER, AGENT, TRUSTEE, EXECUTOR)		

**Military Sealift Command fast combat support ship USNS Supply (T-AOE 6) conducts a refueling and vertical replenishment at sea with guided missile cruiser USS Mahan in the Atlantic Ocean. Courtesy Photographer's Mate Konstandinos Goumenidis, USN.**



Afghanistan and Iraq, the potential exists for any nation, any shore, anywhere to become a battle-front.

Military Sealift Command's immediate response to 9/11 was to activate *U.S. Naval Ship (USNS) Comfort*, one of the Navy's two hospital ships, to provide much-needed, on-site relief for rescue and emergency workers at Ground Zero in New York City. In mid-2002, MSC continued to support the global war on terrorism, delivering Air Force munitions to *Diego Garcia* in the Indian Ocean, and a fleet hospital to the U.S. Naval Base at Guantanamo Bay, Cuba, when Taliban and al Qaeda detainees were moved there for safekeeping.

Even before the war began, Military Sealift Command had been moving military cargo to the Middle East for exercises. Much of that equipment stayed in the field for use in potential future hostilities. Then, as the war in Iraq broke out, MSC built a virtual "bridge of democracy" from the East Coast of the United States to the Middle East, carrying huge amounts of combat vehicles, helicopters, supplies, and ammunition to ports in Kuwait. On the heaviest day of shipping in March 2003, 167 of Military Sealift Command's 214 active ships were engaged in support of Operation



**Able Seamen Adolf Radoc throws a mooring line overboard as Cargo Mate Lee Apsley observes while docking in Pearl Harbor aboard Military Sealift Command fleet replenishment oiler *USNS John Ericsson (T-AO 194)*. Courtesy U.S. Navy.**

Iraqi Freedom. This included hospital ship *USNS Comfort*, which had deployed to the Persian Gulf to provide medical care for wounded U.S. soldiers, Iraqi civilians, and prisoners of war.

#### **Continuing War Efforts**

By the end of March 2005, Military Sealift Command had helped with three major troop rotations into and out of Iraq and constant resupply of forces in Afghanistan. This involved carrying more than 74 million square feet of military cargo between ports around the world. To put this number in perspective, 74 million square feet is equivalent to more than 777,000 mid-size sport utility vehicles. Lined up on the highways of America, bumper-to-bumper, those SUVs would stretch from Washington, D.C., to Phoenix, Ariz.

But MSC does not just carry dry cargo. Tanks, trucks, helicopters, and humvees need fuel for U.S. forces to carry the war to the terrorists. Since the beginning of the global war on terrorism, Military Sealift Command has delivered more than 6.8 billion gallons of fuel. That fuel would fill the Empire State Building, from the ground to the base of the radio mast, 25 times.

#### **Impact and Partnership**

Service to the nation in time of war means sacrifice on the part of Military Sealift Command's mariners. They serve long



**Military Sealift Command roll-on/roll-off cargo ships sit tied up to the pier in the port of Ash Shuaybah, Kuwait, during cargo off-load for Operation Iraqi Freedom. Courtesy Journalist 3rd Class Eric L. Beauregard, USN.**

tours through combat zones and into other unfriendly waters. This began to cause problems with document renewal and other licensing and standards issues.

In 2004, Military Sealift Command and the U.S. Coast Guard signed a memorandum of agreement stating that MSC government-owned ships crewed by U.S. Civil Service mariners would comply with Coast Guard licensing and merchant mariner certification standards to the maximum extent possible. To properly crew ships under this agreement, MSC and the



**USNS Mary Sears (T-AGS 65) is one of seven Military Sealift Command oceanographic survey ships. Mary Sears collects hydrographic data to map ocean currents and conditions that allow us to better understand the world's oceans. Courtesy U.S. Navy.**

National Maritime Center (NMC) began a natural partnership, with NMC helping to interpret Coast Guard regulations and working issues concerning MSC-developed training courses. NMC also assists with implementation of the 1995 Standards of Training, Certification, and Watchkeeping.

The center was instrumental in developing and gaining acceptance of Military Sealift Command STCW-95 Ratings Forming Part Programs for both Navigation Watch and Engine Watch. In doing so, the center's Commanding Officer and staff were cognizant and appreciative of MSC's unique military operations role.

During Operation Iraqi Freedom, NMC worked very closely with MSC on a program to grant emergency extensions on merchant mariner documents to those Military Sealift Command civil service mariners who were onboard ships, forward deployed, and unable to apply for renewal in person. Renewal by mail was eliminated by regulation changes after the terrorist attacks of 9/11.

The National Maritime Center is also working closely with MSC on a new Sea Service Letter Program to assist civil service mariners with timely and automated delivery of sea service documentation.

Sometimes, agreement between the Coast Guard regulators and Military Sealift Command is hard to reach. That is when the National Maritime Center steps in as a policy arbitrator. NMC issued policy statements to the Coast Guard Regional Examination Centers, giving MSC mariners priority handling for licensing and merchant mariner document transactions, again, due to the critical role MSC mariners play in military operations during the ongoing global war on terrorism.

One other critical area of cooperation between NMC and MSC is in the rule-making arena. The center has agreed to include Military Sealift Command in all rule-making initiatives that affect merchant marine personnel through the Merchant Personnel Advisory Committee and associated working groups. In these forums, MSC's voice is being heard, and MSC needs and opinions are being taken seriously in the development of new regulations and policies. As the largest employer of merchant mariners in the United States, this works well for MSC, as it does for the Coast Guard.

#### **Positive Cooperation**

The positive approach the Coast Guard and Military Sealift Command have taken to improving the processes that affect America's commercial mariners has given the U.S. maritime industry and the government many advantages not seen prior to the war on terrorism.

Mariners are seeing a faster, more accurate documentation process. That means that Military Sealift Command and the maritime industry are getting better, more qualified mariners. The Coast Guard has a better security process in place that obtains advantages from cooperative partners throughout the federal government and especially in the Navy and Military Sealift Command. That means more effective force protection in ports around the nation and around the world.

The bottom line is better service to the customer. In Military Sealift Command's case, those customers are the U.S. forces who are fighting terrorism around the world, bringing freedom and democracy to peoples and places darkened by oppression, persecution, and tyranny. As partners in this noble endeavor, the U.S. Coast Guard's National Maritime Center and the U.S. Navy's Military Sealift Command are a winning combination.

# Mariner's Perspective

## *The Diary of a REC Chief.*



by LT. MICHAEL LENDVAY  
Chief, U.S. Coast Guard REC Honolulu

with contributions by LT. CMDR. TODD OFFUTT  
Chief of Force Readiness, and former Senior Investigating Officer,  
U.S. Coast Guard Sector Honolulu

My time as Chief of the Regional Exam Center (REC) in Honolulu, Hawaii, since July 2004 has allowed me to meet many merchant mariners on the front end of what is often regarded as the most influential event in shaping their relationship with the Coast Guard: acquisition of Merchant Mariner Documents. Previously, I served as a Marine Investigator, which often meant seeing these folks due to a marine accident, injury, or positive drug test. As REC Chief, I am now in a position to help shape this relationship amid the most sweeping security measures in recent history, a flurry of economic growth in the state, and substantive licensing changes.

### **Background**

REC Honolulu is located in the heart of downtown Honolulu, conveniently situated about a half-mile from the Seaman's Hotel and three miles from the Seaman's International Union hall. It is also on the City Bus Route across the street from the Federal Building. The Port of Honolulu has seen significant change over the past several years with the startup of the only U.S.-flagged cruise ship and a port that, by all estimates, is nearing capacity.

REC Honolulu has historically catered to vessel captains and crewmembers serving on large dinner excursion and sightseeing vessels, tug operators, and freight vessels such as those used in the Military Sealift Command and container ships. After a short-lived large passenger operation by American Hawaii Cruises in the late 1990s, which required many entry-level documented workers, Norwegian Cruise Lines America brought back U.S.-flagged cruise ships to Honolulu. The first of

three ships, the *Pride of Aloha*, arrived July 2004. With this addition, hundreds of new workers have been added, mostly to entry-level positions that require Coast Guard Merchant Mariner Documents. In 2004, this resulted in more than 3,400 credentials being issued for the year.

### **Economic Growth**

To put things in perspective, REC Honolulu has roughly doubled the number of credentials issued from the level in 2002. The arrival of the U.S. cruise ships, with a second NCL cruise ship expected in July 2005, has comprised a large part of the increase. Moreover, the REC has seen a modest rise in the number of newly issued small passenger vessel (Subchapter T) operators, as the growing Hawaiian economy has led to more dive boat and excursion vessels.

To offset the increase in our workload, the REC increased the staff considerably. The REC also incorporated customer service training and began ship ride-alongs and local ship visits to gain a better perspective on what REC customers are doing.

In addition, the Coast Guard Officer in Charge of Marine Inspection, Honolulu, sought feedback from mariners during a local Merchant Marine Personnel Advisory Committee (MERPAC) meeting. The results indicated that the Coast Guard's increased focus on security and background checks post-September 11, 2001, as well as newer Standards of Training, Certification, and Watchkeeping (STCW) requirements, have made an impact on mariner opinions of REC service. Though generally positive, the comments



from mariners also revealed frustration concerning several areas, including the time required to renew and maintain credentials, background checks, testing requirements, customer service, and consistency.

### **Background Checks**

The challenge for the Coast Guard is how to provide a sufficient degree of security to the traveling public while accommodating the unique demands of the maritime workforce.

Following the national terrorist attacks of 9/11, more time and effort were spent completing background checks. While this delay was inevitable in the short term, now those applicants who experience such delays are generally those who, indeed, have a true cause for concern. The reality is that over 90 percent of applicants are outstanding citizens with little to worry about. In fact, REC Honolulu's denial rate was around 1.57 percent of all applications, which is roughly consistent with the national average of 2 percent. The vast majority of the denials involved failure to disclose criminal convictions and drug use. On that point, the REC has had some success in educating mariners by attending "Captain's courses" and explaining to applicants what we look for and common pitfalls to avoid. Another measure that has helped to alleviate anxiety is the addition of a Livescan system for fingerprinting that allows the REC to complete a background check within hours, which ultimately saves time for the mariner.

When the REC recommends a denial, this action is taken very seriously. The recommendation is thoroughly reviewed before final action by the Officer in Charge of Marine Inspection. All this effort is needed to ensure that we are enforcing a fair and consistent policy for all mariners who walk through our door.

### **Technology = Consistency**

In terms of consistency between the Regional Exam Centers, technology continues to hold the greatest promise. All RECs and the National Maritime Center have access to the nationwide database known as the Merchant Mariner License and Document (MMLD) database. This allows the RECs to view ratings, application dates, and remarks for all mariners regardless of where they live or which Regional Exam Center issued their documents.

Another improvement is the implementation of the Livescan fingerprinting system mentioned earlier. In the past, processing fingerprint cards would take eight to 10 weeks. If no other problems were noted on

the application, a mariner would receive his or her document to assist in his or her effort to find employment. Often, after a credential was already issued, we would be notified of a conviction that would make a mariner ineligible and we would have to take action to void the document. With Livescan, results come within 24 to 48 hours, which allows RECs to address issues found in the background checks quickly, minimizing delays in the application process. An added bonus is that the Livescan software collects a digital image. Mariners like that they can walk away with clean hands—literally, no more ink!

### **Mariner Requirements**

Mariners train hard to perform their tasks. The STCW requirements have impacted our training standards, but, at the same time, the requirements have made it harder for mariners to advance to higher positions. And, it should be noted that the academies don't provide management-level training. Therefore, a mariner requiring more than the operational-level training provided at the academies would need further education and training.

### **Consistency Between RECs**

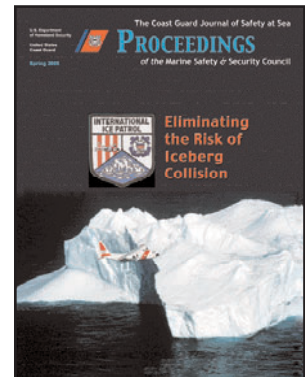
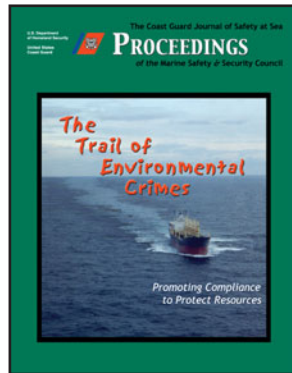
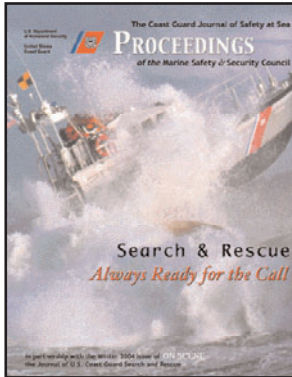
Technology is helping consistency, as in the example of faster turnarounds for background checks. Other matters, such as walk-ins for renewals not being accepted, are areas where the Regional Exam Centers may differ. Different appointment policies work better for different offices. REC Honolulu allows license renewal applicants to come in with an appointment or submit via mail. Most of the Regional Exam Centers require scheduled appointments, mainly for security reasons. As it were, REC Honolulu noticed that, once a move was made away from walk-ins to scheduled appointments, a reduction in the overall processing time for mariners occurred, since we were more familiar with their files and better prepared for their arrival. This time savings was passed directly back to the mariners, who received their credentials faster.

### **Customer Service**

We want mariners to leave with a good impression of Coast Guard customer service. This echoes the first statement in the licensing volume of the Coast Guard's Marine Safety Manual that states that, "often the REC is the mariner's only contact with the Coast Guard, and they form their impression of our service based solely on that contact." To that end, Regional Exam Centers will continue to strive to provide that positive first impression.



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We look forward to hearing from you soon, and we hope you have enjoyed this issue of **PROCEEDINGS!**

# A Feedback Mechanism

by Mr. BILL ABERNATHY  
*PTP Coordinator, U.S. Coast Guard Human Element and Ship Design Division*  
and Ms. KRISTE STROMBERG  
*Technical Writer, SAGE Systems, LLC*

While feedback can be bad when listening to music, causing that annoying whine over the speakers, it is vital when one is attempting to improve a system. Whenever we endeavor to improve our situation, we need to revisit any improvements we make and see if the changes are taking us in the direction we want to go. This applies whether you are building a racecar motor, trying to keep people from getting hurt on the job, or keeping a ship off the rocks.

At the most basic level, feedback is how we know that something is or is not working. Let us continue with the analogy of building a racecar motor. First, you establish a performance baseline. What can the engine do now? This is generally determined by putting the motor on a dynamometer to test various performance factors. Then you decide on a goal, say, increasing horsepower. You make a change to the motor; add headers; and a more balanced, free-flowing exhaust, for example. Then you test the motor's performance on the dynamometer again. Did your change work? Did it make enough of a difference? If yes, then you can move on to your next goal. If no, then you need to go back and maybe add a new intake or camshaft.

In the systems we look at on a day-to-day basis, which have a lot more variables, we need to look at more opportunities for feedback. We can find this most reliably by looking at past statistics of accidents, incidents, and performance. "Sea stories" are another very common way of passing on feedback and information. Specifically, one person can outline a situation, what was done, and the eventual outcome. This informal method of communication can be very powerful but does not ensure that the correct people get the information. While the common system of reporting statistics allows everyone to see the progress, they do not always hear the story of how the

progress was made. What is needed is a way to transmit the results (statistics) with the "why" and "how." This is where a formal lessons-learned session is best. In this instance, a story can convey information in such a way as to allow the audience to retain the information and apply it to similar situations.

Many nations have a formal maritime reporting and feedback system in place. Some are affiliated with the government, and some are affiliated with a body such as a Protection & Indemnity (P&I) club. These systems do not just rely on accident reports and investigations; they also make use of what are commonly called "near-miss" incidents. This is important to consider, as studies tell us that, for every casualty, there are 100 near misses.

In Australia, shipmasters are required by law to submit a report in the event of any damage or injury caused by a collision, grounding, or any other incident. It is important to note that incident reports are also required following any dangerous situation, or any "near miss." Penalties apply for failing to submit an incident report when it is required. Then Maritime Safety Queensland (MSQ) has the responsibility to collate and analyze the marine incident data provided by those persons involved in marine incidents. This information is gathered into reports by the Maritime Safety Branch, which produces two main reports each year: the annual Marine Safety Incidents Report and the National Marine Safety Committee (Queensland jurisdiction) Report.

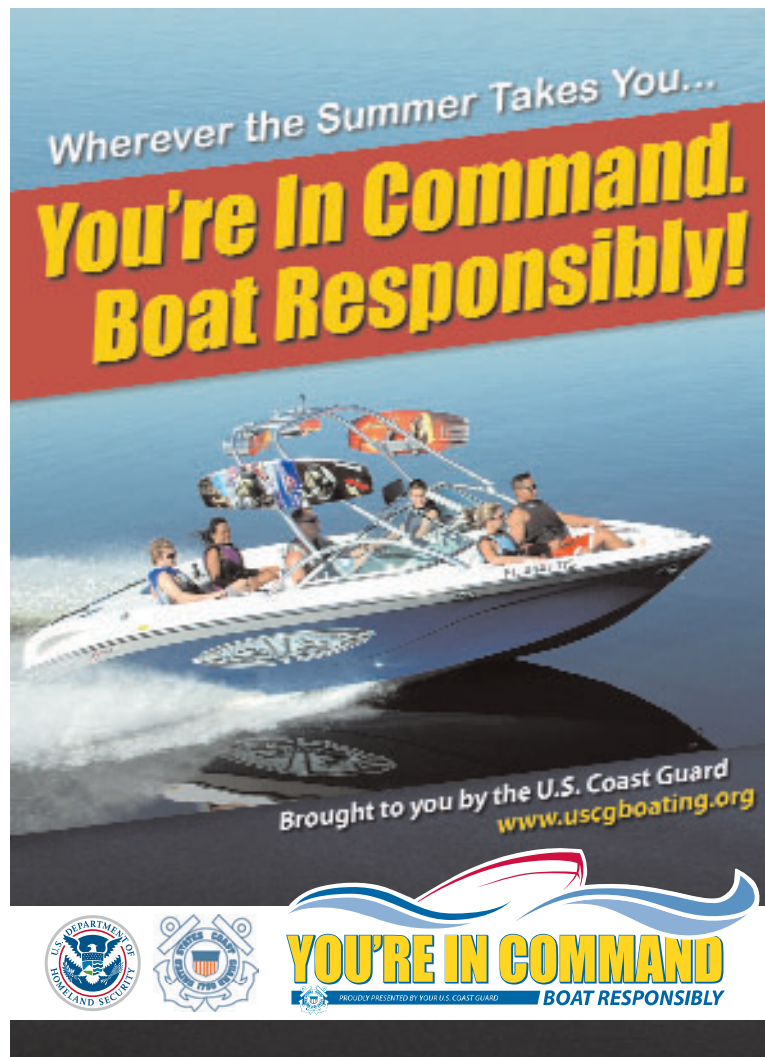
Last year, the Alaska Marine Safety Education Association put out a call for reports of any injuries or "close calls" that occur during safety training. Their stated purpose was to look for patterns of near misses, to reassess safety procedures used during training, and generally learn from mistakes.

In the United States, we do not have this kind of reporting system on a national scale. In 1999-2000 there was a big push to institute a program known as IMISS, International Maritime Information Safety System. A joint Coast Guard, U.S. Department of Transportation Maritime Administration (MARAD), and industry initiative, IMISS was started as part of the Coast Guard's Prevention Through People program. As an analysis and feedback system, IMISS was designed to capture non-reportable, near casualties. The benefit of capturing this type of data was that companies, individuals, and government would become aware of safety issues before catastrophic events occur. This awareness could lead to prevention.

It is generally acknowledged that actual casualties are rare; therefore, statistical trends take a long time to develop. Near incidents occur with much greater frequency, which allows safety issues to be identified earlier.

Designed to be voluntary and non-punitive, information gathered through IMISS was to be kept free of identifying data. At the time, there were a couple of difficulties instituting the system, but as time has passed, what had looked to be insurmountable problems now, in hindsight, appear to be manageable issues. MARAD has reported that not a week passes without one or two contacts about IMISS.

Perhaps the time has come to have a reporting system that will produce enough valuable data to allow the maritime industry to be even more proactive in heading off casualties. It has been said of many safety rules and regulations that they were written in blood—that the rules and regs were instituted in response to fatal casualties. With an active incident reporting system, perhaps that tradition can be broken.





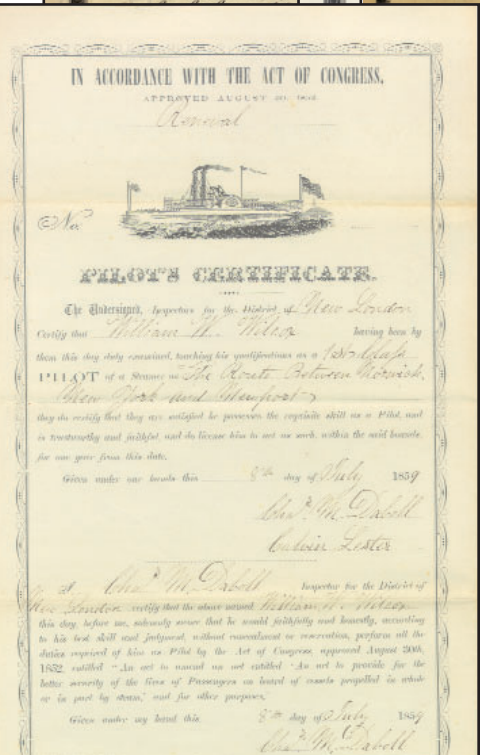
# MARINER'S SEABAG

## Roots of the National Maritime Center

*Tracing the history of licensing from*

*1838 to the present.*

by CAPTAIN ROBERT STANLEY BATES  
U.S. Merchant Marine



In the early days of the United States, general shipping codes were never addressed. However, with the need for maritime regulation, three prominent federal agencies were formed to shape our maritime destiny. These three—the Revenue Cutter Service, the Steamboat Inspection Service, and the Bureau of Navigation—were destined to come together in the U.S. Coast Guard during the twentieth century. Specific functions of today's Coast Guard and, in particular, the National Maritime Center are all preserved in this history of the last 215 years.

One of the first maritime laws was enacted the same year that the Revenue Cutter Service was formed. The Act of July 20, 1790, provided for shipping articles for every crewmember of a merchant ship bound for foreign ports. Other early regulations of the U.S. Merchant Marine extend back to 1798, when Congress passed acts imposing duty on tonnage of ships and provided for the registering and clearing of commercial vessels.

**In 1852 two federal licenses were instituted, one of which looked like the certificate for pilots of passenger steamboats. They measured a pretentious 8¼ inch wide by 13¾ inch long and were prepared by local printers.**

**In 1869, all licenses began to be nationally standard. They were engraved and printed by the fledgling Bureau of Engraving and Printing. The improvements included serial numbers on all license forms.**



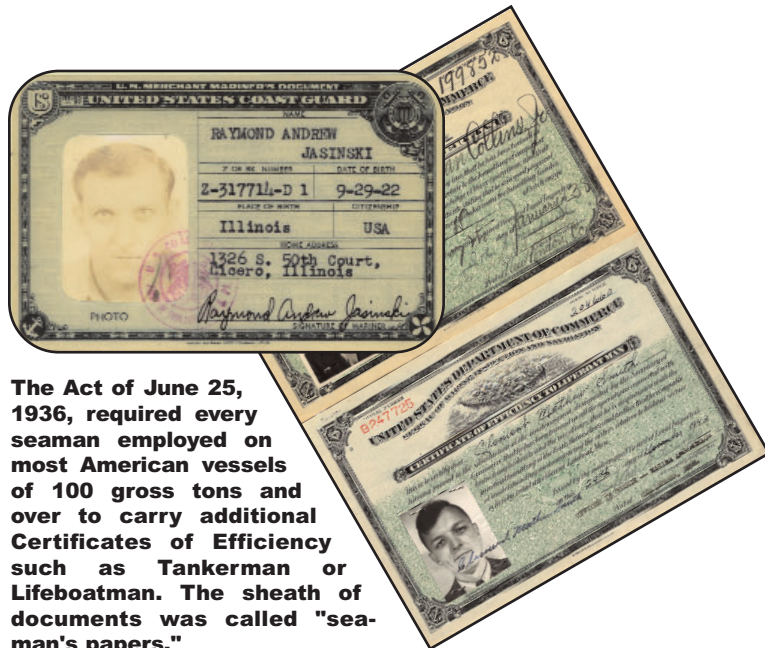
From the advent of Fulton's steamboat *Clermont* in 1807, the need for inspecting boilers and hulls grew with every marine casualty. The number of explosions, fires, and sinkings of commercial vessels forced Congress to act, and on July 7, 1838, district judges were given the power to appoint local steamboat inspectors for "better security of the lives of passengers on board of vessels propelled in whole or in part by steam." The birth of the U.S. maritime inspection program is attributed to the date of that act; in addition, the Steamboat Inspection Service considered itself to be founded on that date, although not by that name.

It was the first act that provided for competent engineers to inspect the hulls of passenger ships every year and their boilers every six months. The inspectors issued certificates of inspection to the owner or master, and it was mandated that engineering watches on steam vessels be stood only by skilled and experienced engineers. The final section of the act provided that any person employed onboard a boat in which lives were lost through personal misconduct, negligence, or inattention to duty would be deemed guilty of manslaughter.

On August 30, 1852, the Steamboat Act was approved, initiating the licensing of marine officers by the Steamboat Inspection Service, although nowhere did the law authorize that title for the service. As a result, the name Steamboat Inspection Service never appeared on the licenses that it issued until a half century later. Instead, the "Local Inspectors" were the issuing agents. Placing the Steamboat Inspection Service under the Treasury Department, the act provided for the appointment of nine supervising inspectors who were proficient in the construction and operation of merchant vessels. They were charged with supervising the work of the local inspectors within their respective districts.

There was immediate opposition to the act, especially by vessel owners and ships' officers, when this new bureau instituted two federal licenses: one for engineers to operate marine propulsion machinery and one for pilots of passenger steamboats. They measured a pretentious 8.25 inches wide by 13.75 inches long and were prepared by local printers. An act in 1864 extended the Steamboat Act to include any ferryboats, tugboats, and canal boats that carried passengers for hire.

An administrative flaw in the organization was that no senior executive was in charge of the supervising inspectors. It was not until February 28, 1871, that Congress passed legislation that provided for the office of a Supervising Inspector General, who had immediate supervision for the entire service, under the direction of the Secretary of the Treasury. The act of 1871 also repealed and superseded almost all previous legislation on the subjects of inspection,



**The Act of June 25, 1936, required every seaman employed on most American vessels of 100 gross tons and over to carry additional Certificates of Efficiency such as Tankerman or Lifeboatman. The sheath of documents was called "seaman's papers."**

licensing of officers, and the transportation of passengers and merchandise on steam vessels. It then provided detailed regulations with regard to the qualification of license applicants, enabling the board of local inspectors to issue licenses to masters and chief mates for the first time. All licenses were standardized in form and size, approximately 8 inches long by 10 inches wide. Continuing to display beautiful engravings, the new uniform license forms were engraved and printed by the Bureau of Engraving and Printing. The improvements included serial numbers on license forms for accountability.

The unlicensed seamen were still unregulated by the government. Congress finally passed the Shipping Commissioner's Act of June 7, 1872, creating a corps of "commissioners." The duties of commissioners were generally modeled after the duties of officers of the mercantile marine in Great Britain. On July 5, 1884, this governmental activity was solidified into the formation of the Bureau of Navigation. The new bureau, under the Treasury Department, was charged with administering the navigation laws of the country. With its formation, the new bureau was specifically given the authority to number vessels, to prepare the annual list of merchant vessels of the United States, to prepare annual reports of tonnage, to file marine documents of vessels, and to sign ships' registers. The head of the new Bureau of Navigation, the Commissioner of Navigation, was the counterpart to the Supervising Inspector General of the Steamboat Inspection Service.

In the 1890s a flurry of activity extended the jurisdiction of the Steamboat Inspection Service to different classes of vessels, causing the workload to increase steadily for office staffs. The renewal of steamboat licenses each year became a daunting task, and the act of May 28, 1896,

extended the term of a license to five years, forcing another change in all the existing license forms.

The lag in the time between the recommendations made by the Supervising Inspector General and the initiation of legislation represented an unmistakable reluctance for Congress to act. By the late 1890s, action was finally taken on recommendations that occurred almost 40 years earlier. In 1888, an investigation into a collision that occurred between a steamer and a naphtha launch found the pilot of the naphtha launch to be at fault. The Supervising Inspector General recommended that the inspection laws be extended to include motorboats. It gave rise to an act of January 18, 1897, subjecting all vessels of 15 tons or more, carrying freight or passengers for hire and propelled by gas, fluid, naphtha, or electric motors, to the provisions of law relating to the inspection of hulls and boilers, in addition to the licensing of engineers and pilots. During this period the issuing authority started new practices such as requiring two numbers to be placed on the licenses for the issue number; for example "1-3." The first number indicated the number of licenses of a particular grade issued to the officer, and the second number represented the total number of licenses issued to that individual, a practice that extended well into the twentieth century.

The act of March 23, 1898, modified the act of 1871 by extending the authorization of inspectors to examine, license, and classify chief mates on ocean or coastwise steam vessels, second and third mates in charge of a watch on such vessels, and mates on river steamers. Almost 40 years after the board of supervising inspectors recommended the inclusion of sail vessels, the act of December 21, 1898, extended the provisions for the inspection of vessels and the licensing of the masters and chief mates to include sail vessels over 700 gross tons and all other vessels or barges of over 100 gross tons carrying passengers for hire.

Both the Steamboat Inspection Service and the Bureau of Navigation were under the Treasury Department until 1903 when they both were relegated to the new Department of Commerce and Labor. This continued until legislation split the Department of Commerce and Labor by an act of March 4, 1913. The licenses issued under the short-lived Department of Commerce and Labor were changed to reflect the relegation of the Steamboat Inspection Service to the newly formed Department of Commerce. In 1915, the amalgamation of the Revenue Cutter Service and the Life Saving Service formed the United States Coast Guard.

Recalling that the act of August 30, 1852, and the act of 1871 only required that officers be duly licensed, an attempt was

made to document the unlicensed mariner with the Seamen's Act of March 4, 1915. The act was designed to provide additional protection of life at sea by initiating Certificates of Competency to Able Seamen and Certificates of Efficiency to Lifeboatmen. Unfortunately, the certificates did not sufficiently identify the mariner, and it became commonplace for mariners to purchase stolen certificates or ones that belonged to deceased seamen.

On June 30, 1932, the Steamboat Inspection Service and the Bureau of Navigation were merged as an economic measure during the Great Depression to form the Bureau of Navigation and Steamboat Inspection. Following the disas-



**A river pilot's license was issued to Samuel Clemens, also known as the quintessential American author Mark Twain, in 1859.**

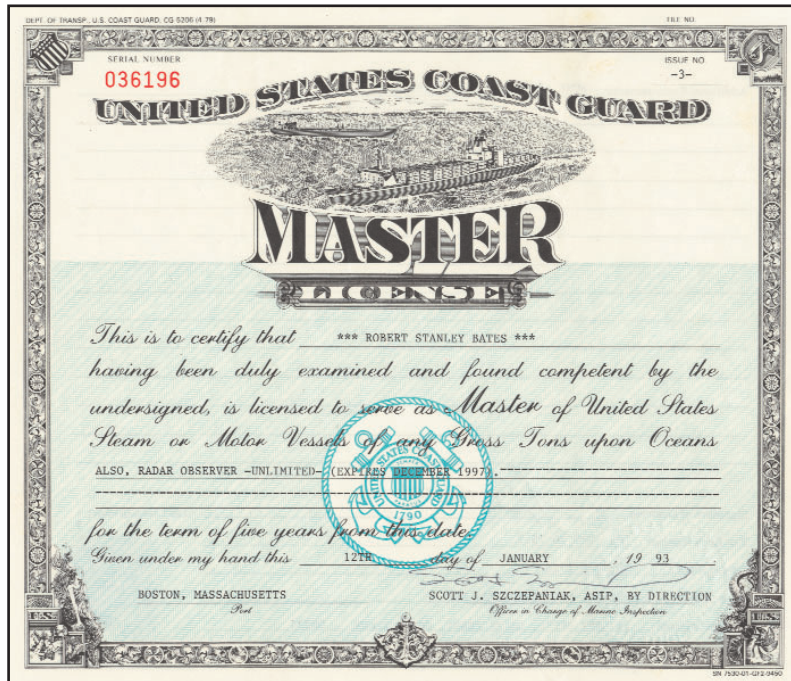
trous fire and sinking of the *S.S. Moro Castle* off Asbury Park, N.J., and the resulting significant loss of life, Public Law 808 was enacted on June 25, 1936, to govern the licensing and certification of mariners. This act required that every seaman employed on an American vessel of 100 gross tons and over, with certain exceptions, carry additional Certificates of Service authorizing the holder to serve in capacities such as able seaman, lifeboatman, or tankerman. To avoid the earlier problem of identifying the mariner, the certificate featured a picture and the thumbprint of the mariner. This sheath of documents was commonly called "seaman's papers." The *Moro Castle* casualty also spawned the act of May 27, 1936, which changed the name of the Bureau of Navigation and Steamboat Inspection to the Bureau of Marine Inspection and Navigation, the BMIN, as it was known. Since 1939, a Certificate of Registry as Staff Officer was issued to pursers, assistant pursers, doctors, and others who were not involved in the navigation of the vessels. With the Motorboat Act of April 25, 1940, superseding the Motorboat Act of 1910, a new certificate was developed for a license to operate motorboats carrying passengers for hire.

On February 28, 1942, President Franklin D. Roosevelt redistributed the functions of the BMIN to the Commandant of the Coast Guard by the authority in Title I of the First War Powers Act of 1941. The Merchant Marine Council and the Coast Guard's Merchant Marine Personnel Division devised a radical plan to simplify the multitude of documents that merchant marine personnel had to carry with them to ply their trade. The Coast Guard declared in October 1944 that, after November 1, 1945, a single document, the Merchant Mariner's Document, would be available to mariners being licensed or rated for the first time, to officers securing renewals, and to those qualifying for raise of grade. Later, the Coast Guard replaced the old Z-number with the individual's social security number, and, by the end of the century, the card continued to be modi-

fied by including a magnetic data strip on the reverse. Nevertheless, the terms *seaman's papers* and *Z-card*, referring to today's merchant mariner's document, persist long after their obsolescence.

According to the May 1946 *Proceedings of the Merchant Marine Council*, on and after May 9, 1946, licenses were to be replaced by a newly designed engraved license form

that would more fittingly reflect the importance of the position or positions in which the holder is qualified to serve on U.S. merchant vessels. This, the most common license form, resumed the tradition of ornate licenses. It was beautifully engraved with three ships that still adorn licenses today. In 1967, the Coast Guard was transferred to the Department of Transportation and with this transfer went the duties of documentation and admeasurement from the Treasury Department, a vital service of today's National Maritime Center. Some new license forms were issued for a short time



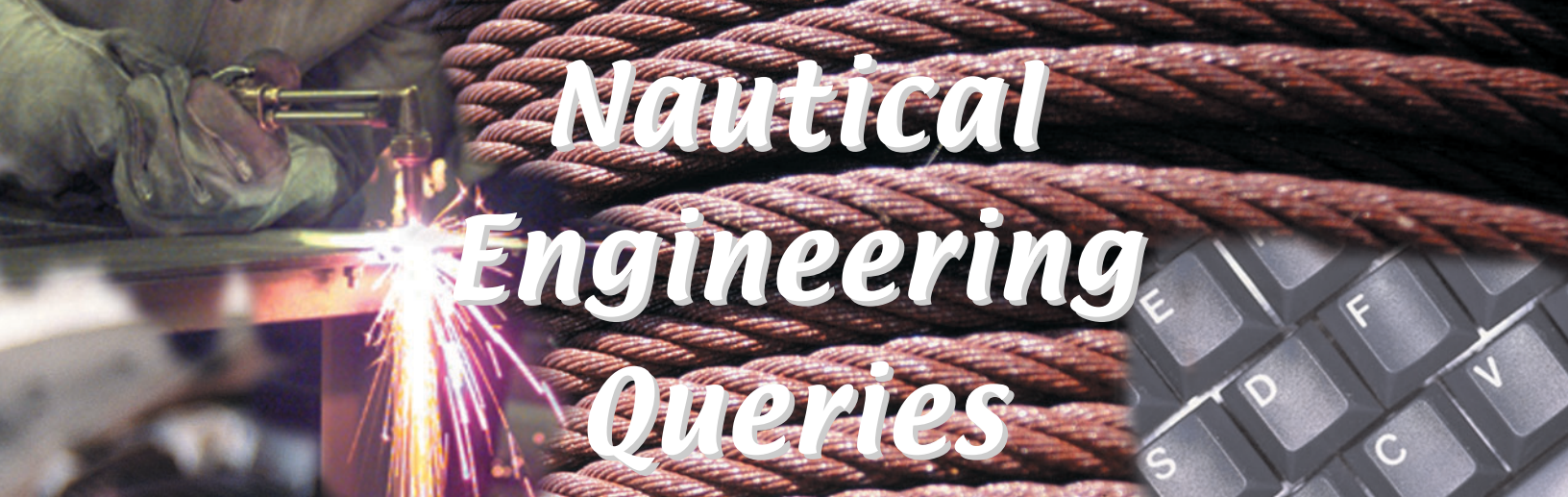
**Author Captain Robert Stanley Bates has his unlimited Master's license with STCW '95 certifications and is a book member of the American Maritime Officers (AFL-CIO) Maritime Union, Dania, Fla.**

such as the T-boat license of 1956, the freight and towing license, and the unlimited master and chief engineer licenses displaying the "SL-7" with the large letters spelling out "MASTER" or "CHIEF ENGINEER." They have all since been replaced.

Finally, in 2002 the U.S. Coast Guard was transferred to the new Department of Homeland Security, where it has taken on even greater responsibility. With all of the essential functions that have developed over the last two centuries, today's U.S. Coast Guard National Maritime Center operates with pride and appreciation for that rich heritage of the American maritime tradition.

*For more information on NMC's current and future missions, see articles on pages 6-7 and 10-14.*

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# Nautical Engineering Queries

1. Which of the following terms represents the form of heat removed from the refrigerant in the condenser of a refrigeration system?
  - A. Latent heat of vaporization.  
Correct: Latent heat of vaporization is absorbed by the condenser cooling water from the vapor while passing across the cool condenser tubes, causing a physical change of state—converting the vapor to a liquid.
  - B. Heat of compression.  
Correct: Heat gained by the vapor due to the work of compression is also transferred to the condenser cooling water as the refrigerant is liquefied.
  - C. Superheat.  
Correct: The metered flow of liquid refrigerant passing through the evaporator coil absorbs heat from the space being cooled, causing it to vaporize and become slightly superheated. The superheated vapor protects the compressor suction from liquid slugging.
  - D. All of the above  
Correct Answer: All of the above conditions are correct.

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2. You are attempting to parallel two AC generators and the synchroscope pointer stops at a position other than  $0^\circ$  prior to closing the circuit breaker. This indicates \_\_\_\_\_.
  - A. the frequency of the incoming machine is the same as the bus frequency  
Correct Answer: The speed and direction at which the synchroscope pointer rotates is a function of the "difference" in frequency between the bus and oncoming generator. The stopping of the pointer indicates that both oncoming generator and bus frequencies are identical but are not necessarily in phase. Since the pointer is at a position other than  $0^\circ$ , this indicates that the on-coming "generator phase relationship" is out of step with the "bus phase relationship" by a fixed number of electrical degrees. The proper procedure for paralleling should be to slightly accelerate the oncoming generator to match the bus phase relationship and close the circuit breaker when the pointer reaches a position slightly before 12 o'clock.
  - B. the incoming machine is in phase with the bus, but the frequency is not the same  
Incorrect: Since the pointer has stopped, the generator and bus frequencies are identical, but the two are out of phase with each other and are not ready to be paralleled.
  - C. the circuit breaker may be closed after breaker has been reset  
Incorrect: The action of "resetting" the breaker is a preparatory requirement to be able to "close" the breaker and is unrelated to synchroscope operation.
  - D. there is an existing cross current between generators  
Incorrect: Cross current conditions can only exist between generators which are operating under parallel conditions. The cross current is the result of having unequal field excitation values between generators and is the interchange of reactive power.



*Prepared by NMC Engineering  
Examination Team*

3. The loop seal connected to the main condenser returns the drains from the \_\_\_\_\_.

A. vent condenser

Incorrect: The vent condenser is a component of the deaerating feed heater and not part of the main condenser and air ejector condenser installation.

B. intercondenser

**Correct Answer:** The intercondenser drain is connected to the main condenser through a loop seal line, which maintains a continuous drain of condensate collected by the condensation of steam exhausting from the first stage air ejector, while maintaining the pressure differential between the main condenser and intercondenser.

C. after condenser

Incorrect: The after condenser is at atmospheric pressure, allowing the condensing steam from the second stage air ejector to gravitate to the to the atmospheric drain tank and then return to the condensate system via the main condenser by the use of a drain regulator.

D. all of the above

Incorrect: As choices A and C are incorrect, all of the above cannot be correct.

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4. Which of the following test indicators should be considered a determining factor as to whether or not a diesel generator's lube oil should be drained and renewed?

*Note: The results of several tests must be considered concurrently, i.e. precipitation number, neutralization number, increase in viscosity, etc., when determining whether or not the engine oil should be changed.*

A. An extremely "low" neutralization number.

Incorrect: The neutralization number of a lube oil is used to indicate the level of acidity in the oil. Lubricating oil will normally become more acidic over a period of time in a diesel due to its contact with combustion by-products. The neutralization number is established by measuring the number of milligrams of potassium hydroxide (KOH) required to titrate and neutralize the acidity of a one gram sample of the lube oil. A low "neutralization number" represents the fewest number of milligrams needed to neutralize the sample and would have a pH value approaching 7. A high neutralization number indicates a high level of acidity and will result in acidic corrosion of bearing surfaces and other internal parts of the engine.

B. An extremely high precipitation number.

**Correct Answer:** A high precipitation number indicates that an excessive amount of suspended insoluble particles have accumulated in the oil from a variety of sources such as: combustion byproducts, contaminated air charge due to defective air filtration, etc.

C. The oil appears black in color.

Incorrect: A dark color change is usually the result of piston blow-by or from excessive valve guide clearance. This color change is normal due to normal stopping and starting an engine, especially if it is allowed to cool before being restarted.

D. A minor increase in flash point.

Incorrect: An increase in the flash point of a lube oil may be the result of water mixing with the oil and/or an increase in emulsions. A minor increase in flash point should not be a cause for concern or require replacement of the oil.



# Nautical Deck Queries

## 1. Which type of vessel shall be required to have an emergency towing arrangement fitted at both ends?

*Note: Logically, a large, self-propelled vessel is towing-equipped at the stern, so it can tow a disabled vessel, and at the bow, so it can be towed if it should become disabled.*

A. A 30,000 deadweight ton oil barge

Incorrect: An emergency towing arrangement is not required at both ends of a barge, as a barge is not powered and unable to tow another vessel in an emergency.

B. An 18,000 deadweight ton tanker constructed in 1998

Incorrect: The regulation requiring towing arrangements at both ends of a tanker only applies to tankers over 20,000 deadweight tons.

C. A 5,000 deadweight ton coastal tanker

Incorrect: Same as for "B." The vessel's area of operation is not a requisite condition for this requirement.

D. A 22,000 deadweight ton tanker operated after January 1, 1999

**Correct Answer: All oil tankers (of at least 20,000 dwt) in service since January 1, 1999 are required to have emergency towing arrangements fitted at both ends of the vessel. (33 CFR 155.235)**

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## 2. Spring-loaded towing hooks are used in towing to \_\_\_\_\_.

A. absorb and cushion the shocks of towing

Incorrect: The absorption and cushioning of the shocks of towing is accomplished by having a significant catenary in the towline. This is standard procedure when towing astern at sea.

B. prevent whiplash

Incorrect: Whiplash can be prevented by using a heavy nylon "shock line" fitted between the wire towline and the vessel being towed, or simply by using heavy nylon for a harbor tow. Nylon is used because of its ability to stretch without sustaining damage. The "shock line" compliments the effect of the catenary.

C. trip and release when the pull of the towing hawser exceeds a predetermined limit

**Correct Answer: Spring-loaded towing hooks can be used for harbor work, i.e., docking and undocking. The eye of the towline is secured in the hook by fastening the bail over the tip of the hook. This device trips when the strain on it reaches the predetermined limit.**

D. make it easier to attach and release the tow

Incorrect: It is more time-consuming to attach a towline to a spring-loaded towing hook and is not any easier to tie up or release the tow.

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## 3. Which tanker discharge pattern would be the safest and most efficient?

*Note: Title 33 (part 155) of the Code of Federal Regulations requires a "Transfer Procedures" manual to be available to the Person in Charge of the transfer. However, this document is not required to outline any specific loading or discharge pattern for the vessel. Discharging from the forward tanks first will develop a trim by the stern and gravity can now aid the flow of cargo aft. The objective is to minimize the transfer time without compromising safety and pollution prevention criteria. Good seamanship mandates the specific pattern.*



*Prepared by NMC Deck  
Examination Team*

- A. Empty the forward tanks and start working aft, emptying each tank in sequence.  
Incorrect: This would cause excessive trim by the stern and excessive stresses on the ship's structure. False tank levels could be indicated. Depending on the depth of the water, the stern could go aground. The worst-case scenario is the aftermost tanks overflowing.
- B. Start discharging with most of the discharge coming from forward, but include some from midships and after tanks.  
**Correct Answer: On a modern tanker where the pumproom is located all the way aft, discharging the vessel in this pattern helps maintain a steady discharge rate and helps minimize the amount of oil left in the tanks. Be aware that some cargo should be discharged from all of the tanks to ensure that the vessel does not become over-trimmed by the stern to avoid the possibility of tank overflow.**
- C. Start pumping from forward, midships, and aft, with the discharge distributed equally among the tanks.  
Incorrect: This would not be the most efficient, since it would not create the desired trim by the stern and is undesirable from a ship's business point of view. Once the oil level is lowered to the point that it can no longer be pumped by a high-capacity centrifugal pump, you must resort to pumping with a low-capacity positive-displacement pump (or an eductor), which is a slow process known as "stripping." It's undesirable to be stripping more than one large tank at a time because of the time factor.
- D. Start pumping from midships and then work forward and aft simultaneously as the midships tank is emptied.  
Incorrect: This discharge pattern should be avoided, since emptying the midships tanks, while leaving the tanks forward and aft full, would create extreme "hogging" i.e., the main deck would be under tension and the bottom plating in a dangerous state of compression.

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**4. INLAND ONLY: Signals shall be sounded by a power-driven vessel intending to overtake \_\_\_\_\_.**

*Note: This question pertains to Inland Rule 34, "Maneuvering and Warning Signals." The paragraphs of this rule that govern the conduct of power-driven vessels (PDVs) must not be confused with the paragraphs that govern the conduct of all vessels.*

- A. any vessel when within half a mile of that vessel  
Incorrect: Maneuvering signals are sounded and acknowledged in an overtaking situation only when both vessels are power-driven and in sight of one another, regardless of distance apart.
- B. another power-driven vessel when both power-driven vessels are in sight of one another  
**Correct Answer: A power-driven vessel intending to overtake another PDV shall indicate its intention and await the acknowledgement before overtaking.**
- C. any vessel when both are in sight of one another  
Incorrect: Both vessels must be power-driven. For instance, a PDV would not sound a signal when overtaking a sailing vessel. The vessel under power would simply keep well clear of the vessel under sail.
- D. another power-driven vessel only when within half a mile of that power-driven vessel  
Incorrect: The "half mile" rule applies only to PDVs meeting or crossing. In an overtaking situation, maneuvering signals are to be sounded and acknowledged when PDVs are in sight of one another, regardless of distance apart.

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