

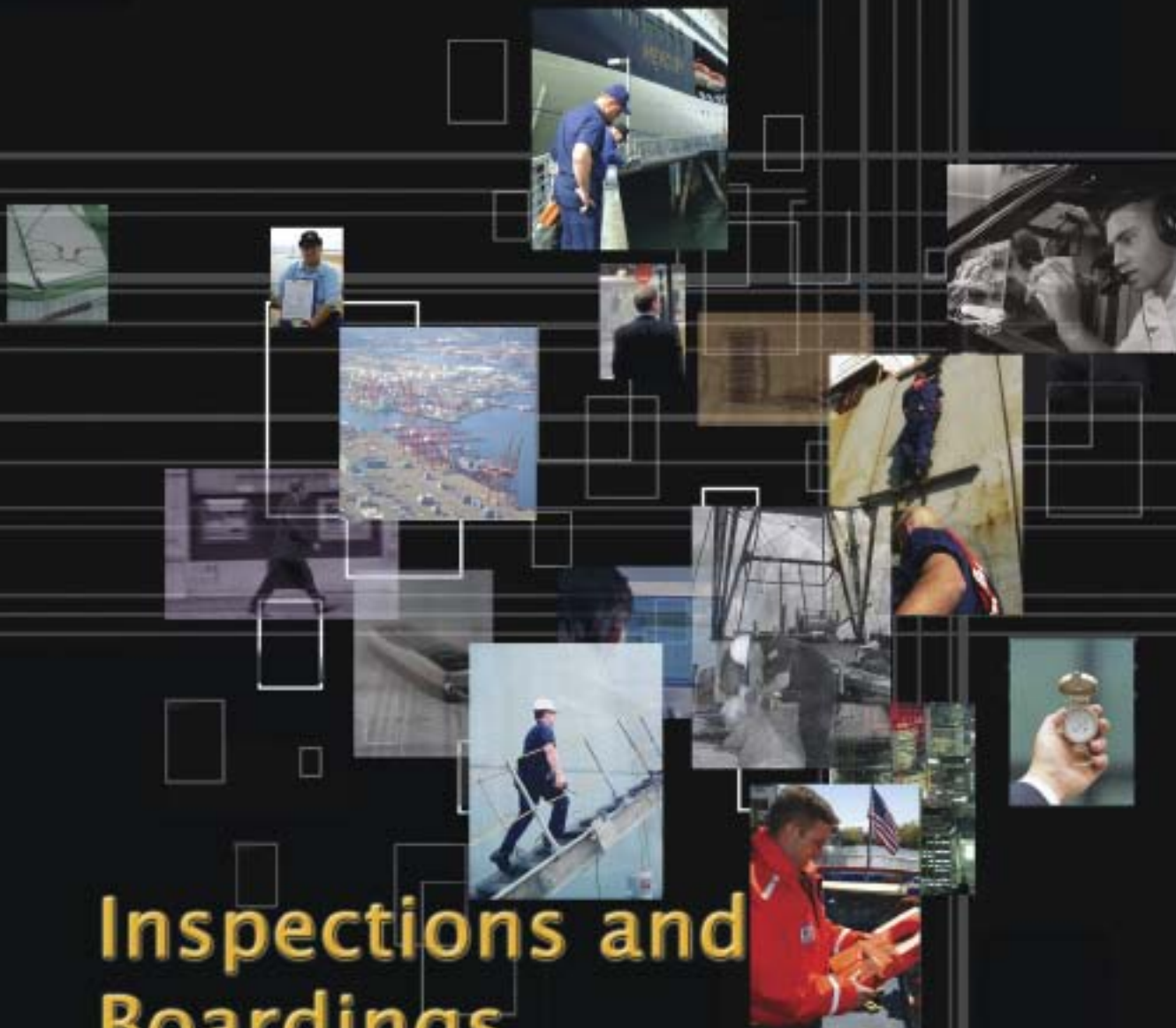
U.S. Department
of Homeland Security

United States
Coast Guard

Spring 2008



The **COAST GUARD** Journal of Safety
& Security at Sea
PROCEEDINGS
of the Marine Safety & Security Council



Inspections and Boardings

Regulations for "Uninspected" Vessels

Port State Control Examinations

Safety vs. Security Boardings and Examinations

PROCEEDINGS



Spring 2008

Vol. 65, Number 1



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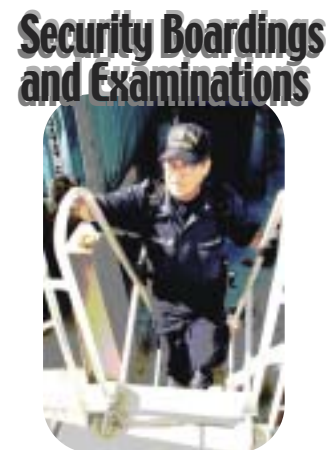
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Assistant Commandant's Perspective

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

The Coast Guard's marine safety program is responsible for ensuring the safe operation and navigation of some 20,000 U.S. and foreign-flagged vessels. We conduct more than 70,000 domestic vessel inspections and 10,000 port state control examinations each year to safeguard maritime commerce, enable international trade, and support supply chain security. We also conduct 14,000 casualty, suspension, revocation, and civil penalty cases annually to leverage lessons learned and prevent future maritime tragedies.

These missions are accomplished by a cadre of uniformed and civilian inspectors, investigators, and port state control officers stationed domestically and around the world. We have been—and remain—a leader in promoting global maritime safety, security, and environmental protection.

In recent years, the maritime industry has experienced increased growth and unprecedented complexity, and has faced increased risk from transnational threats. These forces create a greater need for Coast Guard marine safety services and call for a renewed focus on this core Coast Guard mission.

For example, last year United States deep-draft seaports and seaport-related firms employed more than 8,000,000 American citizens while adding nearly \$2 trillion to our domestic economy. From 2002 to 2005, U.S. port calls of large, ocean-going merchant vessels (over 10,000 gross tons) increased nearly 10% to 61,047 according to U.S. Department of Transportation statistics. Moreover, over the last five years, the number of U.S.-flagged passenger vessels increased by 7%, and offshore oil industry vessel growth exceeded 35%.

The Coast Guard's responsibility to improve marine safety service delivery is time-critical, given these growth trends in the maritime industry and the resultant increase in demand for marine safety services. In response to this new, highly complex environment, we have taken steps to strengthen the Coast Guard marine safety program. With regard to marine inspection, we will move forward to reinvigorate industry partnerships, bolster inspector and investigator capacity, and improve technical competencies.

In response to the Commandant's direction, we are developing a strategy that will enhance our relationship with our maritime industry stakeholders and improve the effectiveness, consistency, and responsiveness of the Coast Guard marine safety program. We are confident these courses of action will result in needed improvements, and are committed to delivering the vital maritime safety and security services that America expects and deserves.

ADM Thad Allen
Commandant
U.S. Coast Guard

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Champion's Point of View



by CAPT MICHAEL B. KARR
U.S. Coast Guard Office of Vessel Activities

The goal in preventing or responding to major marine incidents, regardless of cause, is the same: to save lives, preserve property, protect the environment, and minimize disruption to the maritime transportation system. To best ensure the long-term success of the global maritime transportation system, the U.S. Coast Guard marine safety program is aggressively striving to improve responsiveness, inclusiveness, accessibility, and customer focus as part of an integrated Coast Guard approach.

But the marine safety program cannot do it alone. The Coast Guard's missions are carried out through a shared commitment to facilitate safe, secure, and environmentally sound marine transportation. Just as integrated as our philosophy of attack is the layered, interwoven system of authorities, compliance, collaboration, enforcement, and public dialogue necessary to ensure the safety of maritime transportation and commerce. Our longstanding industry partnerships are critical to this collaboration, as well.

In that spirit, we have assembled the articles in this issue of *Proceedings* with an emphasis on partnerships, interagency efforts, the future of the marine safety mission, and on some less well-known compliance activities conducted by inspectors. We have attempted to make the articles user-focused, supplying everything stakeholders need to know about U.S. Coast Guard inspection and boarding programs.

Many of the articles focus on our traditional marine safety strategy—verifying that vessels meet regulations. It's exciting to see the Coast Guard plans take shape to improve how we conduct this compliance business. We are now acting to improve marine safety capacity and performance, enhance service delivery to mariners, and expand outreach and advisory mechanisms. As a result of a comprehensive marine safety program review, the Coast Guard established a roadmap to improve the effectiveness, consistency, and responsiveness of the program to promote safe, secure, and environmentally sound marine transportation. This roadmap includes reinvigorating industry partnerships, improving mariner credentialing services, bolstering inspector and investigator capacities, improving technical competencies through new marine safety centers of excellence, and expanding rulemaking capability to ensure we meet current and future program needs. Additional details on the Coast Guard's strategy to enhance marine safety can be found under the "Marine Safety" tab at <http://homeport.uscg.mil>.

I offer my sincere thanks to the authors and contributors for offering their expertise and showcasing marine safety program efforts in an informative, timely, reader-focused manner. We hope to engage you—the *Proceedings* audience—in our goals toward improving marine safety mission effectiveness.



Identifying and Eliminating Substandard Shipping

Port state control examinations.

by LCDR FRANCES FAZIO
Port State Control Specialist

U.S. Coast Guard Office of Vessel Activities, Foreign Vessel and Offshore Activities

In 1994, Congress recognized that the greater influx of foreign vessels visiting the U.S. posed a potential risk to the safety of our ports and waterways, and could threaten our overall marine environment. Accordingly, Congress mandated that the U.S. Coast Guard implement a port state control (PSC) program in the 1994 Department of Transportation appropriation bill.

This bill required the Coast Guard to change its approach to foreign vessel examinations, expanding the scope of examination and establishing a clearly defined program of controls for holding accountable those most responsible for allowing the dangers posed by substandard ships.

The current generalized global philosophy of port state control is to identify and eliminate substandard shipping with regard to maritime safety, the marine environment, and maritime security. International procedures define a "substandard ship" as a ship whose hull, machinery, equipment, or operational safety is substantially below the standards required by the relevant convention, or whose crew is not in conformance with the safe manning document.¹ Additionally, U.S. regulations provide an additional framework for compliance checks by Coast Guard-qualified foreign vessel examiners.

International Partnerships

The Coast Guard's strong commitment to achieving harmonization of port state control measures through

outreach with the public, industry, and international partners is evident. For example, the Coast Guard's targeting methodology, compliance data, and a wealth of port state control information is located on the Coast Guard's port state control website on <http://homeport.uscg.mil>.

This is one way the Coast Guard shares information with the global maritime community. Risks associated with problem vessels and associated parties are shared to facilitate responsible decisions that help preserve maritime safety and security.

The Coast Guard places its port state control examination results on two databases: the Port State Information eXchange (PSIX) and the European Quality Ship Information System commonly known as Equasis (see related article in this edition). Both databases are accessible via the internet. PSIX (<http://psix.uscg.mil/>) contains vessel-specific information derived from the Coast Guard's Marine Information Safety and Law Enforcement System, which captures Coast Guard interactions with foreign vessels that operate in U.S. waters.

The Equasis data system (<http://www.equasis.org>) displays port state control inspections and detentions conducted under the Paris Memoranda of Understandings (MOUs), Tokyo MOU, and by U.S. personnel. This system may also expand its reach to other reliable information systems.

MOUs

Nine regional MOUs currently exist, which cover:

1. Europe and the North Atlantic (Paris MOU),
2. Asia and the Pacific (Tokyo MOU),
3. Latin America (Acuerdo de Vina Del Mar),
4. the Caribbean (Caribbean MOU),
5. West and Central Africa (Abuja MOU),
6. the Black Sea region (Black Sea MOU),
7. the Mediterranean (Mediterranean MOU),
8. the Indian Ocean (the Indian Ocean MOU),
9. the Arab States of the Gulf (Riyadh MOU).

The United States does not hold membership status to any of these MOUs; however, we actively participate as invited observers.

MOUs conduct various concentrated inspection campaigns (CICs). These typically focus on a particular area of compliance within the framework of the international instruments to bolster compliance within the specific area of the campaign. In 2006, the CIC centered on International Convention for the Prevention of Pollution from Ships (MARPOL) Annex I compliance. Although the Coast Guard does not conduct formal, concentrated inspection campaigns, we strive to harmonize worldwide enforcement standards by participating in the working groups leading up to the concentrated inspection campaigns, and we share our policy guidance when possible to reach understanding for consistent enforcement practices.

From September 2007 to November 2007, port state control authorities around the world conducted a concentrated inspection campaign on compliance with the International Safety Management (ISM) code. In preparation for this worldwide event, the Coast Guard increased the availability of ISM code training and updated our enforcement policy and ISM curriculum used in the port state control officer course at Training Center, Yorktown, Va.

Future Coast Guard foreign vessel job aids will contain updated ISM compliance standards that are in full harmony with the CIC checklist. Coast Guard members helped develop these standards and were conference speakers in support of the preparations for the 2007 CIC, which was the largest concentrated inspection campaign thus far.

The Targeting Matrices

The port state control program uses a risk-based tool, or matrix, used to identify appropriate foreign vessels for examinations.² One matrix is completed for safety, and another matrix is completed for security; however, both

risk-based approaches evaluate vessels using various factors. These include:

- ship management,
- flag state,
- classification society / recognized organization,
- compliance history,
- vessel type (safety matrix),
- last ports of call (security matrix).

A score value is assigned to each of the elements, which is then totaled to generate an overall score for a particular vessel. The targeting matrices, which are available on the Coast Guard port state control website, provide tangible benefits.

First, targeting allows the Coast Guard to use its resources more effectively. Since more than 8,100 foreign vessels make over 78,000 U.S. port calls each year, the Coast Guard must use its resources wisely, and focus inspections on foreign vessels that are likely to present unacceptable risk to our ports.

Secondly, the matrices provide the maritime industry with an incentive to maintain effective security and safety programs onboard their vessels. When the maritime shipping community does not implement effective security and safety programs, they risk delaying their vessels and incurring unexpected costs due to a Coast Guard-imposed control action.

Along with the exams that result from our targeting process, the Coast Guard also performs random safety or security examinations of vessels falling below our targeting. This random selection process creates unpredictability and ensures all operators are alert to Coast Guard activities.

Port State Control Safety and Environmental Protection Compliance Targeting Matrix

In June 2007, the Coast Guard started using a new targeting matrix to identify foreign vessels for safety examinations. From a thorough trend analysis of vessel detentions and deficiencies, the Port State Control Safety and Environmental Protection Compliance Targeting Matrix was modified to better target vessels that posed the most risk to U.S. ports while giving credit to vessels that had a better safety record.

The trend analysis, using data from 2001 through 2006, indicated that bulk carriers; general dry cargo ships; container ships; refrigerated cargo carriers; roll-on, roll-off cargo ships; and day cruise / gambling vessels were the vessels most likely to be detained. Therefore, more



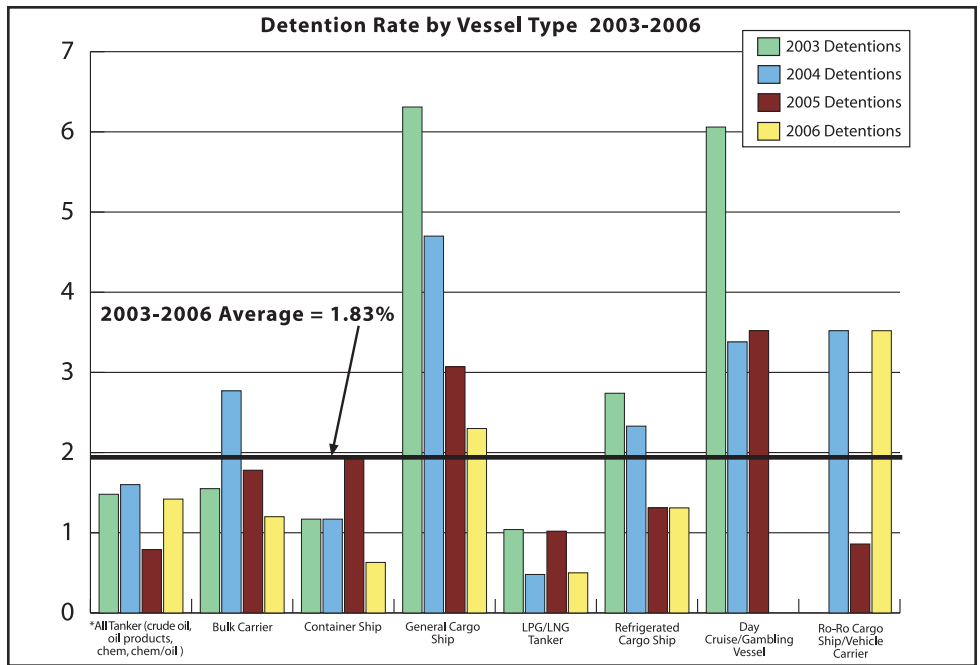
points were assigned to these vessels.

The trend analysis also indicated that 78% of all foreign vessel detentions were on vessels older than 15 years old. It also showed over the course of a vessel's life span, it became twice as likely to be detained for every five years it aged. Therefore, points were subtracted for vessels that were new to 9 years old, vessels 10 to 14 years old received no points, and vessels 15 to 25 years and older received the most points.

Port State Control Examinations Safety:

During a PSC safety examination, the port state control officer must confirm the presence of valid certificates aboard the vessel and obtain general impressions and visual observations that confirm there is a good standard of maintenance, crew competency, and equipment functionality. In general, the examination team will:

- Conduct navigation safety checks.
- Evaluate the safety management system.
- Conduct a deck walk and evaluate the vessel's



structure.

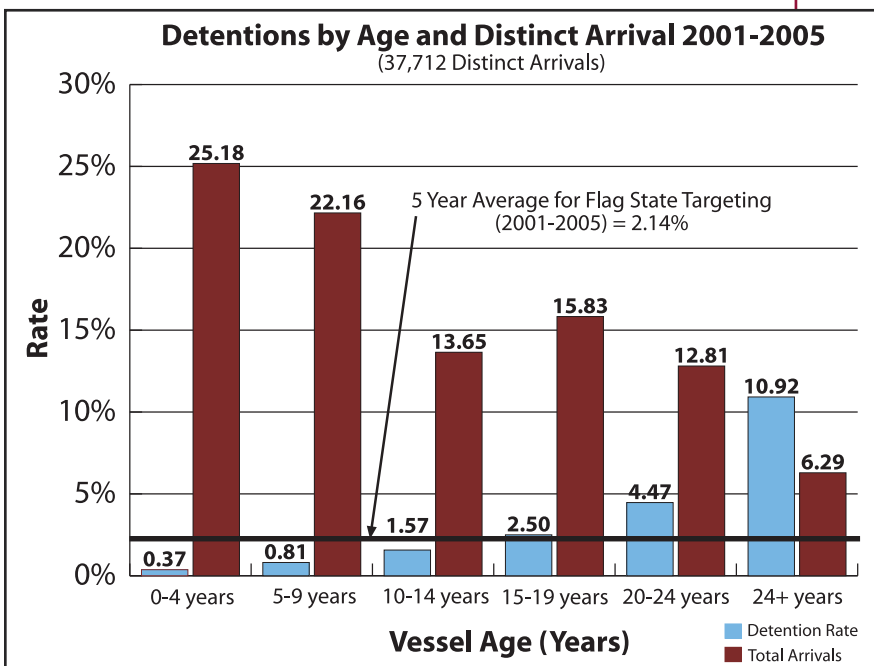
- Conduct steering gear tests.
- Test the oily water separator and bilge monitor.
- Test the fire detection system.
- Test the fixed deck foam system.
- Operate the main and emergency fire pump.
- Evaluate cargo operation equipment.
- Evaluate lifesaving equipment.
- Examine emergency lighting.
- Test the emergency generator.
- Witness fire and boat drills.

For the year of 2006, a total of 8,178 individual vessels from 79 different flag states made 78,668 port calls to the United States. The Coast Guard conducted 10,136 safety exams on these vessels. The total number of ships detained decreased from 127 detentions in 2005 to 110 in 2006.³

Security:

During a port state control security examination, the port state control officer will spot-check and conduct visual observations of security implementation on board the vessel. In general, the examination team will:

- Determine the security level for the vessel.
- Verify that the International Ship Security certificate is on board and valid.
- Verify ship security performance.
- Review the continuous synopsis record.
- Review security records.



| ISPS Code Cite | Description of area of noncompliance | Number of deficiencies associated with a detention | | |
|----------------------------|---|--|-----------|-----------|
| | | 2004* | 2005 | 2006 |
| ISPS Code, Part A | | | | |
| Section 7.2.2 | Access Control | 62 | 33 | 28 |
| ISPS Code, Part A | | | | |
| Section 7.2.4 | Restricted Areas | 48 | 20 | 14 |
| ISPS Code, Part A | | | | |
| Section 12.2 | Ship Security Officer | 37 | 9 | 10 |
| ISPS Code, Part A | | | | |
| Section 9.4 | Ship Security Plan | 21 | 10 | 4 |
| ISPS Code, Part A | | | | |
| Section 13 | Training | 13 | 5 | 2 |
| ISPS Code, Part A | | | | |
| Section 10.1 | Logs/Records | 11 | 5 | 3 |
| ISPS Code, Part A | | | | |
| Section 7.2.7 | Communications | 7 | 2 | 3 |
| ISPS Code, Part A | | | | |
| Section 7.2.2 | Screening Process | 6 | 0 | 4 |
| ISPS Code, Part A | | | | |
| | Other (ISPS/Security Related Deficiencies) | 6 | 2 | 1 |
| ISPS Code, Part A | | | | |
| Section 13.3 | Shipboard Personnel | 5 | 1 | 2 |
| ISPS Code, Part A | | | | |
| Section 13.4 | Drills | 3 | 3 | 1 |
| ISPS Code, Part A | | | | |
| Section 5 | Declaration of Security | 2 | 0 | 0 |
| ISPS Code, Part A | | | | |
| Section 9.4.12 | Reporting Security Incidents | 2 | 0 | 0 |
| SOLAS, Chapter XI-1 | | | | |
| Regulation 5 | Continuous Synopsis Record | 1 | 0 | 0 |
| ISPS Code, Part A | | | | |
| Section 9.4.4 | Response Procedures | 1 | 0 | 1 |
| ISPS Code, Part A | | | | |
| Section 9.4.6 | Evacuation Procedures | 1 | 0 | 0 |
| ISPS Code, Part A | | | | |
| Section 7.1 | Vessel Security Level | 1 | 1 | 0 |
| Total | | 227 | 91 | 73 |

* 2004 – Data from July 1, 2004 – December 31, 2004

International Ship & Port Facility Security code (ISPS) enforcement began on July 1, 2004, and the Coast Guard has successfully handled ISPS enforcement. Prior to ISPS implementation, the Coast Guard collaborated with the members of the IMO to establish the code and with the maritime industry to ensure compliance. With the maritime industry working hard to get in compliance, the number of deficiencies and associated detentions has steadily decreased since 2004.

In 2006, the Coast Guard conducted 9,053 ISPS exams. The total number of ships detained decreased from 51 detentions in 2005 to 35 in 2006.⁴

involved parties, port state, flag states, and recognized organizations.

About the author:

LCDR Frances Fazio is a port state control specialist in the Office of Vessel Activities, Foreign Vessel and Offshore Activities, at U.S. Coast Guard headquarters. LCDR Fazio has served in the marine safety program for eight years, and was most recently stationed at Sector Honolulu. Prior to service in the marine safety program, LCDR Fazio was a deck watch officer aboard CG Cutter Mohawk.

Endnotes:

- ¹ International Maritime Organization's "Procedures for Port State Control," 2000 edition.
- ² See "Using Risk Ranking Tools to Identify Which Vessels to Examine or Board. How does the Coast Guard decide which foreign vessels to visit?" *Proceedings*, Spring 2007, p. 40.
- ³ "Port State Control in the United States," annual report 2006, Department of Homeland Security, United States Coast Guard.
- ⁴ *Ibid.*

Reporting a Detention

When a port state control officer determines that a ship is substandard, the officer immediately acts to ensure the safety of the ship and its passengers and/or crew and to eliminate any threat of harm to the marine environment before permitting the ship to sail. It is the port state's obligation to the international community to notify all involved parties whenever a foreign vessel has a detention. The Coast Guard immediately notifies the flag state, recognized organizations and/or recognized security organizations, ship management, and the IMO.

The U.S. port state results continue a downward trend of detentions and major control actions imposed on foreign ships. This trending could indicate we are on a continual path of improvement in addressing substandard shipping. It also reflects the cumulative diligence of all in-





Boardings & Examinations of Foreign Flag Commercial Vessels

Security Boardings and the High-Interest Vessel Program

*Safeguarding U.S. ports
and waterways.*

by LCDR MALCOLM McLELLAN
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CDR SEAN REGAN
*U.S. Coast Guard Office of
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Each year more than 100,000 foreign commercial vessels come to the United States to load and offload cargo. These vessels support the U.S. economy, but this vital sea line of communication for the national economy unfortunately can double as a method of transport for nefarious individuals and organizations. Visiting vessels may harbor criminals and terrorists or transport dangerous goods.

High-Interest Vessel and Security Boarding Programs

Following the attacks of September 11, 2001, the Coast Guard security boarding program was both re-evaluated and reinvigorated to prevent terrorists from exploiting the maritime environment. The most recent revision was completed on June 1, 2007. The scrutiny and evaluation of commercial and recreational vessels provides Coast Guard security and presence on the nation's waterways. The high-interest vessel (HIV) and security boarding programs are focused inspection and evaluation processes that ensure vessels that pose the greatest risk to the United States are properly identified. The HIV policy is evaluated continuously to ensure its effectiveness and to identify gaps. Such information will foster future improvements to the targeting process.

In order to determine the risk that a specific vessel poses to a U.S. port, many factors are evaluated, including vessel characteristics, compliance history with domestic and international security regulations, information provided in the advanced notice of arrival

(ANOA) report, and intelligence information. This information is analyzed and weighted using a risk-based targeting matrix.¹

Generally, all commercial vessels greater than 300 gross tons are required to provide an ANOA 96 hours prior to arrival at a United States port. Additionally, recreational vessels coming to the U.S. or returning from abroad must file similar notices with Customs and Border Patrol. The ANOA report details specific information concerning a vessel's operations, including its owners, operators, cargo, previous ports of call, crew/passenger details, details of arrival and departure times, the purpose of the port visit, and an overview of key documentation.

These submissions are evaluated for compliance with the advanced notice of arrival requirements as detailed in 33 Code of Federal Regulations Part 160. ANOA information is analyzed further by Coast Guard intelligence personnel and then used to populate several matrices developed to identify vessels that may present a safety and/or security risk to the United States. The arrival notifications collected by the Coast Guard and Customs and Border Patrol are shared to reduce redundancy and to increase the ability to identify vessels of risk. Using broad areas of review and analysis, the Coast Guard seeks to identify those vessels out of compliance with maritime security regulations.

Determining Regulatory Compliance

A merchant owner's compliance with the International Ship & Port Facility Security (ISPS) code is one specific area that the Coast Guard examines to determine the security risk of individual vessels. Vessel owners, operators, and crews who have demonstrated full compliance with the ISPS code tend to be less susceptible to security-related problems such as stowaways or other breaches of security.

However, vessels that have a history of non-compliance or with a history of stowaways may be subject to additional scrutiny during the analysis process used to determine high-interest vessels. Vessels so designated automatically receive increased scrutiny and attention, which may result in a Coast Guard security boarding.

Security Boardings

Security boardings are just one of many security requirements and initiatives that fall under Operation Neptune Shield, the Coast Guard's maritime homeland security operation. Operation Neptune Shield details that the primary purposes of pre-entry security boardings (of both HIVs and large non-HIVs) is to determine if a vessel should be allowed to enter port, and, if so, what additional security measures are warranted.

Boardings are one of the Coast Guard's frontline measures to identify, deter, and disrupt terrorist incidents. The most operationally forward of the service's antiterrorism measures, Coast Guard personnel attend to high-interest vessels offshore to determine if the vessels pose an undue risk to the port. These specialized visits to arriving vessels are conducted by armed teams focused on items ranging from crew documentation to cargo manifests. They are the first government eyes on the vessels prior to entry and, as such, are vital to port security.

The deterrent nature of security boardings are not merely random acts of Coast Guard effort. Rather, Coast Guard captains of the port (COTP) make risk-based determinations of which vessels must be boarded.² Factors in such decisions range from intelligence of potential threats to cargo type and crew complement. The routes, trades, and most recent ports of call can also factor into this determination. Additionally, to increase the unpredictability of boarding

operations, captains of the port may direct security boardings of any vessel arriving or departing their areas of responsibility.

Any high-interest vessels entering or departing the United States are subject to security boardings. Close interagency coordination between the captains of the port and Immigrations and Customs Enforcement/Customs and Border Patrol reduces redundancy and maximizes resources, if strained.

Regulatory Boardings and Boarding Teams

Security boardings are unique and should not be mistaken for other Coast Guard regulatory boardings. These regulatory boardings include port state control, International Maritime Pollution Act, or Safety of Life at Sea convention inspections and others. In an effort to reduce multiple visits to vessels and to maximize efficiency, Coast Guard personnel sometimes conduct safety-focused boardings after conducting the antiterrorist-focused security boarding.

The Coast Guard boarding teams charged with these vital visits are highly trained and specialized maritime law enforcement experts. The senior team member must attend the Coast Guard Law Enforcement Academy located at the Federal Law Enforcement Training Center. The team members undertake a rigorous boarding team member course and are trained to identify violations of federal law.



A Coast Guard law enforcement team escorts a commercial vessel en route to the U.S. USCG photo.

Boarding teams, comprised of four to eight personnel, have several methods of getting to vessels that require security boardings. The most frequent method is by small boat, coming alongside, as do ship pilots. A risky operation during normal times, boarding teams are at heightened alert when transitioning up a pilot ladder. Merchant crews are often directed to stay clear of the embarkation area but in sight of the attending Coast Guard support vessel.

There are times when boarding by sea is either too risky or outside the resources available. In these cases, the boarding team may be delivered by Coast Guard helicopter. Much like the routine—but risky—helicopter rescues performed by Coast Guard pilots, vertical de-





A Coast Guard boarding team embarks a vessel to conduct a security boarding. USCG photo.

livery of a boarding team brings members to the vessel deck via a hoist. No matter what the delivery method, Coast Guard armed support vessels remain in the area to provide assistance to the embarked teams.

The conduct of a security boarding is akin to a civil law enforcement traffic stop, where the law enforcement officer seeks to ensure the safety of the public at large.³ After an initial safety examination of the vessel and accounting for all crewmembers, the boarding officer:

- verifies the vessel's 96-hour notice of arrival information;
- ensures that ship and crew are operating consistently with the stated purpose of the voyage, within industry norms, and according to federal law and regulations;
- investigates any intelligence or law enforcement concerns related to the vessel and crew;
- collects information to assist the COTP in deciding whether to permit the vessel to enter or leave port, or whether additional security measures such as a vessel escort or positive control measures are warranted;
- verifies the vessel's cargo. This may include inspecting cargo containers, reviewing the dangerous cargo manifest, and confirming that all certain dangerous cargoes have been declared.

The boarding officer then examines the safety management certificate, document of compliance, and the international ship security certificate to ensure all are within the listed expiration dates. Upon completion, the COTP determines whether to allow an arriving ves-

sel to enter port, and, if so, what additional security measures may be required.

Coast Guard high-interest vessel security boardings are not new. Coast Guard boarding teams have conducted vessel visits at sea since the early days of the Revenue Marine. The only change has been focus. Today's security boardings protect our ports just as Coast Guard fishing vessel inspections protect our marine resources, or as MARPOL boardings protect our environment.

According to the Marine Information for Safety and Law Enforcement database, in the past 12 months more than 1,500 high-interest vessels were designated and boarded under the security boarding program. Although the reasons for HIV designation varied, each vessel was screened, vetted, boarded, and cleared, ensuring that the security of the nation's waterways was maintained. Through continuous monitoring and measuring, these programs ensure that the tactics employed to safeguard America's ports and waterways address constantly changing risks.

About the authors:

LCDR Malcolm McLellan has served in the Coast Guard for 15 years. He is a senior marine inspector and currently oversees the development of vessel security policies for foreign and U.S. flag commercial vessels.

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BOSN4 James Ziolkowski has been in the military for over 25 years. His law enforcement background has helped to improve Coast Guard policy and training.

Endnotes:

¹ See "Using Risk Ranking Tools to Identify Which Vessels to Examine or Board. How does the Coast Guard decide which foreign vessels to visit?" *Proceedings*, Spring 2007, p. 40.

² District and area commanders may direct Coast Guard law enforcement personnel to conduct security boardings aboard foreign flag vessels located in the U.S. contiguous zone (as defined in Presidential Proclamation 7219 of September 2, 1999). This is done to prevent infringement or investigate suspected violation of U.S. fiscal, immigration, sanitary, and customs laws if there are reasonable grounds to believe that the vessel is headed to or has departed from the U.S. territorial sea or internal waters, or is constructively present within the U.S. territorial sea or internal waters.

³ Properly trained and qualified armed Coast Guard personnel conduct security boardings on vessels subject to the jurisdiction of the United States pursuant to authority set forth in the Magnuson Act, 50 U.S.C. 191-194, 33 CFR Part 6, 46 U.S.C. Chapter 701, and 33 U.S.C. 1226(b)(3). If Coast Guard law enforcement personnel encounter non-compliant persons or vessels, or detect a violation of federal law during the course of a security boarding, they may make inquiries, examinations, inspections, searches, seizures, and arrests, and use reasonable force to compel compliance and defend themselves and others in accordance with 14 U.S.C. 89(a). Security boardings shall be conducted by uniformed and armed Coast Guard boarding teams. Other federal, state, and local law enforcement agencies may participate in security boardings.

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Boardings & Examinations of Foreign Flag Commercial Vessels

Qualship 21

*Improving the
quality of shipping.*

by LT KEVIN McDONALD
Qualship 21 Project Manager
U.S. Coast Guard Office of Vessel Activities
Foreign and Offshore Compliance Division

The Foreign and Offshore Vessels Division of the Office of Vessel Activities administers, manages, and implements foreign vessel and offshore vessel safety, security, and environmental protection compliance programs. This includes direction of Coast Guard field activities and oversight of third parties and industry partnerships in support of applicable laws and regulations. Most of the work aims to improve the shipping quality of foreign vessels that visit the United States.

Port State Control

Port state control (PSC) is the examination used to verify that foreign vessels visiting our ports meet international standards for safety, environmental protection, and maritime security. To be effective, port state control requires fairness, consistency, and transparency. The port state control process includes several steps that involve vessel notices of arrival, targeting vessels for examination, vessel examination, reporting and documentation of examinations, review and analysis of examination reports, and overall process improvements.

Nearly all foreign commercial vessels that visit the United States must provide a notice of arrival to the U.S. Coast Guard. Notice of arrival includes information on the arriving vessel, its recent voyages, its cargo information, its crew, its passengers, the operability of vessel equipment, and its compliance with the International Safety Management (ISM) code and the

International Ship and Port Facility Security (ISPS) code. The Foreign and Offshore Vessels Division actively participates in ongoing regulatory projects to improve the notice of arrival regulations that support Coast Guard PSC activities.

The Coast Guard screens all notice of arrival information to determine which arriving vessels present the greatest risk of noncompliance with international safety, environmental protection, and maritime security requirements and targets these higher-risk vessels for examination. The Foreign and Offshore Vessels Division annually reviews the targeting processes for improvements, and recently modified the port state control targeting matrix to improve targeting for older vessels and for certain types of vessels that experience more frequent detentions. (See related articles in this edition.)

Only about 10% of foreign vessels that visit the U.S. will qualify for Qualship 21 designation.

The Coast Guard directly improves the quality of shipping through its PSC exami-

nations of foreign vessels by detaining substandard vessels and making these vessels correct substandard conditions before they leave the United States. The Foreign and Offshore Vessels Division establishes policy for conducting these examinations and criteria for de-

termining what constitutes a substandard vessel. This policy and the criteria for detention are under almost continuous review to determine necessary improvements.

Field units that detain vessels must promptly report detentions to the chain of command. The Foreign and Offshore Vessels Division reviews the deficiencies associated with the detention and determines whether their scope and severity warrant a detention under one or more of the applicable international conventions. Generally, the deficiencies substantiate the detention; however, if the deficiencies do not warrant vessel detention, the Foreign and Offshore Vessels Division advises the captain of the port that the detention action is inconsistent with international regulations.

The Foreign and Offshore Vessels Division also reviews non-detention cases involving serious deficiencies to determine whether these may have merited detention, and provides appropriate feedback when necessary. This feedback and communication with units and the chain of command provide lessons learned, promote consistency and fairness in detention cases, and help to identify continuing education needs at field units.

As our port state control foreign vessel targeting matrix identifies ships on the far left side of the curve, Qualship 21 identifies ships at the far right side of the curve.

Every detention case is reviewed in detail at Coast Guard headquarters to establish targeting criteria for future port state control examinations. The division also tracks the port state control performance of various entities including the ship management (owners, operators, and charterers), flag administration, classification society, and recognized security organizations to establish which entities are associated more frequently with detained vessels. These particular entities present a greater risk, and the Coast Guard applies this knowledge to PSC targeting decisions. The Coast Guard provides entities identified as risks an opportunity to appeal any detentions the Coast Guard attributes to them. This case review and appeal system ensures to the greatest extent practicable that all U.S. actions pursuant to an intervention and detention are fair and consistent.

The Qualship 21 Incentive

Port state control is a means to improve shipping through enforcement activities. More often than not, the government is quick to come knocking on your door when something goes wrong, but it doesn't always have the same sense of urgency to acknowledge positive actions. The day-to-day prudence and responsibility a vessel operator must exhibit while compiling creditable safety and pollution prevention records is a heavy burden. Positive recognition of these efforts encourages owners and operators to continue these efforts. Accordingly, the Coast Guard has established the Qualship 21 program to recognize and reward foreign vessel owners and operators with exemplary safety management.

Coast Guard efforts to eliminate substandard shipping have focused on improving methods to identify poor quality vessels (targeting schemes). However, regardless of the score that a vessel receives in our targeting matrix, all foreign flag vessels are examined no less than once each year. This provides few incentives for the well-run, quality ship. Hundreds, perhaps thousands, of vessels are operated responsibly, and are typically found with few or no deficiencies. These quality vessels should be recognized and rewarded for their commitment to safety and quality.

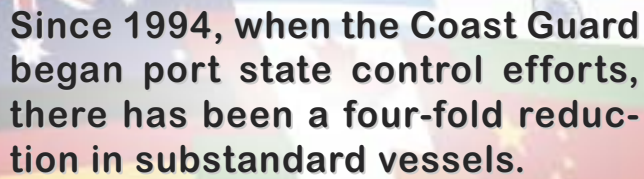
What Are the Criteria?

First, we consider compliance with standards. The vessel may not have been detained and determined to be substandard in U.S. waters within the previous 36 months. Furthermore, the vessel may not be owned or operated by any company that has been associated with a substandard vessel detention in U.S. waters within the previous 24 months. In addition, the vessel may not be classed or have its statutory convention certificates issued by a targeted class society.

Next we consider the vessel's violation history. The vessel may not have had any marine violations, any reportable marine casualties that meet the definition of a serious marine incident, or any major marine casualties in U.S. waters within the previous 36 months. Also, the vessel may not have had more than one paid notice of violation case (ticket) during the same period.

We also look at the vessel's recent inspection history. The vessel must have completed a successful U.S. Coast Guard port state control examination within the previous 12 months of eligibility determination.





Since 1994, when the Coast Guard began port state control efforts, there has been a four-fold reduction in substandard vessels.

Finally, we look at the vessel's flag state. Although Qualship 21 is a vessel-focused initiative, the flag state is a relevant factor in identifying quality ships. To qualify for a Qualship 21 designation, a vessel may not be registered with a flag state that has a detention ratio that is greater than 1%, as determined on a three-year moving average.

In addition, the vessel's flag state must have submitted to the IMO its self assessment of flag state performance, and a copy of the self assessment to the United States. This provision is intended to encourage transparency by rewarding those flag states that complete self assessments openly.

Qualship 21 Direct Incentives

The Qualship 21 standards are tough—and they are meant to be. Only about 10% of foreign vessels that visit the U.S. will qualify for this designation.

Why so few? The program is intended to be a bookend for our efforts to identify substandard ships. ISM, Standards of Training, Certification, and Watchkeeping, and other international standards define our expectations. Most ships are in a fair to good degree of compliance, and if there were a compliance curve, most would be in the big middle. As our port state control foreign vessel targeting matrix identifies ships on the far left side of the curve, Qualship 21 identifies ships at the far right side of the curve.

The principal direct benefit is significantly less Coast Guard activity on the vessel when it is in a U.S. port. Qualship 21 freight ships receive biennial freight exams. For Qualship 21 tank ships, the U.S. certificate of compliance is valid for two years, and a less detailed mid-period exam replaces the annual tank ship exam.

In addition, Qualship 21 vessels receive a 90-day grace period after the expiration of their biennial exam certificates, which will allow them to begin cargo operations prior to the commencement of their port state control exam. Further, tank ships may begin cargo operations before their port state control mid-period exam begins.

Qualship 21 Indirect Benefits

In addition to the direct benefits, we want the Qualship 21 designation to be sufficiently distinctive to generate other indirect benefits. If cargo owners, port authorities, and others who deal with ships know that ships bearing this designation are both more likely to be well managed and less likely to be impeded by compliance-related delays, the designation will accrue a definable value.

We don't yet know all the indirect benefits associated with Qualship 21, but speaking with members of industry has shown many possibilities. It is possible that some charterers choose to deal only with Qualship 21 vessels. It has been suggested that some vessel owners switch class societies or flag states in an effort to be eligible for the Qualship 21 designation. Insurers can use this information to measure risk, and port authorities may one day use it to set port fees. It is also possible that some targeted class societies will tighten their operations and that some flag states will recognize the need to exert tighter oversight.

Port state control and the Qualship 21 initiative have made a strong impact on the quality of ships that visit the United States. Since 1994, when the Coast Guard began port state control efforts, there has been a four-fold reduction in substandard vessels.¹

We have seen shipping companies step up safety management efforts in order to earn Qualship 21 recognition. We have also seen foreign ship registries institute strong programs to improve the quality of their fleets in order to qualify for Qualship 21 recognition for their registered vessels. Both port state control and Qualship 21 have reduced the risks to our ports and the marine environment in U.S. waters.

The bottom line is that the easier it is to distinguish between substandard, standard, and excellent ships, the better it will be for everyone involved in marine transportation.

About the author:

LT Kevin McDonald has more than five years of Coast Guard service in various positions involving marine inspection. He is a graduate of the U.S. Merchant Marine Academy and is a qualified marine inspector and investigator.

Endnote:

¹ U.S. Coast Guard "2006 Port State Control in the United States Annual Report."

The Coast Guard and Cruise Shipping

Ensuring safe, secure, and environmentally friendly shipboard vacations.

by MR. JOHN SEDLAK
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A taxi pulls up to the cruise ship terminal. A man, his wife, and two children emerge. Everyone is very excited, but also apprehensive. This will be the first time any of them has ever been on a cruise ship, let alone anything bigger than a fishing boat. They drop off their luggage and join the queue to board the ship. As they move along the line, they discuss their upcoming vacation.

“Yes, the seasickness pills are packed.”

“Yes, we remembered our swimsuits.”

“Make sure to keep track of how much money we’re spending.”

And of course, the kids ask,

“Remember that movie *Titanic*?”

The conversation continues, but now Mom and Dad have something else on their minds:

“Is my family safe?”

“Nothing like in that movie could ever really happen again, could it?”

“What if it did?”

“Who made sure that everything is okay on this boat anyway?”



If Mom and Dad knew of the continuous efforts cruise lines make to ensure that the ship is safe and secure, and understood the Coast Guard's efforts to verify that the ships meet international safety standards, they would travel with greater confidence.

Evolving Requirements for Coast Guard Cruise Ship Examinations

For the most part, large passenger vessels visiting the United States before the 1960s were in liner service, with the primary purpose of transporting passengers from one part of the world to another. This trade began to subside in the 1950s with the advent of swift and economical international transport of passengers in jet aircraft. The international passenger vessel industry responded by evolving into an entertainment/cruise trade. Throughout this period, the U.S. Coast Guard did not inspect or examine the foreign-flagged passenger/cruise vessels.

In the 1960s, a number of serious cruise passenger vessel fires involving heavy loss of life aroused the attention of maritime authorities worldwide. These fires involved the older passenger ships *Lakonia*, *Yarmouth Castle*, and *Viking Princess*.¹ These vessels lacked non-combustible construction within the vessel superstructure, which would have slowed the spread of flame and smoke.

In May 1966, the Maritime Safety Committee (MSC) of the Intergovernmental Maritime Consultative Organization (IMCO)² met to consider measures to improve the fire safety of passenger vessels. The committee first directed attention to the problem of fire safety in older passenger vessels and, after thorough consideration of the problem, agreed upon a series of proposed amendments to the fire safety regulations in SOLAS 60. In November 1966, representatives and experts from 46 countries met at a special IMCO assembly and adopted the proposed amendments and recommendations. These 1966 amendments proposed additional fire protection standards for existing passenger vessels.³

Congress showed great interest in this work, especially since the Coast Guard had conducted a Marine Board of Investigation into the *Yarmouth Castle* fire. On November 2, 1968, Public Law 89-777 (R.S. 4400(c); 46 U.S.C. 362(c)), Fire Safety Standards for Foreign and Domestic Passenger Vessels, came into effect, which required the U.S. Coast Guard to verify that foreign passenger vessels complied with the 1966 fire safety amendments.

In 1968, the United States unilaterally required all passenger vessels with overnight accommodations for 50 or more passengers to meet the 1966 fire safety amendments or U.S. passenger vessel requirements. The Coast Guard promulgated Navigation and Vessel Inspection Circular 2-68, which provided implementing guidance on how to conduct a control verification examination (CVE), specifying that "this verification may necessitate a degree of plan review, removal of panels, ceilings, etc., in addition to the testing of construction materials."⁴

On August 26, 1983, Public Law 98-89 provided additional authority for the Coast Guard to verify that foreign flag passenger vessels embarking passengers in U.S. ports comply with SOLAS convention requirements. In 1985, the Coast Guard promulgated NVIC 1-85, which expanded the CVE program to include a pre-arrival plan review for fire protection construction arrangements on foreign flag passenger vessels.

In 1993, the Coast Guard promulgated NVIC 1-93, which further expanded examination requirements and provided much more detailed guidelines for CVE procedures on foreign passenger vessels.

Since 1993, cruise ships have continued to evolve, making updated guidance for plan review and control verification examinations necessary for foreign passenger vessels operating out of U.S. ports. Cruise ships are larger, and use new marine evacuation and pollution prevention systems. New standards apply to cruise ships, including the International Safety Management System code and the International Ship and Port Facility Security (ISPS) code.

In August 2004, Congress expanded 46 U.S.C. Section 3505 to extend its applicability to "a foreign vessel carrying a citizen of the United States as a passenger." This law permits the secretary⁵ to prevent a passenger vessel carrying U.S. citizen passengers from departing a U.S. port, even if passengers were not embarked at the port, if the secretary finds that the vessel does not comply with the standards stated in SOLAS. All of these changes present new challenges to ship designers, builders, and to Coast Guard inspection personnel.

The Safety, Security, and Environmental Protection Net
IMO and its member states; the flag state of the vessel; recognized organizations and recognized security organizations; owner/operator/managers; and port states, including the Coast Guard, all have roles to perform to ensure proper implementation and compliance with international instruments. Each of these parties

| Key Amendments to SOLAS Requirements ⁶ | Description |
|---|---|
| 1966 Fire Safety Amendments ⁷ | <ul style="list-style-type: none"> • Vessels to be constructed of steel; with separation of accommodation spaces from machinery, cargo, and service spaces; also to be constructed with protection spaces, reduction of combustible material used in accommodation spaces, and installation of automatic sprinkler or fire detection systems. • Older passenger vessels must come into close conformity with one of the methods of fire protection specified in the 1960 Safety Convention. |
| SOLAS 1974 | <ul style="list-style-type: none"> • Included the 1966 and 1967 Fire Safety Amendments into SOLAS. |
| 1981 Amendments | <ul style="list-style-type: none"> • Improved steering gear requirements for passenger vessels. • Further limited use of combustibles in most compartments, including all passenger spaces. • Improved fire detection and sprinkler requirements. |
| 1983 Amendments | <ul style="list-style-type: none"> • Reorganized and improved lifesaving equipment requirements. |
| 1988 (April) Amendments ⁸ | <ul style="list-style-type: none"> • Added new regulations 23-2 and 42-1 of Chapter II-1—intended to improve monitoring of doors and cargo areas and to improve emergency lighting on roll-on, roll-off (Ro-Ro) passenger ships. |
| 1988 (October) Amendments ⁹ | <ul style="list-style-type: none"> • Improved damaged stability requirements for Ro-Ro passenger ships. • Added requirement. |
| 1989 Amendments | <ul style="list-style-type: none"> • Improved requirements for watertight doors and fire safety. |
| 1991 Amendments | <ul style="list-style-type: none"> • Added fire safety requirements for atriums. • Improved requirements for emergency drills and training. |
| 1992 Amendments | <ul style="list-style-type: none"> • Required retroactive application/refit of various fire safety requirements to older vessels—retroactive fire safety amendments with firm due dates. • Older vessels must come into compliance with full structural fire protection requirements by October 1, 2010, or be removed from service. |
| 1994 Amendments | <ul style="list-style-type: none"> • Added requirement for safety management systems—safe operation of ships. • Added enforcement tool for port state control on operational requirements and crew competence. • Improved piping requirements as a fire prevention measure for flammable oils. |
| 1995 (November) Amendments ¹⁰ | <ul style="list-style-type: none"> • Improved application of damaged stability requirements for Ro-Ro passenger vessels to existing vessels. • Added requirement for details of passengers aboard to assist potential search and rescue and helicopter landing areas. |
| 1996 (June and December) Amendments | <ul style="list-style-type: none"> • Improved requirements for stability of passenger ships in damaged condition. • Adopted classification rules for hull structures. • Improved lifesaving requirements and adopted the International Lifesaving Appliance code. • Improved fire safety requirements and reorganized requirements for clarity. |
| 2002 Amendments | <ul style="list-style-type: none"> • Added requirements to enhance maritime security aboard ships and at ship/port interface areas. • Created and adopted the International Ship and Port Facility Security code. |

does its part as a check-and-balance system for vessel compliance, providing a safety net to prevent casualties involving ships by identifying substandard conditions and taking action to correct these conditions before a casualty occurs. For example:

- The International Maritime Organization establishes minimum safety standards for ships and their crews and establishes approval criteria

for recognized organizations and standards for member state audit schemes.

- Flag states either certify vessel compliance with international standards by inspection of the vessel or through oversight of recognized organizations to ensure vessel requirements.
- When the flag state delegates, recognized organizations assume the compliance role. The flag state must still perform oversight to en-



sure that the recognized organization is meeting its obligations.

- The owner/operator/managers play the largest role in ensuring the vessel's compliance with international instruments by providing guidance, direction, and resources for the safe operation and management of the vessel.
- Port states exercising their port state control authority are another layer to ensure that other parties are complying with their responsibilities.

The IMO voluntary member state audit scheme provides yet another mechanism to ensure that flag, port, and coastal states are meeting their international obli-

Standards for Training, Certification, and Watchstanding; and Load Line conventions provide internationally accepted standards for the design, construction, outfitting, and operation of ships.

These standards address surveys, structures, stability, machinery, fire safety, lifesaving equipment, communications, navigation equipment, safety management, maritime security, pollution prevention, crew competency, watertight integrity, and safe loading.

Coast Guard Examination Policy

The Coast Guard requires foreign flag passenger ships arriving at the United States that embark passengers

for the first time (or make an initial U.S. port call while carrying U.S. citizens as passengers) to participate in the initial control verification exam (ICVE) process. The Coast Guard also requires such vessels that have returned to U.S. service after a prolonged absence from the United States to participate in the initial control verification exam process.



Figure 1: Nine regional MOUs currently exist, which cover: Europe and the North Atlantic (Paris); Asia and the Pacific (Tokyo); Latin America (Acuerdo de Vina Del Mar); the Caribbean (Caribbean); West and Central Africa (Abuja); the Black Sea region (Black Sea); the Mediterranean (Med); the Indian Ocean (Indian); and the Arab States of the Gulf (Riyadh).

gations by allowing other administrations to audit their compliance programs. The U.S. Coast Guard strongly supports this program. Many countries throughout the world have also banded together in Memorandums of Understanding to cooperate in regional port state control activities (Figure 1).

Standards for Cruise Ships

The various IMO conventions, including the Safety of Life at Sea; MARPOL 73/78; International Tonnage;

The ICVE process consists of the following steps, listed in the order that they should occur:

1. concept review, when necessary, for vessels in the design phase;
2. plan review for the final "as built" condition of the vessel;
3. structural fire protection examination (note this

step may be part of an initial control verification and is not limited to new vessels and major conversion vessels);

4. preparation for the initial control verification exam;
5. the initial control verification exam.

The Coast Guard performs detailed plan review of structural fire protection arrangements, which provides a great level of assurance that these key fire safety arrangements meet international standards. After review, these same engineers visit the ship and confirm that the actual arrangements on the vessel are the same as those shown on the structural fire protection plans.

to the vessel, which allows the vessel to embark passengers in the United States.

The Coast Guard also performs annual examinations to ensure that foreign passenger vessels continue to maintain all the systems the Coast Guard previously examined during the ICVE in proper operating condition and that the flag administration has performed annual renewal surveys as required by SOLAS Chapter I, regulation 7.

Inspectors focus on the vessel's firefighting, lifesaving, and emergency systems and witness a comprehensive fire and boat drill. In addition, inspectors examine the vessel for modifications that would affect the vessel's structural fire protection and means of escape. They

also check for modifications completed without the vessel's flag administration approval. After a satisfactory annual examination, the Coast Guard re-issues a certificate of compliance.

Finally, the Coast Guard performs periodic examinations to ensure vessels are being operated in a safe manner. This examination focuses on the performance of officers and crew, with specific attention paid to their training and knowledge of the ship's emergency procedures, firefighting, lifesaving systems, and performance during the drills. Since the overall material condition of the ship should not have appreciably changed since the annual examination, inspectors randomly sample inspection items

identified for examination. Inspectors also vary the scope of the examination depending upon the material condition of the vessel, the maintenance of the vessel, and the professionalism and training of the crew.

At every Coast Guard examination of a foreign cruise ship, the Coast Guard will determine whether the vessel is in substantial compliance with the international convention standards.

Expanding the Pool of Vessels Subject to Control Verification

In order to implement the revised regulations,¹¹ the Coast Guard is expanding the control verification examination program to include foreign passenger ves-



CWO Charles Kinnear, left, from Sector Miami describes the structural fire protection underlying the overhead panel to new inspector LT Josephine Heron during a control verification examination.

No other port state provides this level of attention to detail for passenger vessels. The Coast Guard also performs the detailed initial control verification examination noted above. The Coast Guard's inspection team will focus on structural fire protection, fire protection systems, means of escape and related signs, lifesaving equipment, engineering systems, emergency fire and boat drills, and the resolution of any outstanding plan review comments. The inspectors may vary the scope of the ICVE as necessary to verify classification society and flag administration controls on quality of construction and agreement with the reviewed drawings. After a satisfactory initial control verification examination, the Coast Guard issues a certificate of compliance





From left, inspectors CWO Charles Kinnear and CWO Frank Stoecker from Sector Miami observe a fire drill during a control verification examination.

sels that call on U.S. ports with U.S. citizens as passengers. Previously, the program only covered foreign passenger vessels that embarked passengers at a U.S. port.

The captain of the port or officer in charge, marine inspection will review notice of arrival information to target foreign passenger vessels that do not hold valid certificates of compliance but will be making port calls with U.S. citizen passengers aboard. These officials will target such vessels for port state control and outreach to begin the process to enroll these vessels into the CVE program.

The Coast Guard will provide expectations to owners of vessels that make port calls in the United States with U.S. citizen passengers embarked at a foreign port. We cannot accurately establish the population of vessels affected by this expansion. Nevertheless, we will inform the industry of the requirements and the implementing policy. The Coast Guard will do this from the headquarters level through broad outreach to the industry by publishing policy in development on the Internet and through contact with industry groups such as the Cruise Line International Council Association.

Field units will provide detailed guidance to vessels targeted for outreach as they arrive in the United States by informing the vessel of the revised law, providing the vessel master with a copy of the new policy in development, explaining plan review submission requirements, and explaining ICVE requirements. At the first arrival, the Coast Guard will also inform the ves-

sel's owner, operator, master, or agent in writing that they must take timely action to bring the vessel into compliance with the new requirements within six months after the vessel's first arrival.

The vessel must obtain a certificate of compliance within six months of its first arrival or become subject to prevention of departure, as authorized by 46 U.S.C. 3505. A vessel earns its initial certificate of compliance by successfully completing the ICVE process.

Within two years following promulgation of the new policy in development, the Coast Guard will expect all foreign flag passenger vessels that embark passengers in the United States or make

port calls in the United States with U.S. citizens as passengers to hold certificates of compliance. The Coast Guard will prevent such vessels that fail to meet international standards, as determined by the CVE program, from departing port with U.S. citizens aboard.

About the authors:

Mr. John Sedlak has more than 28 years of service to the Coast Guard in various military and civilian positions involving marine inspection, plan review, and naval engineering. He is a graduate of the U.S. Coast Guard Academy and the Naval Postgraduate School and is a licensed professional engineer.

LT Kevin McDonald has over five years of service to the Coast Guard in various positions involving marine inspection. He is a graduate of the U.S. Merchant Marine Academy and a qualified marine inspector and investigator.

Endnotes:

- ¹ The fire on *Lakonia* on December 22, 1963, approximately 180 nautical miles north of Madeira, resulted in 128 deaths. The fire on the *Yarmouth Castle* on November 13, 1965, approximately 60 nautical miles northwest of Nassau, Bahamas, resulted in 90 deaths. The report of the U.S. Coast Guard's Marine Board of Investigation of this casualty is available at <http://www.uscg.mil/hq/g-m/moa/reportindexcas.htm>. The fire on the *Viking Princess* on April 8, 1966, in the Caribbean near Cuba and Haiti, resulted in two deaths. The crew's orderly and professional conduct in evacuating the vessel probably saved many lives.
- ² In May 1982, IMCO changed its name to the International Maritime Organization (IMO).
- ³ IMCO Resolution A.108(ES.III).
- ⁴ Navigation and Vessel Inspection Circular 2-68.
- ⁵ In 46 USC Section 2101, "secretary" refers to the head of the department in which the Coast Guard is operating.
- ⁶ Description of all amendment provisions not included here.
- ⁷ In 1968, the United States unilaterally required all passenger vessels with overnight accommodations for 50 or more passengers to meet the 1966 Fire Safety Amendments or U.S. passenger vessel requirements.
- ⁸ New requirements resulted from *Herald of Free Enterprise* casualty.
- ⁹ See note 7.
- ¹⁰ New requirements resulted from the *Estonia* casualty.
- ¹¹ 46 U.S.C. 3505.

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Reader's Survey





The Online Fight Against Substandard Shipping

Promoting quality and transparency in shipping.

by MR. JACQUES BENARD
Director of Equasis

The results of substandard shipping are too often visible to the community at large, whether it be the high-profile foundering of a large tanker in coastal waters, or the sight of a poorly maintained bulk carrier detained in port following a port state control (PSC) inspection. Substandard shipping also has detrimental effects on the public perception of the shipping industry, jeopardizes the safety of those aboard, and threatens the environment in which we all live.

Equasis is a unique public information website (www.equasis.org) that is recognized as an essential tool to help promote quality and safety in global maritime transport. It was created to help promote unbiased, safety-related marine information. The website helps enable charterers and other key marine community decision makers to make a better selection of ships and be better informed about the maritime organizations they interact with.

Background

Equasis stems from the quality shipping campaign launched by the European Commission (EC) and the United Kingdom (UK) government in 1997. The effort aimed to improve maritime safety by bringing together and enlisting the help of all players involved in various fields of marine business.

At the time, there was a lack of transparency with regard to the information relating to ships and their operators. This was identified as the main barrier to a

genuine, “quality” culture in the shipping industry. While the information was plentiful, it was often scattered and difficult to access. This challenge inspired a unanimous call from all industry sectors to make such information more easily accessible. In 1998, the EC and the French Maritime Administration worked to develop an information system that would collate existing safety-related ship information from both public and private sources and make it available on the Internet.

Another aspect of the quality shipping campaign is the European Maritime Industry Charter on Quality, which the International Union of Marine Insurers has signed. This requests that participants “take reasonable care to ensure that the ships with which they are dealing are of good standards of quality.”

Shortly after Equasis was conceived in 1997, the grounding of the oil tanker *Erika*—one of Europe’s worst environmental disasters—created a backlash. The European Commission and France, together with five other maritime administrations (Japan, Singapore, Spain, the UK, and the U.S. Coast Guard) signed a Memorandum of Understanding (MOU) to establish the Equasis information system in an effort to prevent future disasters. As a result of this quick rise to action, Equasis went live in May 2000.

The seven signatories formed a supervisory committee that governs Equasis. The nationalities of these seven original partners demonstrate the effort’s worldwide

ambitions. The system's daily operation is administered by a management unit in Paris, which works in liaison with the IT support of the Centre Administratif des Affaires Maritimes in St. Malo, France.

77,000 Ships

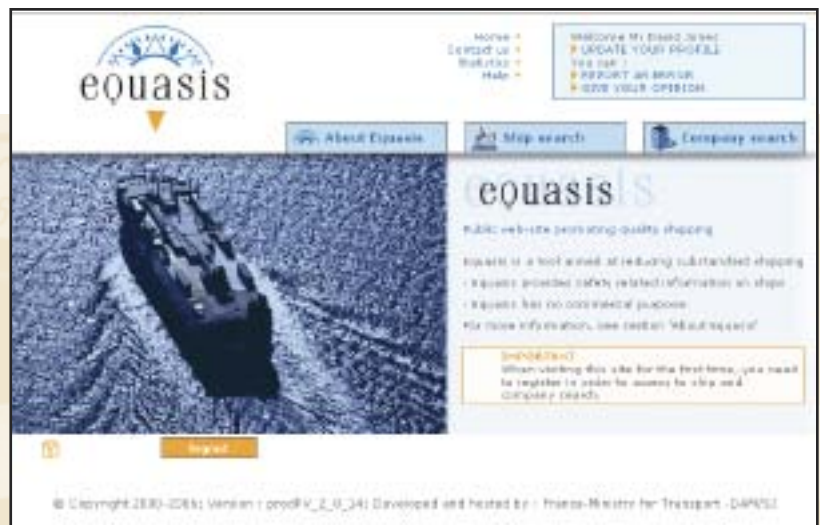
Equasis is an international database covering the world merchant fleet of ships over 100 gt that are currently in service or under construction. It includes quality- and safety-related details of more than 77,000 ships, with information sourced from public authorities and industry organizations. To date, nearly 40 different sources are supplying data to Equasis, including:

- three established port state control regimes (Paris MOU, U.S. Coast Guard, Tokyo MOU);
- International Association of Classification Societies Ltd. classification societies;
- P&I (protection and indemnity) clubs belonging to the International Group;
- three trade associations (Intertanko, Intercargo, International Ship Managers Association);
- the private inspection authority of the Chemical Distribution Institute;
- the Oil Companies International Marine Forum.

Furthermore, Equasis offers hyperlinks to two external databases: the International Labour Organization (ILO) and the International Transport Workers' Federation, where specific information screens are in place for Equasis users.

The standard Equasis ship record comprises four main web pages:

- The "ship info" page provides an overview of the ship's identification, classification, international safety management certificates, P&I cover, and condition assessment scheme information (where applicable).
- The "certification" page gives trade association membership information plus details of special certification such as the green award scheme.
- The "inspection and manning" page complements the classic "hardware" method of judging a ship's quality by displaying information that is currently available on the human element of the ship, together with port state control and private inspection information.



The Equasis website, which can be found at www.equasis.org.

- The "history" page displays items of historical information, such as former names, class, owner/manager, flags, etc.

The Philosophy of Equasis

Equasis is a non-profit-making organization delivering a public service that has no commercial purpose and does not compete with any commercial maritime data providers. By providing free data, it will help improve the decision-making process as to whether or not to do business with a ship.

Rating the quality of ships is a very complex and subjective matter. The definition of the relevant parameters and their relative weighting may vary considerably from one business sector to another. For example, an insurer may first take into account the casualty record of the ship or its manager, while the port state control officer could focus on previous detentions. Consequently, no rating of ships is given on the website, and Equasis provides neither a list of "good" nor "bad" ships—only factual information on ship quality and safety. Users are invited to make their own judgement on the quality of the ship being considered and the maritime bodies with whom they are dealing. The final decision to choose a ship remains the users' responsibility.

Information is available on Equasis on a ship-by-ship basis and does not allow the user to shortlist ships using criteria such as age, type, flag, or class. Equasis does not replace online brokering facilities or commercial ship databases, but, rather, complements them to help promote more transparency.

Transparency is a goal that almost everyone in shipping is trying to achieve today, but its application when deal-



ing with information is difficult. With Equasis, transparent information is translated into factual, comprehensive, reliable, and understandable data.

Factual Data

The data displayed on the system is, in most cases, already available on the Internet. Therefore, Equasis does not produce new data, but simply collates this diverse, existing data and presents it on one site. The added value, in addition to making life easier for the user, is that the juxtaposition of these potentially diverse pieces of data may serve to complement one another, and a new overall picture of a ship may emerge.

In some cases, missing information relating to a particular ship or company may trigger either the user to make some further enquiries to the shipowner or manager, or galvanize the shipowner or manager into ensuring the displayed ship or company particulars are current.

Comprehensive Data

The limitations of available information could either come from only partial participation of the community involved or an imperfect network of data. Neither of these limitations display a fair picture. For example, imagine insurers using information displayed on “crew claims” as one of their indicators of quality. Claims are dealt with very differently from company to company depending on the deductibles, the labor and social security systems of each country, and other such factors. It would therefore be unfair to judge such “quality,” as this data would be demonstrated inconsistently across the board. Therefore, this incomplete information could result in a distorted picture.

Much discussion took place before deciding what kind of information was to be published on Equasis. Agreement was reached that the information should be directly related to the quality and the safety of ships, and be available for the vast majority of the fleets involved.

The findings of the port state control inspections are also considered relevant to assessing ship quality. This is especially true considering that the PSC officers act as an essential mechanism in the process of enforcement of International Maritime Organization (IMO) and ILO regulations, with a genuine power to oblige a substandard ship to correct its situation. Port state control reports serve as one of the most reliable indicators of the performance of a ship, which is why Equasis makes this information available.

With different users requiring access to different types of information, choosing what kinds of information to display on Equasis is, of course, subjective. Responsibility for how to present the data, control of its quality and accuracy, and updating the information rests with the Equasis editorial board, an advisory body that meets twice a year and is comprised of data provider representatives. The International Group of P&I Clubs and the International Underwriting Association of London represent the insurance sector on the editorial board.

Reliable Data

Unfortunately, the quest for transparency is not possible if the data is not reliable. Data reliability must be considered within the context of its creation. It depends heavily on the provider, its technical computing capacity, and how frequently it updates the data. On Equasis, the data provider is given, along with each piece of information listed, as well as the date of that record or survey.

Procedures have been implemented to monitor the data and request corrections as necessary. Users may challenge the accuracy of a specific piece of information by contacting the Equasis management unit, who will process the enquiry and inform the data provider. The data provider investigates the case and, where necessary, amends the record before giving Equasis the updated, corrected information. Equasis is not allowed to correct the data displayed on its own as it does not “own” a provider’s information. Furthermore, it is considered more relevant and efficient to have the correction made “upstream,” at the source itself.

Ship owners and managers, who currently account for about 15% of Equasis users, understand the necessity to have their ships properly described in the system. They are now actively participating de facto in the improvement of Equasis data by advising us of any amendments to their fleet in a very timely manner. This is a very efficient way of updating the database.

Understandable Data

Even if information has the qualities mentioned above, the user may still not easily understand it. For instance, if users don’t understand the complexity of the port state control inspection procedures, they may be misled by the information presented. Accordingly, “help” pages provide valuable information to guide the user and give a better understanding of the information that is displayed.

Equasis is accessible to any individual or organization free of charge. It intends to allow free access for the foreseeable future thanks to the supporting marine administrations and their continued funding commitment.

To access the “ship search” module for the first time, a user needs to complete a simple registration procedure so that a statistical survey can be made to evaluate Equasis’ audience and assess the client types it is reaching.

Audience

Equasis was regularly used at a rate of over a million hits per month during the first six months of 2007 and more than 20,000 users regularly access the site each month. Analysis of users by business sector shows that the main Equasis target group—charterers, insurers, shippers, brokers, and financial institutions—accounts for the greatest percentage of users at present. Geographically speaking, user distribution by country demonstrates that Equasis has a truly global spread, with users now coming from almost every corner of the world.

The audience figures are very encouraging. After nearly seven years of operation, the numbers have demonstrated growth year after year.

Equasis operation procedures have also accelerated the exchange of information. For instance, some ship owners and managers have informed Equasis of changes in their fleet as soon as they have occurred. Consequently, during some recent mergers of ship management companies, fleet change notifications have been passed to Equasis in quasi-real time.

Equasis is even credited with helping to improve the data systems of some data providers, owing to global data collaboration and exchange where simple data comparisons could be made. It has also been credited with being a catalyst in the process of disclosure of private vetting reports to port state control officers.

The industry has started to recognize Equasis’ main achievement—to push toward the ultimate goal of a better, more transparent world maritime information system.

Future Development

After seven years of continued growth, Equasis has found its feet, but a lot of work still lies ahead to im-

prove its quality of data even further and extend its user audience. It also endeavors to research, gather, and display further sources of high-quality, safety-related maritime data.

Equasis constantly reviews the data displayed on the site to extend its range; continued searches for quality data are always underway. It is currently exploring several directions, including greater use of PSC data and increasing the number of worldwide marine administrations participating.

The future of Equasis has been secured even further with the signing of a new Memorandum of Understanding in January 2007 incorporating new membership, which now consists of Australia, Japan, Norway, Spain, the United Kingdom, and the European Maritime Safety Agency, acting as the representative of the European Commission. The U.S. Coast Guard and the International Maritime Organization both currently have observer status.

On a personal level, in my youth while at sea serving as a radio officer in the merchant navy, during the night when radio waves have a longer range, I often heard ships in distress, but was powerless to act because the casualty was too far from our ship. These events made me very aware of the importance of safety at sea, and the concern stayed with me throughout my career. Today, retired from the French Maritime Administration, I am proud to be able to work on a project such as Equasis to continue to make a valuable contribution to help improve the quality and safety of ships at sea.

Equasis represents the first concrete step to establish transparency and the exchange of data in shipping. We dream of the day when logging onto Equasis becomes an automatic step in the process leading to the decision as to whether or not to do business with a ship. That will be our gauge of just how close we are to achieving our objective of promoting quality in shipping.

About the author:

Mr. Jacques Benard has more than 40 years of maritime experience, most recently serving as the Rear Admiral of Maritime Affairs in Paris, France. Previously an officer in the merchant navy, he joined the French Maritime Administration in 1974 and worked as a flag state and port state control officer; head of the Inspection Centre, director of the French Maritime Computer Centre, and regional director of maritime affairs. Retired since 2006, he was appointed director of Equasis in May 2006.





Wood and Iron

*This is not your
parents' shipping company.*

by MR. JONATHAN HENSON

Vetting Program Manager, Maersk Line, Limited

MR. STEPHEN KRUPA

Fleet Manager, Maersk Line, Limited

In the good old days, when ships were wood and the sailors were “made of iron,” a typical commercial shipping company, whether run by a corporation, family, or individual, had, shall we say, a strong personality. Leaders in the shipping industry were often described as “rugged” individuals. The shipping industry was widely unregulated as opposed to today’s company. Ships in the old days rarely got attention except when records were broken (*Thermopylae*)¹ and disasters struck (*Titanic*). The shipping company of today doesn’t break records unless they are the largest container ship (*Emma Maersk*) or spill oil (*Exxon Valdez*). Today’s company faces myriad regulations, conventions, rules, and requirements imposed by not only its country of residence, but foreign countries, as well. Although the methods of conducting business in today’s economy have changed dramatically, some similarities to the days of old remain consistent—the vessel’s master, officers, and crew ultimately represent the shipping company and its personality.

Maersk Line, Limited—A Short History Lesson

Maersk Line, Limited (MLL) provides several well-known multinational businesses and the U.S. government with logistics, maritime, and transportation services. We combine our expertise of intermodal networks with that of A.P. Møller-Maersk, one of the world’s largest and most experienced shipping companies. Maersk Line, Limited was incorporated in 1947 and owns, operates, and charters 55 U.S.-flagged commercial and government ships around the world. It is the largest U.S. flag carrier for the U.S. government. In 2005 MLL carried over 75,000 containers. MLL operates

ships classed by three different classification societies: the American Bureau of Shipping, Det Norske Veritas, and Lloyd’s Register of Shipping.

Maersk Line, Limited is headquartered in Norfolk, Va., staffed by approximately 200 personnel, and provides support to more than 4,200 mariners. It is an International Organization for Standardisation (ISO) 9001-, 9002-, and 14001-certified company. We also have an international standard industrial classification code 61, water transport. For all the titles and codes associated with MLL, the bottom line is that we manage a diverse fleet of ships throughout the world. One of our guiding principles is “constant care.”

Like the Coast Guard, Maersk Line, Limited has a rich sea-going heritage. In 1904, A.P. Møller founded the beginning of the company with one ship. Now, it has over 1,000 ships trading around the world. A.P. Møller-Maersk’s founder used the term “constant care” after World War II to instill a sense of ownership and responsibility in masters and their crews. The expression best known to the public comes from a letter dated December 2, 1946, from A.P. Møller to Maersk Mc-Kinney Møller, who was still in America at the time. The letter was part of a discussion on the future organization of the liner activities after stagnation during the second World War, and A.P. Møller took this opportunity to call attention to the fundamental principle in his personal as well as professional life: “No loss should hit us which can be avoided with ‘constant care,’ this must be a watchword throughout the entire organization.”



The M/V Maersk Virginia, a U.S. flag container ship. Photo courtesy Maersk Line, Limited.

Constant Care

To succeed in today's shipping business, a company must comply with myriad national and international regulations. Most regulations are the minimum, but to truly succeed and achieve customer satisfaction, a company must go beyond the minimums. The Coast Guard's "customer" is the tax-paying public. They have an expectation of service delivery. Likewise, our customers expect service for the money they pay us. MLL attempts to meet and exceed our customer expectations through various means.

For example, Maersk Line, Limited conducts vettings along with annual vessel safety and security audits. The International Safety Management (ISM) code and International Ship and Port Facility Security (ISPS) code require audits by law, but not vettings, which are similar to the pre-alternative compliance program Coast Guard reinspections. MLL's fleet—along with the rest of the world's—is guided by ISM and ISPS/MTSA (Marine Transportation Security Act of 2002) regulations. But will these regulations keep our people and ships safe? Not regulations alone; it takes people and systems to ensure compliance and make our vessels safe working environments. To that end, MLL has its own quality, environmental, safety, and security departments organize the regulatory internal and external audits as well as vettings. This is a small part of the social responsibility a modern-day shipping company invests to ensure not only regulatory compliance, but constant care of the fleet.

Maersk Line, Limited is working to reduce fuel consumption by 10% throughout the fleet. Additionally, MLL vessels calling on California terminals voluntarily

switch over to low-sulfur fuel within 24 nautical miles of the port and use silicon paint on hulls of our champion and G-class vessels. We have participated in Sector Hampton Roads' National Preparedness for Response Exercise Program drill, which provided a great training opportunity for the Coast Guard and MLL staff in using the Incident Command System format. Further, several MLL vessels have participated in antiterrorist drills and exercises with the U.S. military and Coast Guard.

The vessel spends many hours preparing for arrival and cargo, no matter what the type—bulker, container, or tanker. This preparation time corresponds with coastal and harbor navigation. As the ship prepares for cargo, the navigation watch is secured, the cargo watch takes over, and the engineers begin on projects that can take place only in port. Sometimes the port call is short, as the crew prepares for arrival, works cargo, then prepares for departure. Compliance with STCW hours of work rules is always ensured. Coast Guard inspectors and investigators who have spent time aboard cutters know the drill, especially the 4 x 8 watchstanders.²

And Then the Coast Guard Shows Up

All programs and initiatives MLL participates in are meaningless if the Coast Guard shows up and removes a vessel's certificate of inspection (COI) or international ship security certificates. Maersk Line, Limited could have the best safety record in the history of shipping, but it would mean nothing after the removal of a COI. Unlike the days of old, when the ship owners decided what was safe and what was not, several agencies now make this determination for the shipping owner. We must all comply with many different laws and regula-



tions, such as those of the Coast Guard (33, 46, and 49 CFR); the International Convention for the Prevention of Pollution from Ships; the International Convention for the Safety of Life at Sea; ISPS/MTSA; Customs and Border Patrol; and Standards of Training, Certification, and Watchkeeping.

The Coast Guard inspector of today may or may not have experience afloat on Coast Guard cutters. The inspector boarding a Maersk Line, Limited ship should expect the master and chief engineer of the ship to have at least 20 years' experience—that means 20 years of dealing with Coast Guard inspectors as well! Today's master is not only in charge of a multi-million dollar asset to the company, but is also responsible for the lives of the men and women aboard the ship. Today's masters must also handle payroll, meet the requirements of various U.S. and foreign port regulations, and submit regulatory reports (ballast water, Right Whale sightings, fuel usage, and others, not to mention company-required performance reports). The master must also co-

ordinate with MLL and local vendors to ensure stores are arriving on time, make tug and pilot arrangements, and complete document exchanges with the port facility security officers. Some of our ships call on Indian ports, which are in MARSEC II (Maritime Security Level II). Other ships in our fleet call on West and Eastern African ports which may not be in MARSEC II, but require the ship to deter stowaways and pirates.

The Good Coast Guard Inspector

As any good Coast Guard inspector knows, masters are required to keep their ships consistent with the COI requirements. The master does this with minimally manned crews. This is like the USCG running a bear-class, medium-endurance cutter with one-third the crew—and half the money! To support the ship, the master relies on his or her port engineer and port captain in the office. The crewing staff at MLL takes care of supplying the ship with officers and crew, while the purchasing group ensures the vessel is properly supplied with parts, food, and fuel. Like any organization,



The M/V PVT Franklin J. Phillips, one of five maritime prepositioning ships operated by Maersk Line, Limited for the United States government. Maersk Line, Limited operates a total of 30 non-combatant ships for the U.S. Navy's military sealift command. Photo courtesy Maersk Line, Limited.

there are flaws in the process, like when a member of the crew gets hurt or quits unexpectedly. A critical part doesn't arrive when it's supposed to or the Italian Coast Guard shows up to conduct a port state control inspection during the port call in Cagliari. The master must not only comply with Coast Guard regulations, but with international requirements, as well, while managing parts and personnel.

Contrary to popular belief, neither the master nor operators of an American-flagged vessel are experts on all aspects of Coast Guard regulations. Also, ship's masters want to do the right thing and comply with all applicable regulations. Sometimes CG-835s (notices of outstanding merchant marine inspection requirements) come from oversight—nothing more. Most shipping companies would rather have a complementary than an adversarial inspection, as we all know who wins the adversarial relationship with the Coast Guard.

The master and crew expect the Coast Guard inspector to be the expert; the master also expects the Coast Guard inspector to be reasonable and fair. Many masters breathe a sigh of relief upon seeing an older inspector walking down the quay as opposed to a younger one. If you put yourself in the master's place, would you rather have an inspection by someone just out of school with no seagoing experience, or someone who has been around in the inspection business for a while?

So what's a marine inspector to do? Or for that matter, what is a marine investigator to do? Answer: Learn from your counterparts in industry. At Maersk Line, Limited we have taken on a mini-industry training project with the investigations department at Sector Hampton Roads. Many new investigators arrive at their jobs without benefit of being a qualified marine inspector, as was required in the past. Our partnership with Hampton Roads provides a "modified" industry training program for members of the investigations staff. The industry trainee spends time in our office learning what it is like to manage a multi-million dollar asset (ship) from the perspective of port engineers, purchasing, crewing, and the quality department. Industry trainees are required to complete writing projects that will enhance their knowledge of the shipping industry and the impact of regulations on the cost of doing business. In the end, we hope the investigator in training will learn from MLL and share this knowledge with fellow investigators and Coast Guard inspectors.

Senior officers aboard most ships in the world today are hand-picked by management for their leadership and management skills. In a word, learn from your counterparts and you will be a better inspector/investigator for it. Today's master and officers want to do the right thing with regard to keeping their vessels safe and up to inspection standards. Today's shipping company, whether it is MLL or another company, wants to do the right thing and will not shy away from complying with applicable regulations. In many cases, a good company goes beyond the minimum requirements. Maersk Line, Limited and other upright shipping companies are trying to be profitable while complying with regulations, keeping our people safe, and protecting the environment.

Today's shipping company faces many challenges from its parent government and outside agencies. A strong personality will not alone ensure a professional and safe organization—rather, it takes many professional people, especially masters and crew, to maintain a successful shipping company. Even while constantly reacting to today's challenges, masters and crews keep the ship at sea with the professionalism of days past. Maersk Line, Limited, like many upright companies, endeavors to create a safe environment aboard its ships while meeting the moral and regulatory requirements of a good shipping company.

About the authors:

Mr. Jonathan Henson served in the Coast Guard for 30 years, retiring as CWO4 (BOSN4). Mr. Henson spent the first 15 years in Coast Guard cutters, a vessel traffic service, and two training commands. The second 15 years were spent at four marine safety offices, including the marine inspection office Europe. Henson joined Maersk Line, Limited in 2006 as the vetting program manager and lead auditor.

Mr. Stephen Krupa served in the Coast Guard for 29 years, retiring as captain in command of Support Center Elizabeth City. He served on five cutters. He has also been a contracting officer for new ship construction and repair (WTGB, WLB, WLM, WHEC FRAM), acquisition (USCG headquarters), law enforcement (District Five and U.S. SOUTHCOM), and finance and budget (MLCPAC). He joined Maersk Line, Limited in October 2005, and is currently a fleet manager in the commercial liner group.

Endnotes:

- ¹ On her maiden voyage, the clipper ship *Thermopylae* made a record crossing from Gravesend, UK to Melbourne, Australia.
- ² A "4 x 8" watch is the standard work schedule of watchstanders on merchant marine vessels. In a 24-hour period, each crewmember stands watch for 4 hours, then is "off" for 8 hours, then on again for another 4 hours, then "off" again. Additional ship duties and overtime duties must be completed during the off-watch hours, which often times cuts into personal care and rest time.





Alternate Compliance Programs

Overseeing the authorized classification societies.

by CAPT EDWARD PARSONS

Classification Society Liaison Officer, U.S. Coast Guard Office of Vessel Activities

The alternate compliance program (ACP) was implemented via final rule on December 24, 1997, after a pilot program that began in February 1995. There are currently approximately 270 vessels in the ACP. Most of these vessels are deep draft cargo, container, and tank ships.¹

Under this alternate compliance system, certain classification societies can be designated as having "ACP authority" if they meet extensive criteria, including ISO 9000 or equivalent quality management system certification for documentation and procedures, as well as prior attainment of authorization to issue most statutory certificates.² There are currently four ACP-authorized classification societies—the American Bureau of Shipping, Lloyd's Register of Shipping, Det Norske Veritas, and Germanischer Lloyd.

Any vessel inspected under the alternate compliance program must meet all applicable international convention requirements and classification society rules for that type of vessel. All ACP classification societies must also develop, in conjunction with the Coast Guard, a supplement to address any gaps between class rules and Coast Guard regulations considered critical to ensure safety. Due to differences in classification society rules, these supplements are unique to each classification society.

ACP classification societies may conduct a wide array of plan review and vessel survey functions on behalf of the Coast Guard. Survey functions include conducting drydock, internal structural, and cargo tank internal examinations for credit on behalf of the Coast Guard. In addition, the alternate compliance program class society surveys all major machinery, hull, lifesaving, and firefighting systems for compliance. It also must be authorized to issue, at a minimum, five international convention certificates, including SOLAS safety equipment

and construction, international oil pollution prevention, international loadline, and international tonnage.

Under this system of compliance, the Coast Guard relies on the work done by the authorized society engineers and surveyors. Upon review of the results of the applicable surveys, it issues or endorses the certificate of inspection to the vessel attesting to its compliance with U.S. law and regulations governing its service and route of trade. The Coast Guard also conducts annual examinations of a reduced scope (which are more similar to port state control examinations conducted on foreign-flag vessels), and additional re-inspections as deemed necessary based on risk factors for each vessel.

The Coast Guard retains authority for manning determinations and certificates; manning all required security plans and certificates, including security plan review and compliance verification with the International Ship and Port Facility Security (ISPS) code and the Maritime Transportation Security Act (MTSA); and issuing the international ship security certificate.

Administrative Oversight

Alternate compliance brings with it a new and inherent responsibility—oversight. Systems of oversight have replaced training, documentation, and inspection for certification as critical elements of the Coast Guard's ability to verify statutory compliance in support of vessel safety and issue Coast Guard certificates of inspection. From inception, alternate compliance programs have successfully eliminated redundant Coast Guard and classification society inspections associated with

the traditional means of certification. However, although the *authority* for carrying out many plan review and inspection activities has been delegated to the authorized classification societies, the *responsibility* still rests with the Coast Guard to ensure that statutory and regulatory requirements are being met.

The offset to reduced Coast Guard involvement in plan review or inspection work is effective oversight. Several control measures provide an initial level of oversight in the administration of the alternate compliance programs.

- Prior to being considered for ACP authorization, a classification society must first demonstrate experience and favorable performance in carrying out past delegated functions on behalf of the Coast Guard.
- Process review via Coast Guard auditing classification society procedures and processes plays a part in verifying performance and documenting vessel compliance issues and follow-up actions. The Coast Guard also participates in formal audits of classification society quality management systems for certification by independent external auditors.
- An ongoing standards review takes place in the form of updates to the supplement. Content can be revised according to identified survey or technical plan review items that need further clarification or classification society rules that need to be updated to include supplement items.
- Technical standards quality assessment is accomplished through an ongoing program of oversight consisting of classification society plan review auditing done under alternate compliance program authority by the Coast Guard Marine Safety Center.
- Case study reviews conducted as real-time issues involving alternate compliance program vessels are brought to the attention of the U.S. Coast Guard Office of Vessel Activities. Direct and timely feedback often provides impetus for a review of procedures by either the Coast Guard, the classification society, or both.
- Retention of authorities is another control that ensures Coast Guard involvement in certain functions, and when vessel conditions become non-routine. Examples of retained authority include investigation of marine casualties, manning determinations, review of requests for extension of drydock involving extensions of statutory certificates, and security-related

The Maritime Security Program vs. the Alternative Compliance Program

Title VI of the Merchant Marine Act of 1936 was amended by passage of the Maritime Security Act of 1996, authorizing a maritime security fleet under the maritime security program (MSP). The U.S. Maritime Administration administers the MSP. The current MSP, authorized by legislation contained in the National Defense Authorization Act of 2004,¹ is intended to provide ready access for U.S. military sealift in support of national emergency or military contingencies.

A provision was established to allow reflagging foreign vessels to U.S. flag that are deemed to meet strategic requirements, as defined by the U.S. Transportation Command. There are currently approximately 38 vessels inspected under the maritime security program.

Some differences between the alternative compliance program and maritime security program are worth noting. While there are supplements developed for the ACP, there are none for the MSP. Instead, MSP vessels must meet classification society rules of a Coast Guard-recognized classification society and all current applicable international convention requirements, as interpreted by the foreign flag administration.

Unlike those in the alternative compliance program, there are no MSP "authorized" classification societies. Any of the classification societies that are "recognized" by the Coast Guard may class the MSP vessels. In addition to the four classification societies previously mentioned (the American Bureau of Shipping, Lloyd's Register of Shipping, Det Norske Veritas, and Germanischer Lloyd), this list expands to include Bureau Veritas.

The delegated authorities are not the same for each classification society. Where international convention certificate authority is not delegated to a recognized classification society, the Coast Guard must carry out inspections as needed to verify compliance and issue the certificates upon a satisfactory inspection outcome.

Endnote:

¹ Section 3531 of Public Law 108-136.

survey and certification for compliance with ISPS and/or MTSA.

- Finally, the liaison to the classification societies carries out an annual risk assessment. Individual vessel history and performance is measured against a number of risk factors, including past control measures placed on the vessel and documented material condition issues such as fractures, wastage, and major machinery failures. This assessment provides a list of ACP and maritime security program vessels to Coast Guard field units that are prioritized for additional oversight, either in port or while in drydock.





Marine inspector Cris Cueto, right, explains to other Coast Guard marine inspectors the proper way to inspect a propulsion shaft aboard a steam-propelled passenger vessel. USCG photo by PA3 Mike Hvozda.

These administrative controls provide a foundation of initial oversight and set the stage for the next level of verification.

Operational Oversight

Operational oversight provides tangible verification of all administrative measures. This level of oversight involves the physical presence of the Coast Guard on the more than 300 vessels in the alternative compliance and maritime security programs. There is no substitute for this component of the Coast Guard's overall oversight responsibility.

The officer in charge, marine inspection (OCMI) in each Coast Guard sector plays an important part in the initial ACP vessel enrollment. OCMI's must review applications to determine whether the vessel is eligible, ensuring it is the type allowed by regulation and that the vessel history and present conditions are satisfactory. Vessels under construction must obtain interim approval and submit required plans to the Coast Guard Marine Safety Center. Final approval is obtained once the construction is completed, and all surveys verify full compliance with the international conventions, class rules, and the applicable U.S. supplement. On both existing and new vessels, this is verified through a joint classification society/USCG handover survey. The officer in charge, marine inspection must make a recommendation for enrollment to the U.S. Coast Guard Office of Vessel Activities, where final approval authority resides.

Entry into the maritime security program is somewhat different in that the process begins with a U.S. Maritime Administration recommendation to the U.S. Coast Guard Office of Vessel Activities, and may include a

recommendation for a vessel to be reflagged under the provisions of the law. A detailed review of the vessel's systems must be completed to ensure compliance with international convention and the gaining classification society's rules. Additionally, as these vessels were typically built in a foreign shipyard and were foreign-flagged, an extensive survey to identify and document known deviations from typical Coast Guard requirements must be accomplished to provide guidance to Coast Guard inspectors who may identify these anomalies during future oversight examinations.

To maximize oversight effectiveness with the resources available, Coast Guard field units are provided a prioritized listing of vessels to attend to conduct oversight in addition to regular annual examinations. These prioritized additional oversight exams may be conducted while a vessel is in operation during in-port visits, while on drydock, or when structure is available during internal structural exams or damage surveys.

Separating the in-port and drydock priority oversight lists is a new approach to assign resources based on risk. This should improve the effectiveness of oversight.

The risk assessment is compiled from a review of the last several years of Coast Guard and classification society survey data. Risk factors include:

- letters of deviation for navigation system components,
- "no sail" CG-835 forms indicating deficiencies and outstanding requirements,
- classification society-issued recommendations or major statutory deficiencies resulting in no-sail or restricted operation,
- overseas port state detentions,
- material condition,
- ISM code nonconformities,
- marine casualties.

Vessel age and vessel type risk factors are multiples applied to the previous risk factors. The highest vessel scores typically reflect more serious discrepancies within one or more risk factor categories. This information is taken into account in determining priority for additional oversight. The material condition risk factor plays a significant role in assigning priority for drydock, internal structural, or damage survey oversight. These prioritized vessels represent approximately 10% of all ACP and MSP ships.

As oversight is so critical to the Coast Guard's ability to verify statutory compliance and effectiveness of the programs, this "10% workload" should be considered statu-

torily mandated for the purposes of assigning resources. An annual message is released to the Coast Guard sectors detailing these issues, along with the list of vessels.

Access to vessel records prior to the oversight exam is just as important as the actual exams. Because the classification societies are doing most of the survey work on the vessels, Coast Guard marine inspectors or investigators are unlikely to find extensive documentation in the Marine Information for Safety and Law Enforcement (MISLE) database regarding any previously noted conditions. This vessel history, including any information related to the risk factors on prioritized vessels, is mainly available via the classification society database. These databases are available to the Coast Guard via the classification society liaison. Classification society databases should be reviewed, paying particular attention to historic class recommendations and statutory deficiencies. This is especially critical in preparation for conducting drydock or internal structural examination oversight, to better ascertain the totality and/or severity of items such as fractures, wastage, or damage to the vessel.

Coast Guard vessel inspection personnel may obtain a username and password for one of the five recognized classification society databases by contacting the classification society liaison officer. This access is limited to U.S. flag vessels only. The importance of this review cannot be overstated. It is key to effective oversight.

Where the Leather Meets the Deck

Annual examinations are conducted on all alternative compliance program and maritime security program vessels. The intent is to reduce the scope of these examinations as compared to a full Coast Guard inspection for certification, making them more similar to the scope of a port state control examination. Inspectors place emphasis on drills and crew competency; review of classification society survey results, vessel documentation, and certificates; and a vessel walk-through. Coast Guard inspectors should once again reference classification society database history to gain insight into potential problem areas and maximize effectiveness while aboard. Another good reference for oversight is the applicable U.S. supplement. Spot checks of compliance with the supplement are a good gauge to directly verify alternate compliance program effectiveness.

The coordination, communication, and partnership between the classification society and the Coast Guard is another key element of operational oversight effectiveness. Close coordination is required for success because

authorities are delegated and shared. While classification societies and the Coast Guard have similar goals for merchant vessel safety, there are also differences in approach or procedures. NVIC 02-95, Change 2 provides guidelines for such interaction. Examples include instructions on issuing CG-835s to ACP vessels and allowing those vessels classification society resolution.

In addition, to ensure proper tracking and closure, proper documentation of this transaction in MISLE is very important for future reference. For instance, when the Coast Guard finds a deficiency that must be corrected prior to sailing, this ensures that the classification society surveyor knows the timeline expectation as the deficiency is handed over to the society for correction and follow-up. When issues arise regarding compliance at a later date, MISLE entries reflecting this transaction provide excellent documentation.

Systematic, effective oversight is critical to assuring Coast Guard safety and regulatory responsibilities for merchant vessel safety in the alternate compliance programs. Key components that maximize this effectiveness include access to vessel data, sound documentation, and prioritization of oversight resources. Close partnership and coordination among the Coast Guard and classification societies at all levels is a vital component of the alternate compliance program. The most proven and effective way to build these partnerships is through regular contact among the local classification society and Coast Guard safety experts.

About the author:

CAPT Parsons has served in the U.S. Coast Guard for 23 years. He served on the Coast Guard Cutters Duane and Jarvis, and in six marine safety assignments in New York, Missouri, Oregon, and Texas. He has received one meritorious service medal, four commendation medals, and two achievement medals.

Endnotes:

1. The regulations governing this program are found in 46 CFR Part 8. The policy guidance for the alternate compliance program is found in Navigation and Inspection Circular (NVIC) 02-95, Change 2, and in the Marine Safety Manual, COMDTINST M16000.7, Vol. II, Section B, Chapter 9. These references may be accessed via the Coast Guard web at <http://www.uscg.mil/hq/g-m/nvic/> and <http://www.uscg.mil/hq/g-m/nmc/pubs/msm>, respectively.
2. The full list of classification society authorizations, including those of non-ACP societies, is available on the Coast Guard web at <http://www.uscg.mil/hq/g-m/mse/acp/acp.htm>.

Mr. Cris Cueto, left, instructs LT John Miller on inspecting the inside of a propulsion boiler aboard a steam-powered passenger vessel in New York. USCG photo by PA3 Mike Hvozda.





Rules for U.S. Vessels Visiting Foreign Ports and Passing Through the Panama Canal

by MR. JOHN HANNON
*U.S. Coast Guard Office of Vessel Activities
Domestic Compliance Division*

International conventions and their associated regulations establish a uniform international set of standards. Such direction allows vessels to trade from nation to nation on a single set of certificates issued by a vessel's nation of registry that are honored by the other nations in whose ports the vessel will call. As a safeguard, however, the international conventions do allow the officials of a foreign port to conduct cursory verification examinations on board arriving foreign vessels under a port state control (PSC) clause.

Unless the PSC examination uncovers conditions that establish clear grounds to believe the ship does not comply, in some respect, with the international regulations, the certificates issued by the ship's country of registry are honored by the port state. This system of international regulations prevents the certain chaos that would come from each individual nation developing and enforcing its own unique regulations for ships intended to travel from port to port around the world. This principal of "reciprocity," whereby one nation honors the certificates of another, helps facilitate trade and commerce while maintaining safety, security, and environmental protection.

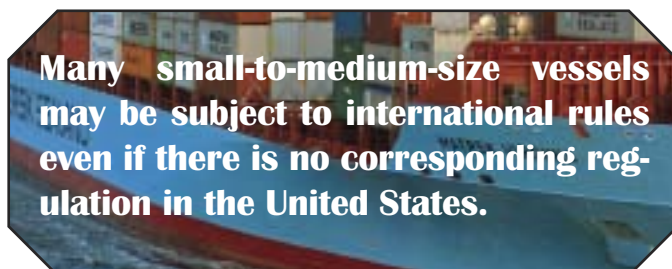
Complying With Regulations for International Voyages

Once upon a time in the not-too-distant past, most U.S. vessel operators that had routes to other nations could

generally assume that compliance with U.S. regulations met or exceeded the requirements of the international regulations. By simply asking the local Coast Guard inspection office (or one of our authorized vessel classification societies), we would issue international certificates as a complement to our own certificate of inspection, which still doubles as an international safe manning certificate. But with the passage of time, the world community has taken a much more active role in crafting comprehensive and more detailed rules for vessels on international voyages.

In some cases, these international rules have departed from the direction that the U.S. had previously decided to take in a particular area. Also, the process of converting international conventions into new U.S. laws and regulations strains Coast Guard resources to keep up due to the increased volume and frequency of changes at the international level. Extensive analysis and public comment are required as part of the process of converting international regulations into U.S. regulations.

The Coast Guard reached the conclusion that a U.S. regulation already in place achieves the same result as a proposed new international regulation, but the international community had taken a slightly different technical approach. In some of these instances, we elected to file notice with the International Maritime Organization and its member nations of our intention to issue an international convention certificate to U.S. vessels compliant with the equivalent U.S. regulation. In addition, we may choose to reserve our position on international conventions and regulations that conflict with U.S. law or regulation. This process acknowledges that we will honor evidence of compliance with international regulations when foreign ships call in U.S. ports



while also eliminating the Coast Guard's obligation to apply these international regulations on U.S. ships that comply with U.S. laws.

Smaller Vessel Operators Take Note

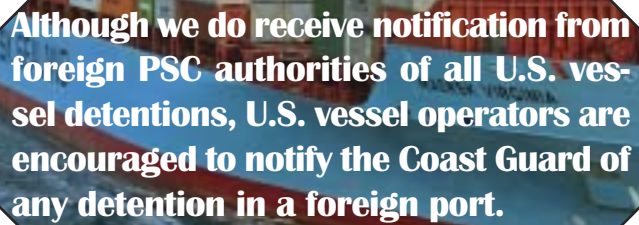
Most operators of large oceangoing vessels are well aware of the requirements of the international regulations that apply to their ships when visiting foreign ports. What is less well known or appreciated is that many small-to-medium-size vessels may be subject to these international rules even if there is no corresponding regulation in the United States. This latter situation has become increasingly common as smaller U.S. vessels become subject to international regulations due to differences between U.S. tonnage calculations and the often significantly higher numbers resulting from international tonnage calculations (see the Oct./Dec. 2002 *Proceedings* article "The Uninspected Vessel—When a Ton is not a Ton," page 34).

Even vessel categories traditionally exempted from domestic trade (that only occasionally venture beyond the U.S.) are sometimes surprised and baffled that compliance with our U.S. laws and regulations does not translate into full compliance with international regulations, and that a vessel that is under the tonnage threshold domestically is well above it for the international tonnage.

Some regulations may not even apply internationally depending on the vessel category, such as barges, yachts, and commercial fishing vessels. One unwary operator of a small U.S. fishing vessel found this out when he made port in an Asian nation. The international regulations regarding having navigational equipment and up-to-date charts on board applies to virtually all self-propelled vessels on international voyages—regardless of size or category. To avoid being detained by foreign port authorities, it is best to work with your local Coast Guard inspection office well before a planned voyage to ensure that you are aware of all the applicable international requirements and that you have ample time to work up to compliance.

Noncompliance Detention

Being detained in a foreign port for noncompliance hurts not only your vessel, but all United States vessels that trade internationally. Virtually every nation now belongs to an organization known as a port state memorandum of understanding (MOU) that collects and distributes information on regulatory infractions by foreign ships on a regional basis. These MOUs tabulate information about habitually noncompliant foreign ships visiting their ports. A negative ranking is assigned if a pattern of



Although we do receive notification from foreign PSC authorities of all U.S. vessel detentions, U.S. vessel operators are encouraged to notify the Coast Guard of any detention in a foreign port.

below-average levels of compliance emerges for:

- one particular ship;
- the ships of a particular ship owner, operator, or charterer;
- the ships flying the flag of a particular country;
- ships inspected by a particular classification society.

A negative ranking results in the recommendation of increased inspections in the noncompliant categories for the vessel or vessels in that category. To date, all but a few U.S.-flagged ships have maintained superior records of compliance. Regrettably, a small number of U.S. vessels are detained each year in foreign ports for various reasons. Over half of the vessels detained are small-to-medium-sized vessels that were simply ignorant of the international requirements and, in many cases, were not required to be inspected by the Coast Guard for domestic operation. They mistakenly believed that this would be the case when they ventured outside of the U.S., as well.

These detentions hurt all U.S. ship operators by affecting our overall national record. The total number of U.S. vessels making international voyages is much less than that of that many other nations with large ship registries. Since inspection targeting under the port state control MOUs is based on a percentage calculation of vessels inspected versus vessels detained, it takes only a small number of foreign port state detentions of U.S. vessels to negatively affect the U.S. ratio of compliant to noncompliant vessels. The unhappy result is increased U.S. vessel inspections throughout large regions of the world, and the resultant delays and costs associated with those increased inspections. As another negative effect, cargo shippers might shun U.S.-flagged ships to avoid delays to the delivery of their cargo. Doing your part to ensure that your ship complies with the international regulations and keeping your ship in good condition will help all U.S. ship operators maintain a good reputation.

What to Do if You're Detained

The international convention requires that the port state notify the Coast Guard of any U.S. vessel detention, and



that we follow up on the vessel to ensure it is in compliance. The Coast Guard vigorously investigates all PSC detentions of U.S. vessels and works with foreign PSC authorities. If we feel the detention is justified, the Coast Guard (and/or our recognized class society if applicable) will act in a swift manner to verify the information with our own inspectors and initiate corrective action.

There have been rare instances where the Coast Guard received notification from a foreign PSC that a U.S. vessel was detained for a very minor item that, under Coast Guard policy, would not normally have been considered a detainable item if it was for a foreign ship visiting the United States. Although we do eventually receive notification from foreign PSC authorities of all U.S. vessel detentions, U.S. vessel operators are encouraged to notify the Coast Guard of any detention in a foreign port. That way, we can discuss the matter with

TOOLS

There are helpful tools on the Internet to assist you in keeping up-to-date with changes in the international conventions.

The Coast Guard recognizes several class societies to issue certificates for U.S. vessels. All maintain webpages that contain helpful information for vessel operators on understanding international regulations:

- Germanischer Lloyd (GL), a U.S. Coast Guard-recognized class society, provides a free annual summary of IMO rule changes. GL's "IMO pilot" is available as a download from the GL Home page at <http://www.gl-group.com> under "client support," "download center," "IMO pilot."
- The American Bureau of Shipping provides information under "regulatory information" at <http://www.eagle.org>.
- Lloyd's Register of Shipping offers "Reducing the Risk of Port State Control" under "document finder" at <http://www.lr.org>.
- Det Norske Veritas has helpful information at <http://www.dnv.us>. Search under "Port State Control."
- Bureau Veritas has information under "online services," then "Veristar," at <http://www.bureauveritas.com>.
- Information on obtaining International Maritime Organization regulations is available at the IMO home page at <http://www.imo.org/>.

the foreign PSC authorities immediately and provide assistance in resolving the issue and expediting the release of the U.S. ship from that port.

Appeal Procedures

If there is disagreement regarding the seriousness of the deficiency and its status as a detainable item, the vessel owner may appeal the detention. Procedures for appeal are outlined on the home page of each port state control MOU. Below is a listing of some of them:

- Paris MOU (Europe and Canada) – webpage: www.parismou.org
- Tokyo MOU (Asia and Canada) – webpage: www.tokyo-mou.org
- Vina Del Mar Agreement (Central and South America) – e-mail: ciala@sudnet.com.ar
- Mediterranean MOU – webpage: www.med-mou.org
- Indian Ocean MOU – webpage: www.iomou.org
- Caribbean MOU – e-mail: caribmou@caribbeanmou.org
- Black Sea MOU – e-mail: vit@tmou.org

Smooth Sailing

When venturing beyond U.S. waters, it is best to assume nothing regarding what may or may not apply to your vessel from international regulations. Seek the advice and assistance of your Coast Guard vessel inspection department at your regional Coast Guard sector command well before your intended voyage.

For vessels that need to make a rare single voyage outside of the U.S. to complete a transit from one area to another, it may be possible to obtain a one-time exemption certificate from the Coast Guard for international regulations if the vessel is otherwise in compliance with the applicable U.S. regulations. If you are not sure, it is better to ask in advance than to be held by local officials in a foreign port for failure to comply with international regulations.

About the author:

Mr. Hannon is a senior civilian in the Office of Vessel Activities, Domestic Compliance Division, at Coast Guard headquarters. This division specifically focuses on programs related to the inspection and certification of U.S. flag vessels. In addition to his program management duties, he serves as a U.S. representative to the International Maritime Organization (IMO) on the flag state implementation subcommittee and subcommittee on standards of training and watchkeeping. He also serves as an IMO lead auditor for the recently initiated voluntary member state audit scheme. He is a member of the advisory committee on quality for the International Association of Classification Societies. Mr. Hannon is a 1977 graduate of the State University of New York Maritime College and a 1990 graduate of the U.S. Naval War College. He also has a master's degree in quality systems management from National Graduate School.

MYTH OR FACT?

Let's dispel some common misperceptions about U.S. vessel compliance with international regulations:

#1—Myth or fact? U.S. vessels on voyages between the East and West Coast of the U.S. can pass through the Panama Canal without having to comply with the international regulations, provided they comply with U.S. regulations.

MYTH—This was once true, but is now false. On January 1, 2000, the U.S. turned the Panama Canal's ownership and control over to the Republic of Panama. From that date forward, U.S. vessels passing through the canal are under the jurisdiction of Panama and the canal authority. The canal is not an international straight, and passage through it conveys no right to "innocent" passage. Vessels that wish to transit the canal must comply with international maritime regulations and any additional requirements imposed by Panama and/or the canal authority.

Exceptions—Vessels making a single voyage from one U.S. Coast to the other for a long-term change of operating area may request that the Coast Guard issue a single-voyage exemption from the international regulations if the vessel is otherwise in compliance with U.S. regulations. Vessels that plan to make the trip through the canal on a regular basis, however—even if it is only on an annual basis—must be in compliance with the international regulations and hold the appropriate certificates. This is because international regulations say that single-voyage exemptions should only be issued for "exceptional" circumstances; when you engage in a trip on a regular basis, it ceases to be exceptional. Vessels that normally operate on one coast or the other, but would like to use a ship repair facility on the other coast and must transit the Panama Canal to get there, will be evaluated on a case-by-case basis.

#2—Myth or fact? U.S. vessels on short voyages to adjacent nations such as Canada, Mexico, and the Caribbean need not comply with international maritime regulations, provided they are in compliance with U.S. regulations for vessels of its size, type, route, and age.

MYTH—with some notable exceptions:

Exception 1: One significant exception to all international regulation applies to U.S. and Canadian vessels that trade exclusively on the Great Lakes. The U.S. and Canada have a long-standing agreement to accept each other's national certificates of inspection for compliance with the regulations of the respective nation.

Exception 2: Small passenger vessels certificated under title 46 Code of Federal Regulations subchapter T (not subchapter K or H). Some years ago, the United States formally submitted a statement of equivalence to the International Maritime Organization. It stated that our small passenger vessel regulations for vessels of less than 100 gross tons (U.S.) carrying fewer than 150 passengers and/or fewer than 50 overnight passengers were equivalent in content to the international regulations for the Safety of Life at Sea for passenger ships of that small size and on limited or near-coastal voyages. There are some additional items that must be completed beyond the requirements of subchapter T, including compliance with the International Safety Management (ISM) code, which came into force for passenger ships in 1998. Subchapter T-certificated vessels on international voyages must implement an ISM code equivalent system that will be U.S. Coast Guard-certified as part of our annual inspection of U.S. small passenger vessels. A guidebook for implementation of the ISM code equivalent system for small passenger vessels is available from local Coast Guard inspection offices. Subchapter T vessels certificated under this equivalence are not issued the international passenger ship safety certificate, but a statement is placed on the Coast Guard certificate of inspection. Most of the vessels that fall into this category travel the short distance between the U.S. and the British Virgin Islands, or along the coastal waters of Mexico and Canada. There is a separate exemption on record for vessels making short round-trip voyages between Florida and the Bahamas.

#3—Myth or fact? If my U.S. tonnage and international tonnage are the same because my vessel was built prior to 1994, and my vessel is below the threshold for the mandatory application of SOLAS or other conventions, then I am exempt.

Mostly FACT—This is partly true. You are exempt from provisions of the conventions prior to the 1994 implementation of the international tonnage convention, but new annexes to the conventions that came into force after that date may apply to your vessel if its international tonnage is over the threshold requiring mandatory compliance. Most notable is the International Safety Management code and the International Ship and Port Facility Security code. Both of these certificates take preparation to obtain, since they require implementation of management practices and procedures as opposed to a simple installation of some new type of equipment.



Let's Be Careful Out There

Commercial fishing vessel dockside safety examinations and the Coast Guard Auxiliary.

by MR. JACK KEMERER
*U.S. Coast Guard Office of Vessel Activities
Fishing Vessel Safety Division*

MS. DENISE CASTROGIOVANNI
*U.S. Coast Guard Auxiliary, Deputy Chief
Marine Safety Department*

After many years of significant vessel casualties and fishermen fatalities, specific safety and lifesaving equipment on commercial fishing vessels became a requirement with the passage of the Commercial Fishing Industry Vessel Safety Act of 1988 (Title 46 United States Code Chapter 45). Subsequent to the act, the Coast Guard published safety regulations in Title 46 Code of Federal Regulations Part 28, Requirements for Commercial Fishing Industry Vessels. These requirements became effective in 1991. They addressed safety and lifesaving equipment, safety systems, and stability standards for certain vessels.

In 1992, the Coast Guard instituted a voluntary dockside examination program to overcome the lack of required inspections on commercial fishing vessels. The goals of this program are to:

- increase compliance with safety regulations and reduce unsafe operations,
- reduce fishing vessel losses and involvement in other types of casualties,
- reduce the number of injuries and fatalities on fishing vessels,
- educate fishermen on safety equipment and training requirements.

Voluntary vs. Required Safety Examinations

Dockside safety examinations are conducted at the acceptance or request of the vessel owner or operator. Examinations are performed at a pier or mooring to avoid interfering with fishing activities. If the vessel does not meet all the requirements checked during the exami-

nation, there are no penalties. As such, it is considered "no fault" for the owner or operator. If deficiencies or discrepancies are found during the examination and they cannot be corrected on the spot, the examiner will provide the owner/operator with a work list of items that are not in compliance and leave information to request a follow-up visit to clear the non-compliant items.

If the initial examination finds the vessel to be in compliance with all the requirements, or on a follow-up examination the discrepancies are found to have been corrected, then a safety examination decal is issued to the vessel. The decal serves as an indicator to boarding officers that the vessel has met all Coast Guard safety equipment requirements (Figure 1).

Vessels with a valid decal should also experience fewer random boardings for checks of safety and survival equipment. However, when conducting fisheries enforcement, boarding officers are expected to at least check critical safety and lifesaving items such as:

- personal floatation devices/immersion suits;
- survival craft and ring life buoys;
- emergency position-indicating radio beacons;
- fire extinguishers, emergency alarms, and pumps;
- distress signals and equipment markings.

There are two versions of the decal currently in use. The older version is marked when the decal was issued and is generally valid for two years from that date. The newer decals are marked with the date the decal will expire, as shown in figure 3.



Figures 1 and 2: Coast Guard Auxiliarists check the safety decal affixed to the vessel after a satisfactory exam, and check the emergency position-indicating radio beacons and liferaft installed on the vessel as part of the safety exam. USCG photos.



A captain of the port may require a dockside safety examination on a fishing vessel in certain situations such as:

- subsequent to its involvement in a search and rescue incident,
- after its voyage has been terminated due to unsafe operations or especially hazardous conditions,
- before it is allowed to get underway because it is considered to be a high-risk vessel due to apparent poor material condition.

Vessels engaged in certain fisheries may be required to carry a National Marine Fisheries Service (NMFS) observer. If the vessel is subject to that requirement, as notified by NMFS, it must have satisfactorily completed a dockside safety examination and received a safety decal before the vessel may embark an observer and engage in that particular fishery activity.¹



Figure 4: Coast Guard Auxiliarists check bridge documents during a dockside safety exam. USCG photo.

Exam Booklet and Records

Examiners use the checklist in the USCG Commercial Fishing Vessel Safety Examination Booklet. Applicable items to be checked de-

pend on the registration/ documentation of the vessel, where it operates, its size, its build date, and the number of individuals aboard. Items, equipment, and systems are categorized into bridge and documents items, lifesaving items, engine room items, and miscellaneous items. The examiner will also verify information about the vessel, owner, and/or operator in the examination booklet as completely as possible. If the examination is completed satisfactorily and all items are in compliance with regulatory requirements, the examiner will issue a safety decal. The decal number will be recorded on the examination form, and a copy of the completed exam booklet will be provided for the vessel.

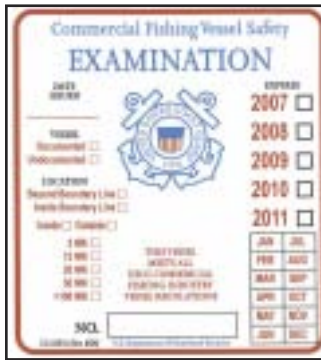


Figure 3: A dockside safety examination decal.

If the vessel is greater than 100 gross tons, was constructed or had a major conversion after September 15, 1991, and operates with more than 16 individuals aboard, or needs oil transfer procedures because it can carry more than 10,500 gallons of oil, there is a supplemental form that must be used to check additional requirements.

A vessel activity report of the examination and results is entered into the Coast Guard's Marine Information for Safety and Law Enforcement (MISLE) database. Examiners take a photograph of the vessel to include in the MISLE record, if possible, and if there is not one already in the MISLE database.





Figure 5: Coast Guard Auxiliary members check flares during a dockside safety exam. USCG photo.

Many safety examiners and boarding personnel use personal digital assistants as job performance aids. These devices allow personnel to conduct an exam or boarding, record the results electronically, and then the activity report can be uploaded into MISLE through a standard workstation. A portable printer can be used to provide the vessel owner/operator with a printed copy of the results and outcome of the activity. Laptop computers with exam and boarding applications and wireless connectivity to MISLE are being tested. These devices will enhance personnel's ability to see data for a vessel in real time and simplify activity recording and data entry.

Examiners

Dockside safety examinations are conducted by Coast Guard active duty and reserve personnel, Coast Guard civilian employees, Coast Guard Auxiliary personnel, and qualified personnel from third-party organizations, such as the National Association of Marine Surveyors, the Society of Accredited Marine Surveyors, the NAVTECH U.S. Surveyors Association, Det Norske Veritas, and the American Bureau of Shipping.

Most USCG sector offices and several marine safety field offices have a designated billet or position for a fishing vessel safety examiner. The examiner may be an active duty individual, a reservist, or a civilian employee. Coast Guard examiners will hold a letter of designation/qualification from their command.

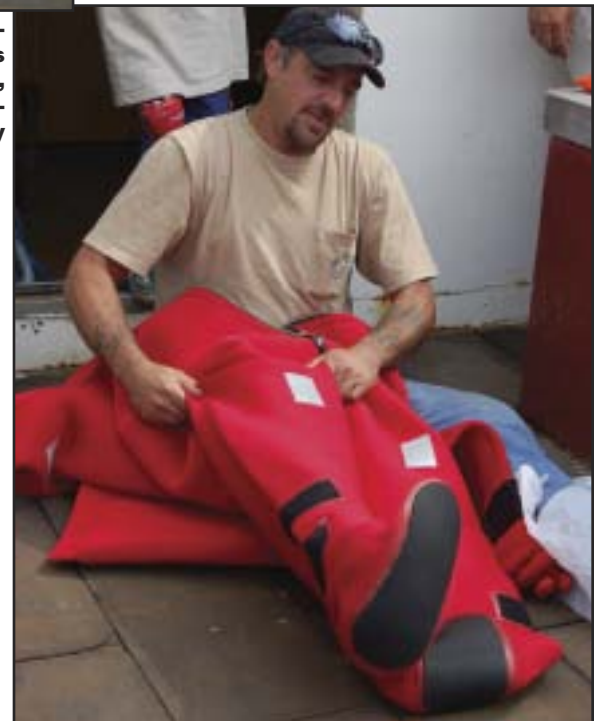
Third-party examiners are designated by their respective organization(s) based on their experience and qualifications.

The Coast Guard Auxiliary became involved in the commercial fishing vessel safety program in the late 1990s, when personnel began supporting safety programs for uninspected vessels. Members were accepted into the program and became qualified examiners through on-the-job training, completing the commercial fishing vessel examiner (CFVE) performance qualification standard, and/or attending the CFVE course at Training Center Yorktown, Va.

Auxiliary personnel were trained, became qualified as examiners, and also provided outreach and educational programs with the commercial fishing industry (Figures 4-7). The need for auxiliary examiner support increased again in 2005 after the National Marine Fisheries Service began requiring all



Figures 6 and 7: Coast Guard Auxiliary members inspect immersion suits during a dockside safety exam, and observe a crewmember donning a suit during an emergency drill. USCG photos.



fishing vessels that carry a fisheries observer to complete a dockside safety examination.

Auxiliary personnel who wish to become fishing vessel examiners must meet the same qualifications as regular, reserve, and civilian examiners. Currently, there are 186

qualified auxiliary examiners and 23 more individuals in the process of becoming qualified.

With its dockside safety examinations, the Coast Guard's fishing vessel safety program has helped to reduce crew fatalities and the number of vessels lost. This is evidenced by looking at three five-year periods, one before the safety regulations were promulgated, and two after. Between 1984 and 1988, 519 lives and 1,177 vessels were lost. But between 1994 and 1998, 396 lives and 897 vessels were lost, and between 2002 and 2006, only 201 lives and 557 vessels were lost.

All fishing vessel owners and operators are encouraged to request a free, no-fault dockside safety examination. Additional information about the Coast Guard's fishing vessel safety program, numerous references and publications, and links to other safety and training websites can be viewed at www.fishsafe.info.

About the authors:

Mr. Kemerer served as the fishing vessel safety program manager from 1996-1997, prior to retiring from active duty with the U.S. Coast Guard. Currently, he is a commercial vessel safety specialist in the Office of Vessel Activities, Fishing Vessel Safety Division, at Coast Guard headquarters.

Ms. Castrogiovanni has been a member of the U.S. Coast Guard Auxiliary since 1987, and has served as a commercial fishing vessel safety examiner for eight years. She is currently the deputy chief of the Coast Guard Auxiliary's Marine Safety Department.

Endnote:

¹ This requirement is addressed in 50 CFR Part 600.746.

EXAMINATION STATISTICS

There are approximately 29,000 federally documented and 54,000 state-registered commercial fishing vessels in the United States. Unfortunately, less than 10% of these vessels are examined each year.

In its 2006 annual report, the Bureau of Labor Statistics stated that fishers and related workers have a fatality rate of 141.7 per 100,000 workers—the highest of any industry. The highest percentage of both fatalities and vessel losses occurred as a result of the vessel flooding and sinking, capsizing, or burning. Chart 1 shows the number of vessel losses and fatalities from 1992 to 2006. Since the beginning of the dockside examination program, the trend has shifted downward.

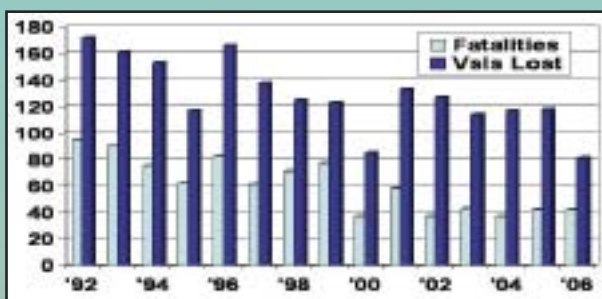


Chart 1. Vessel losses/fatalities 1992-2006.

safety exam.

The number of dockside safety examinations conducted fluctuates from year to year; fortunately, the trend is upward. For example, when the voluntary dockside examination program began in 1992, 3,662 examinations were performed. In 2006, 7,799 examinations were conducted.

The number of dockside safety exams conducted by auxiliary personnel has increased from approximately 12% of the total in 1997 to about 32% of the total in 2006. Chart 2 shows the number and trend of safety examinations conducted on commercial fishing vessels for the past 10 years, and the portion of the total that can be credited to auxiliary examiners.

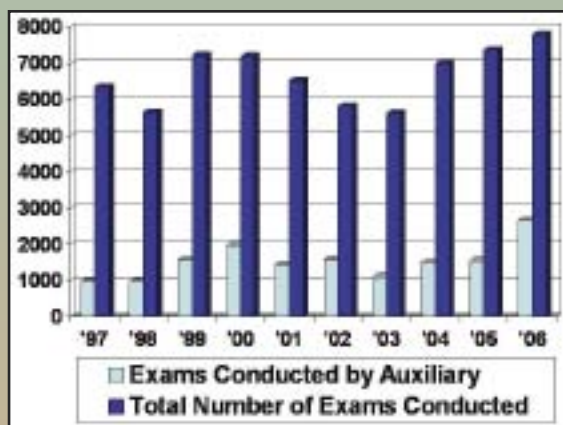


Chart 2. Trends in commercial fishing vessel safety examinations from 1997 to 2006.

and provide safety training as may be appropriate or desired. This effort helps the crew become more aware of their safety and lifesaving equipment and what to do during an emergency.

During this time period there were 1,930 fishing vessels lost and 910 crew deaths. After reviewing the casualties, it was also found that approximately 80% of the vessels lost had no current valid safety decal from a dockside exam. Three-quarters of those vessels had never even received a dockside

Owners, operators, and crew all benefit from dockside safety examinations. First of all, the exam is "no fault." That is, there will be no violation or penalty if the vessel is not in full compliance with all the requirements. A work list is generated for any deficiencies and discrepancies found during the exam that cannot be corrected on the spot.

The examiner will also use this opportunity to educate the crew on requirements and provide safety training as may be appropriate or desired. This effort helps the crew become more aware of their safety and lifesaving equipment and what to do during an emergency.



Less Familiar Commercial Vessel Compliance Programs



Commercial Diving

The U.S. Coast Guard's jurisdiction.

by LCDR KEVIN ULLRICH
U.S. Coast Guard Office of Vessel Activities

When people think about diving, their thoughts invariably turn to recreational diving in tropical locations or to oceanographers such as Jacques Cousteau discovering new vistas. Individuals who have gone on recreational dives are familiar with diving organizations such as the Professional Association of Diving Instructors, the National Association of Underwater Instructors, and the Diver Alert Network.

Others closer to the diving scene may be familiar with government and industry standards such as the U.S. Navy Dive Manual, OSHA (Occupational Safety and Health Administration) regulations contained within Title 29 Code of Federal Regulations, and industry-developed commercial diving standards from the ADCI (Association of Diving Contractors International), the International Marine Contractors Association, and ASME (American Society of Mechanical Engineers).

Regrettably, many commercial divers as well as their employers are not familiar with the Commercial Diving Operations regulations contained within Title 46 Code of Federal Regulations

Part 197, Subpart B. These regulations are applicable to any commercial diving operations that occur:

- from a vessel required to have a certificate of inspection issued by the U.S. Coast Guard,
- in any deepwater port or safety zone,
- from any vessel engaged in outer continental shelf (OCS) activities.

Like all U.S. federal regulations, 46 CFR 197 may be downloaded at no cost from the U.S. Government Printing Office's website at <http://www.gpoaccess.gov/index.html>.

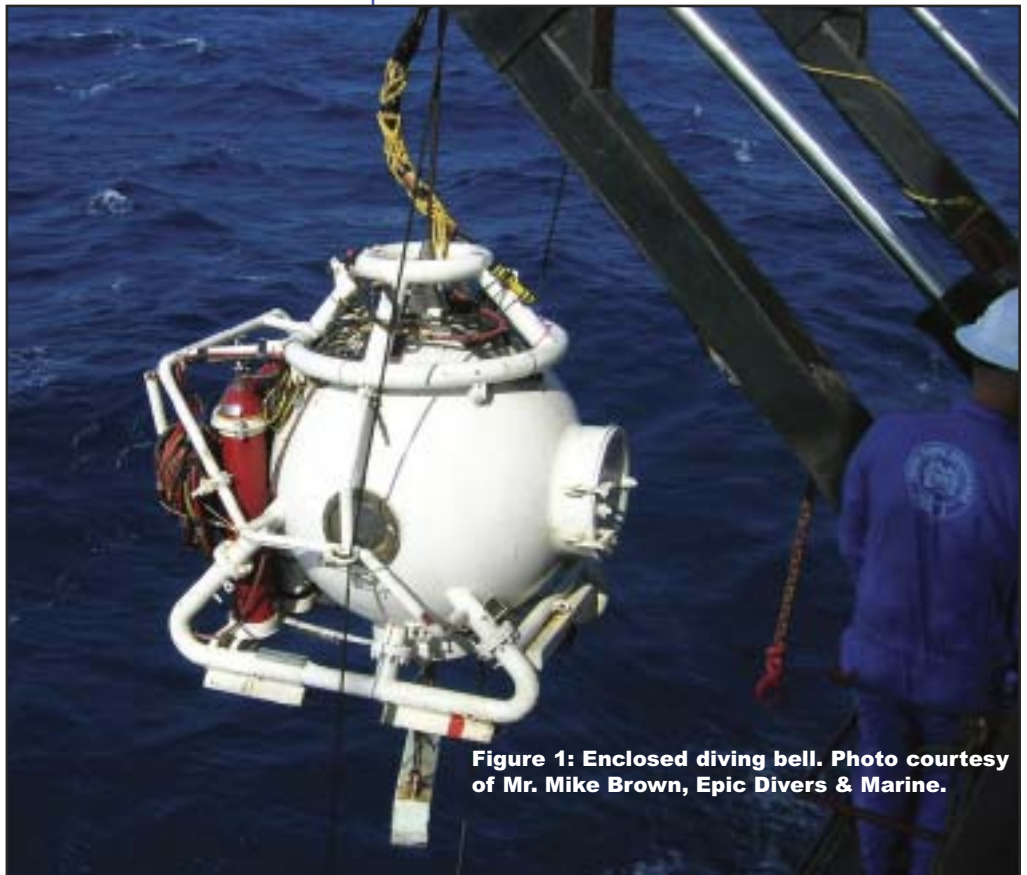


Figure 1: Enclosed diving bell. Photo courtesy of Mr. Mike Brown, Epic Divers & Marine.



Although these regulations have a title similar to those within Title 29 Code of Federal Regulations, which are enforced by OSHA, it is important to remember that the U.S. Coast Guard and OSHA focus on different industry segments and approach the regulations from different perspectives.

Title 46 CFR (Shipping Regulations) 197 Subpart B pertains to *marine* occupational safety and health standards and is segmented into four sections—equipment, operations, specific diving mode procedures, and periodic tests and inspections of diving equipment. Generally, when a commercial dive operation occurs from a USCG-inspected vessel, deepwater port, or OCS activity, the company/diver must follow the regulations found in 46 CFR 197.

Many federal agencies—including the U.S. Coast Guard—recognize that companies may be able to achieve a safe employee working environment and comply with the “spirit” of specific regulations even if they do not fully meet the detailed criteria contained within them. Accordingly, there exists a mechanism by which a company may seek a variance.

46 CFR 197.206 (a) and (b) allow the Coast Guard to accept substitutes for equipment, materials, apparatus, arrangements, procedures, or tests required in the commercial diving operations regulations enforced by the service if the “substitute provides an equivalent level of safety.” This article will concentrate on what a dive variance is, when it must be obtained, and the process associated with obtaining the dive variance.

The author is the point of contact for information on the commercial dive program and for submitting dive variance requests and the related 12-point checklist, as well. For either request, please contact the office at:

Commandant (CG-5432)
U.S. Coast Guard
c/o LCDR Kevin Ullrich
CGHQ-Room 1116
2100 2nd St. SW
Washington, DC 20593
Phone: (202) 372-1232
Fax: (202) 372-1917
E-mail: kevin.c.ullrich@uscg.mil

Dive Variances

When a diving company has conflicts between the USCG commercial diving regulations and its own pro-

posed operations, the company may submit a written request for a diving variance. This request, along with the 12-item checklist that will be discussed later, must be sent by mail, facsimile, or as an attachment to an e-mail.

To allow for timely processing, the request for a variance should be submitted to the Coast Guard as soon as the need is determined, but at least five days in advance of the intended operation. Requests for variances will normally not be processed on weekends or federal holidays.

When a company requests a dive variance, it must first reference the industry standard. Then, on a case-by-case basis, Coast Guard personnel review the submission against the referenced industry standard and determine if a variance can be issued. The supporting checklist, shown below, is also taken into consideration, and therefore must provide complete, detailed information about the operation and safety measures.

Dive Boat Variance Checklist

Each company must respond to the following items in terms of compliance with its industry standard (the most recent edition), and list the source. For each item, an explanation is given as well as an example from a vessel with dynamic positioning (DP).¹

- 1) Cite the specific regulation in question and state what about its requirement(s) is/are deemed impractical or unreasonable.

Requesting officials must reference the specific regulation that they would like to apply a comparable level of



Figure 2: Pre-dive safety check. Photo courtesy of Mr. Daron Jones of Underwater magazine.





Figure 3: Working with hazardous equipment. Photo courtesy of Mr. Daron Jones of Underwater magazine.

safety to. The Coast Guard has determined that the use of a DP system while diving with surface-supplied air/gas is equivalent to the dangers associated with liveboating. The similarities involve the suction of a diver's umbilical into the thruster/propeller; 46 CFR 197.436 prohibits liveboating from one hour before sunrise to one hour after sunset. Since many vessel operations run around-the-clock, this would have a negative impact on the diving operation. The person submitting the dive variance request would identify 46 CFR 197.436 (c) as the regulation in question and then address specifically what the difficulty is between that regulation and the operation.

- 2) The proposed equipment substitution/operational change; specify how this will establish a comparable level of safety that is equivalent to or exceeds the regulations found in 46 CFR 197.

This is the opportunity to use either another federal/international regulation or an industry standard. The key is to address how the use of this alternate standard will meet and/or exceed the safety requirements found

in the 46 CFR 197 cite. For diving at night, you must address how the alternate regulations or standards make diving at night from a vessel using DP safe. An example could be the addition of strategically placed spotlights, use of sound navigation and radar (sonar) to track the diver's location, or a bell-fed diver's umbilical.

- 3) Specify in more detail the work that the divers are to complete.

In order to accurately assess what the diver is actually doing, the submission must be specific as to the scope of the work. The depth, number of divers, tools, underwater environment (piping, platform structure, debris) are all imperative components the USCG evaluates when reviewing a comparable level of safety. In the example, if the surface-supplied diver, diving at night, is diving in a debris field, that causes additional concerns when also using DP. DP run-offs, although not common, are unpredictable and could put a diver in extreme peril very quickly, especially if the diver is working in a debris field.

- 4) Identify in detail the known hazards associated with your proposed alternative.



Figure 4: Required 46 CFR 197.300 commercial diving equipment. Photo courtesy of Mr. Daron Jones of Underwater magazine.



Figure 5: Close quarters. Photo courtesy of Mr. Daron Jones of *Underwater* magazine.

This point coaches the submitter to identify things that can go wrong with the alternative standard. If a spotlight scenario were used, one might consider the shadow the spotlight makes or the reflection on the water, both of which prevent people aboard the vessel from seeing the diver from their height above the water. You must identify the problem areas and offer a means to reduce the risk. Many companies already use the job safety analysis (JSA) tool, which is meant to document identified hazards associated with each job component, and to develop solutions that eliminate, reduce, or guard against these hazards. The Coast Guard commercial diving program is going to use, on a voluntarily basis, the JSA as a means to identify the hazard and take steps to mitigate the risks associated with the hazard.

- 5) Specify the date(s) and times during which the operation is intended to be conducted.

This is the date you will commence dive operations. Keep in mind that it is going to take a few days to review your submission and supply a response letter back to you. As a means to speed up the turnaround time, you can send your submission electronically via e-mail or facsimile and our office will, in turn, send you a scanned response letter.

- 6) Specify the number of dive teams, the number of divers per team, the mode of diving for each

team, and include the estimated number of dives per day.

When you provide dive team information, keep in mind that you must include the vessel crew. In the DP example, the DP operator must know all the details of the dive, including the number of umbilicals over the side, who the dive supervisor

is, and how he will maintain communication with the diving personnel on the deck.

- 7) Indicate the deepest depth as well as the time at depth planned for each dive.

This is especially important because of the length of the umbilical and the placement of the thruster rosettes on the vessel. Therefore, the variance request must also include a diagram identifying the distance between the bow and stern thrusters, the diving station on the deck, and the length of the umbilical. Under no circumstances should the umbilical be long enough to be sucked into the thruster rosettes.

- 8) Indicate the number of non-diving topside support personnel aboard the vessel, including medical specialists and chamber technicians.

This is the section where the vessel crew is identified. Usually the person who writes the dive variance is a shoreside operations type. They, too, are part of the dive team because they review and approve the dive according to company policies.

- 9) List the pressure vessels for human occupancy (PVHOs) to be used, including the type of treatment chamber(s) available for immediate use aboard the vessel. Identify a shoreside hyper-



Figure 6: Dynamic positioning dive support vessel *Kestrel*. Photo courtesy of Mr. Bill Crowley of Cal Dive International, Inc.

baric medical facility designated for use in the event of an emergency.

This section must include the name of the shoreside medical doctor and hospital along with a live contact number. The doctor must be trained in diving-related subjects, including hyperbaric chamber use. Most of the DP vessels engaged in commercial diving are foreign-flagged vessels. The equipment on board the vessel must comply with the CFRs or a comparable level of safety. PVHOs are required by U.S. regulations to meet the ASME UA1 pressure vessel code. Most foreign PVHOs are built to a lesser standard. The diving company must send the PVHO details to the Coast Guard in advance so that a calculation for equivalency can be performed. This is completed by the Coast Guard's Marine Safety Center and takes additional time, so plan ahead.

- 10) Specify the name, official number, and country of registry for each vessel involved in the operation.

U.S.-flagged vessels must undergo an annual inspection with the Coast Guard. Marine inspectors attend the vessel and verify compliance with the safety and security regulations found in 46 CFR. Additionally, the inspectors use the 46 CFR 197 cite to verify the vessel's

compliance with those safety standards. A foreign-flagged vessel will likewise be required to be boarded by the Coast Guard. Usually the equipment can be examined during the port state control exam. However, if the vessel your company is using does not have a letter from the local officer in charge, marine inspections signifying the commercial dive exam, you will want to bring that to the attention of your chain of command. Compliance with the federal regulations is not voluntary. The vessel name and official number or IMO number is used to verify that the vessel has been boarded by the Coast Guard and that the equipment has been inspected. Specifically for the DP vessel, the Coast Guard searches for the vessel in its Marine Information for Safety and Law Enforcement (MISLE) database and verifies that the vessel has a classed dynamic positioning system and valid DP endorsement.

- 11) Identify the dive site by offshore lease block designation, geographic region, and latitude and longitude.

All vessels should be mindful of the shipping lanes and proximity to submerged platforms and debris. Dynamic positioning vessels have additional watchstanding criteria that is included in the next point.

12) State the anticipated environmental conditions and their limits for the operation.

Anticipated wind and weather forecasting should accompany the variance request. A vessel that uses the DP system to hold position has different considerations than a conventionally moored vessel or platform. Identify the limiting environmental criteria for the vessel. Also, the protocol for suspending diving activities must be included with the variance request.

Compliance with 46 CFR 197 is not voluntary. It is a federal requirement. It is also the responsibility of the diving company to seek a dive variance whenever the use of any particularly mandated equipment, material, apparatus, arrangement, procedure, or test is unreasonable or impracticable.

Dive variances, issued on a case-by-case basis upon request, are short-term in duration (maximum of 21 days). They do not constitute a blanket authorization to operate outside of the existing regulatory structure.

Job Safety Analysis

In those circumstances in which the applicant believes that the use of any particularly mandated equipment, material, apparatus, arrangement, procedure, or test is unreasonable or impracticable for longer than 21 days, the Coast Guard will accept for review a voluntarily submitted job safety analysis (also commonly referred to as a job hazard analysis or job hazard review), along with the 12-point variance checklist.

The completion of a job safety analysis requires anticipation, recognition, evaluation, and control of hazards. The Coast Guard does not approve the JSA alone. We review the submission, and based upon the analysis and the information supplied from the 12-point checklist, the Coast Guard may accept the voluntary use of the JSA tool. As with requests for variances, the Coast Guard's decision will be provided to the applicant in writing. As a risk mitigation tool, the job safety analysis should be considered a "living document," subject to real-time modifications; when the scope of work changes during the course of operations, work should cease and a new / revised JSA should be performed. It then needs to be re-submitted to the Coast Guard for review. Modifications to the JSA can be handled by e-mail. Once it has been accepted as an amendment to the original job safety analysis and the modifications are an acceptable substitute, it needs to be reviewed by all personnel involved in the dive operation.

The most widely used job safety analysis tool in the United States commercial diving industry is the Association of Diving Contractors International JSA tool contained within the ADCI Consensus Standards for Commercial Diving and Underwater Operations, 5th Edition, section 4.24. Similar safety analysis tools of varying formats are also located in other industry consensus standards and recognized technical references, such as the operational risk management tools and checklists contained within Volume 2, Chapter 6 of the U.S. Navy Diving Manual (Revision 5).

In that the submission of the written JSA is voluntary, there is no prescribed format. It must, however, be detailed, be hazard prevention- and mitigation-oriented, and include elements relating to:

- task sequencing (basic job steps);
- hazards associated with basic job steps;
- solutions for each hazard;
- assignment of responsibility to a specific individual for implementation of safety procedures and protective measures;
- identification of the person(s) developing, reviewing, approving, and revising the JSA;
- confirmation that personnel involved covering activities are familiar with the contents of the job safety analysis and have been provided with a copy;
- a mechanism for periodic review and revision of the JSA, particularly post-incident (including near-misses).

In addition to evaluating the use of substitutes, the Coast Guard has initiated a regulation project that will review the regulations and update them to include emergent technologies and newer, safer diving standards. The regulatory workplan for the regulation project is under clearance and the National Offshore Safety Advisory Committee has created a subcommittee of commercial diving professionals who will conduct a review of the regulations and provide input to the new requirements.

About the author:

LCDR Kevin Ullrich has served in the U.S. Coast Guard for 14 years. He has served in many capacities, most notably as a marine inspector/investigator.

Endnote:

¹ According to the Marine Safety Manual Volume II, Section C, Chapter 1, when the commercial diving regulations were written in 1978, dynamically positioned (DP) vessels were not addressed. At that time little, if any, interest was expressed in their use in U.S. waters. By the time of the manual's publication (2000), DP vessels had gained in popularity and were expected to become more widely used. As the DP checklist examples unfold, its variances will be explained in more detail.



Citizenship Requirements for Units Engaged in Outer Continental Shelf Activities

Procedures for requesting waivers or exemptions to hire foreign workers.

by MR. THAD SLIWINSKI

Commercial Vessel Safety Specialist, U.S. Coast Guard Office of Vessel Activities, Foreign & Offshore Vessels Division

What is the applicable U.S. statute for units engaged in OCS activities, and what employment restrictions does it require?

The Outer Continental Shelf Lands Act (OCSLA), 43 U.S.C. § 1356, prescribes the rules governing restrictions on the employment of personnel on units engaged in outer continental shelf (OCS) activities.¹ In accordance with this statute and the implementing regulations, the U.S. Coast Guard is the lead federal agency responsible for the enforcement of the national manning statutes on these units. As a general rule, units engaged in OCS activities must be manned or crewed by citizens of the United States or aliens lawfully admitted to the United States for permanent residence (“resident aliens”).

What is meant by the words “unit” and “OCS activity”?

According to implementing Coast Guard regulations in 33 CFR Subchapter N-Outer Continental Shelf Activities, a unit includes any OCS facility, vessel, rig, platform, or other vehicle or structure, domestic or foreign. An outer continental shelf activity refers to any offshore activity associated with exploration for—or development or production of—the minerals of the outer continental shelf.

The Coast Guard interprets the definition of OCS activity broadly. As an example, the Coast Guard recently determined that an installation of a telecommunications fiber-optic cable network to link rigs, facilities, and platforms with shore facilities constituted an OCS activity since the resulting telecommunications network could reasonably be expected to be used to facilitate production of OCS oil and gas resources. As a contrasting example, the Coast Guard determined that the installation of a liquefied natural gas “deepwater port” and associated natural gas pipeline to shore did not constitute an outer continental shelf activity because its purpose was to facilitate the importation of foreign natural gas resources not obtained from the U.S. outer continental shelf. In the case of the LNG deepwater port installation, a determination was made by the U.S. Coast Guard that the U.S. manning statutes were not applicable to foreign-flagged vessels engaged in this activity.

Are there exceptions to the law?

Yes, there are several exceptions to the rule, the most common of which are as follows:

- 1) Foreign ownership or control—A unit is over 50 percent owned or controlled by citizens of a foreign nation.
- 2) Lack of U.S. workers—There is a lack of qualified and available U.S. workers or resident aliens in the area of intended employment.
- 3) Individual is not a member of the regular complement of the crew—Workers not part of the “regular complement of the unit” are also exempt from the U.S. citizenship requirements. Examples include specialists, professionals, or other technically trained personnel called in to handle emergencies or other temporary operations; extra personnel on a unit for training; and other personnel temporarily on a unit for specialized operations, such as construction, alteration, well logging, or unusual repairs or emergencies.

How do I take advantage of these exceptions?

A unit owner/operator (or representative of the owner/operator) may submit a request for a Coast Guard determination of foreign ownership or control to U.S. Coast Guard Headquarters, Office of Vessel Activities, Foreign & Offshore Vessels Division,

at the following address: Commandant (CG-5432), U.S. Coast Guard Headquarters, Room 1116, 2100 2nd St. SW, Washington, DC 20593.

Requests based upon a lack of U.S. workers may also be submitted to the same address as above; however, requests for a determination of whether or not an individual is a member of the regular complement of the crew are processed by the local Coast Guard sector office having jurisdiction. A list of Coast Guard field offices can be viewed at <http://www.uscg.mil/top/units>.

Where can I find the applicable regulations and policy?

The applicable Coast Guard regulations regarding restrictions on the employment of personnel on units engaged in OCS activities are contained in 33 CFR Part 141, Subpart A, found at <http://www.access.gpo.gov/>.

The Coast Guard has published policy describing detailed procedures on how exemptions and regular complement of the unit determinations are processed in Navigation and Vessel Inspection Circular 7-84 and in Policy Letter No. 02-01.

Why do I need a Coast Guard letter?

Foreign crewmembers must obtain a special visa called a B-1 (OCS) visa in order to enter the U.S. en route to the vessel on the OCS. The U.S. Department of State is the responsible federal government agency for the issuance of visas and requires a Coast Guard letter, along with other documents, to start the B-1 (OCS) visa process. The Department of Labor may also authorize a limited number of H-2 visas per year based upon specific labor conditions in the area of intended employment. Please contact your local state workforce agency for details.

Are there any other manning requirements that I should be concerned with?

Yes, owners/operators of documented U.S. vessels are also subject to the citizenship requirements of 46 U.S.C. § 8103, found at <http://uscode.house.gov>. Accordingly, owners/operators of U.S. flag units must also ensure they comply with the additional citizenship requirements in this statute. U.S.-documented vessels may be granted an exemption to hire foreign workers based upon documented proof of the lack of U.S. workers by following the established exemption justification procedure for OCS units. However, certain positions on U.S.-documented vessels, such as the master, must always be manned by U.S. citizens or resident aliens (i.e. legal immigrants to the United States). The request for a lack of U.S. workers exemption for a U.S.-documented vessel is also submitted to the above CG-5432 address.

About the author:

After retiring as a USCG commander in 2004, Mr. Thad Sliwinski has worked in the Coast Guard's Foreign & Offshore Vessels Division at Coast Guard headquarters for the past two years. He previously served as a military officer in the Coast Guard's Commercial Vessel Safety Program. His military service was highlighted by numerous Washington D.C. tours of duty in marine technical, vessel inspection, and vessel security at the Coast Guard Marine Safety Center, the Coast Guard Office of Vessel Standards, and the Coast Guard Office of Vessel Activities, respectively.

Endnote:

¹ The continental shelf is the undersea plain between a continent and the deep ocean. The outer continental shelf consists of the submerged lands, subsoil, and seabed between the seaward extent of the states' jurisdiction and the seaward extent of federal jurisdiction.

Citizenship Requirements on Commercial Fishing Vessels



Did you know the Coast Guard enforces citizenship laws on commercial fishing vessels?

by MR. JACK KEMERER
Commercial Vessel Safety Specialist
U.S. Coast Guard Office of Vessel Activities, Fishing Vessel Safety Division

The requirements for U.S. citizens to serve as masters and unlicensed seamen on commercial fishing vessels can be misunderstood and lead to noncompliance. Manning and citizenship requirements are set forth in U.S. law. However, there are exceptions to the requirements on commercial fishing vessels, and there are provisions for waivers of the requirements, if certain criteria are met. For example, the Coast Guard may only issue waivers for the U.S. citizenship requirements involving unlicensed seamen on U.S. commercial fishing vessels.

The Law

Title 46, United States Code, Chapter 81, Section (§) 8103, addresses citizenship requirements. Section 8103 (a) states:

“Only a citizen of the United States may serve as a master, chief engineer, radio officer, or officer in charge of a deck watch or engineering watch on a documented vessel.”

Section 8103 (i)(1) requires that “... each unlicensed seaman on a fishing, fish processing, or fish tender vessel engaged in fisheries in the navigable waters of the United States or the exclusive economic zone (EEZ) must be—

- (A) a citizen of the United States;
- (B) an alien lawfully admitted to the United States for permanent residence;
- (C) any other alien allowed to be employed under the Immigration and Nationality Act (8 U.S.C. 1101 et seq.); or
- (D) an alien allowed to be employed under the immigration laws of the Commonwealth of the Northern Mariana Islands if the vessel is permanently stationed at a port within the Commonwealth and the vessel is engaged in fisheries within the EEZ surrounding the Commonwealth or another United States territory or possession.”

Not more than 25% of the unlicensed seamen on any U.S. commercial fishing vessel may be non-resident aliens referred to in clause C. This limitation can be waived by the secretary of the Department of Homeland Security. This waiver authority has been delegated to the Commandant of the Coast Guard, and further delegated to the chief of the U.S. Coast Guard Office of Vessel Activities. The citizenship requirements for unlicensed seamen and the limitation on employment of non-resident aliens apply to both federally documented and state-registered U.S. commercial fishing vessels.



Exceptions to Citizenship Requirements

Many of the regulatory requirements regarding marine safety have exceptions, and the citizenship requirement for unlicensed seamen on U.S. fishing vessels falls into that category. The citizenship requirements for unlicensed seamen do not apply to a U.S. fishing vessel fishing exclusively for highly migratory species.^{1, 2} In other words, employment of non-resident aliens is not limited to 25% on these vessels. This exception also applies to any U.S. fishing vessel operating outside of the exclusive economic zone as provided for in § 8103 (b)(2)(C).

A special and quite specific exception to the U.S. citizenship manning requirements on fishing vessels was provided for in the Coast Guard and Marine Transportation Act of 2006. In section 421 (a) of that act, it states that, except for the master, foreign citizens may be engaged to meet manning requirements on United States purse seine fishing vessels fishing exclusively for highly migratory species in the treaty area under a fishing license issued pursuant to the 1987 Treaty on Fisheries Between the Governments of Certain Pacific Island States and the Government of the United States of America, or transiting to or from the treaty area exclusively for such purpose. This exception applies only to purse seine fishing vessels operating in and out of American Samoa and will expire on July 11, 2010. Foreign citizens engaged as officers on these purse seine fishing vessels must hold a license or certificate imposing competency and training standards equivalent to or exceeding those required for a similar United States license.

Waivers of Citizenship Requirements

Policy letter (MOC) 01-02 outlines the procedures for an employer to request a waiver of the 25% limitation on unlicensed seamen who are not citizens of the United States or resident aliens and employed on commercial fishing vessels.

Procedures for Requesting a Waiver

An employer may request a waiver of the citizenship requirements to exceed the 25% limit for unlicensed seamen who are non-resident aliens to be employed aboard a commercial fishing vessel. Each request must be in writing and submitted to:

Commandant (CG-5433)
U.S. Coast Guard
2100 Second Street SW, Room 1116
Washington, DC 20593-0001

Phone: (202) 372-1224

Fax: (202) 372-1917

In the waiver request letter or attachments, the employer must provide the following information:

- 1) A list of the persons, their nationalities, their status in the U.S., and the position each will fill while employed on the vessel.
- 2) Name, official number, and size of the vessel for which the waiver is sought, number of non-resident aliens to be employed on it, overall size of the vessel's crew, and time period over which the 25% limit will be exceeded.
- 3) A certification or statement that the vessel will operate in compliance with all other applicable citizenship requirements regarding the master or other officers.
- 4) Labor pool certification notice(s) and approved form(s) that citizens of the U.S. or resident aliens are not qualified and available for work, from the regional administrator of the Department of Labor (DOL) in whose jurisdiction the vessel will operate.

Upon receipt of the waiver request, the Coast Guard will evaluate and verify the information provided before granting a waiver. An approved waiver letter will then be sent to the employer and a copy of the letter must be maintained on board the vessel for the duration of the waiver period. In the letter, the Coast Guard will advise the vessel owner/employer to ensure that the vessel is in full compliance with all safety and life-saving equipment requirements, and to request a Coast Guard dockside safety examination, if he or she has not already done so.

A copy of the approved waiver letter is also sent to the Coast Guard fishing vessel safety coordinator of the district where the vessel is operated. Information on the citizenship waiver for the vessel will be documented in the Coast Guard's Marine Information for Safety and Law Enforcement database.

Filing for DOL Certification and H-2B Visas

Non-resident aliens who seek employment on a commercial fishing vessel must be issued a temporary work visa, or H-2B visa. This type of visa allows the alien to be employed in a non-agricultural position for a period of less than one year.

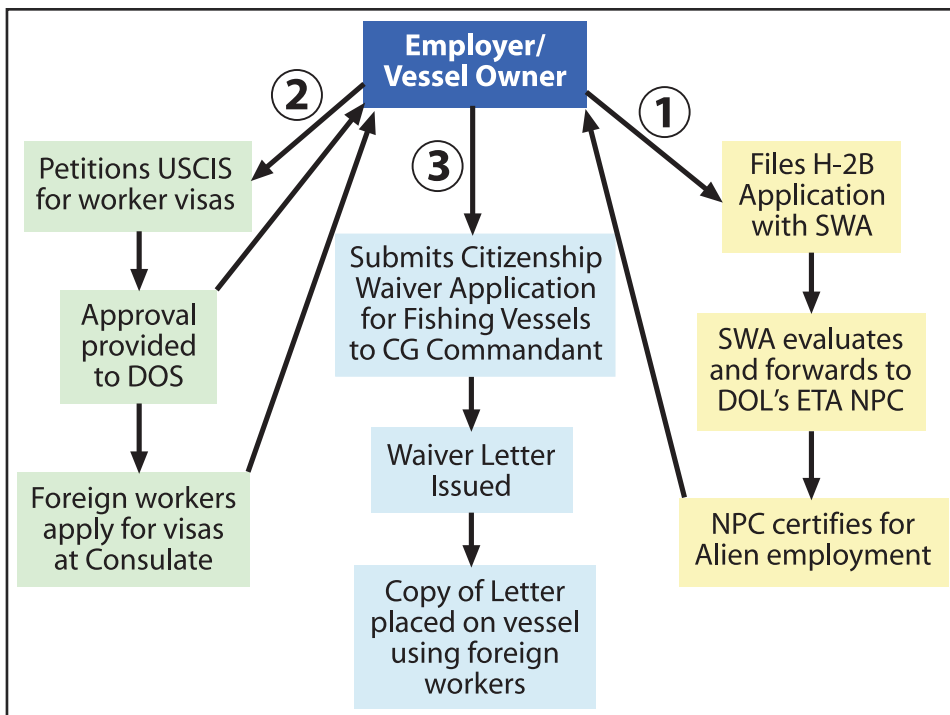


Figure 2: The waiver process.

An employer must seek a determination from the respective state and a certification from the DOL that there are not sufficient U.S. workers to perform the particular jobs on the vessel. This documentation must be provided as part of the request for a waiver of the citizenship requirements on a commercial fishing vessel.³

Qualifying Criteria for Requesting Waiver of Citizenship Requirements

The applicant must be a U.S. employer with a job opportunity located within the U.S. The job opportunity must be temporary. A job opportunity is considered temporary as long as the employer's need for the duties to be performed is temporary, whether or not the underlying job is permanent or temporary. The employer's need for the duties to be performed must be justified under either a one-time occurrence, intermittent, seasonal, or peak-load need. The job opportunity must not be part-time employment; only full-time (40 hours per week) employment can be certified.

The employer's need must be one year or less, although there may be extraordinary circumstances where the temporary services or labor might last longer than one year. However, an employer's seasonal or peak-load need of longer than 10 months, and of a recurring nature, must be supported by compelling evidence.

Process for Filing

1) The prospective employer prepares and files an H-

2B application with the state workforce agency serving the area of proposed employment. Every H-2B application must include:

- a) two (2) originals of ETA form 750, part A (Application for Alien Employment Certification), signed and dated by the employer. ETA form part B is not required.
- b) documentation of any efforts to advertise and recruit U.S. workers prior to filing the application.
- c) a detailed statement of temporary need on the employer's letterhead with signature.
- d) supporting evidence and documentation that justifies the chosen standard of temporary need (one-time occurrence, intermittent, seasonal, or peak-load need).

2) If the employer is represented by an attorney, the attorney must file a notice of appearance (Form G-28) with the application package.

3) The state workforce agency reviews each application for completeness, instructs the employer on recruitment requirements and appropriateness of the wages and working conditions offered, and refers qualified candidates to the employer.

4) The employer will then prepare a recruitment report summarizing the results of the effort. This recruitment report must be signed by the employer and include:

- a) the identification of each recruitment source by name;
 - b) the name, address, telephone number, and résumé (if provided) of each U.S. worker who applied for the job;
 - c) an explanation of the lawful job-related reason(s) for not hiring each U.S. worker.
- 5) When evaluated, applications for certification shall be forwarded by the local state workforce agency to the appropriate Department of Labor Employment and Training Administration National Processing Center.
- 6) The National Processing Center certifying officer, upon review of all available documentation, will determine whether to grant the certification, deny it, or issue a notification to the U.S. Citizenship and Immigration Services (USCIS) that certification cannot be made. The response is based on:
- a) the fact that the employer's need is temporary and justified based on a one-time occurrence, seasonal, peak load, or intermittent need.
 - b) availability of qualified U.S. workers for the temporary job opportunity.
 - c) the assertion that employment of the alien will not adversely affect the wages and working conditions of similarly employed U.S. workers.
 - d) whether or not the job opportunity contains requirements or conditions which preclude consideration of U.S. workers or that would otherwise prevent their effective recruitment.
- 7) The certification or notice of denial is used by the employer to support its visa petition filed with USCIS. To obtain the H-2B work visa, the employer uses the USCIS form I-129, Petition for Non-immigrant Worker. This information and the form can be downloaded at <http://www.uscis.gov>.
- 8) Because the DOL decision is only an advisory to USCIS, there is no appeal process within the Department of Labor for denial for H-2B applications. Such appeals must be filed with the USCIS.
- 9) A candidate outside the U.S. must apply for a visa at the U.S. consulate, and the employer must provide copies of the above forms to the local USCIS service center.

It is important that employers, masters, and crews of commercial fishing vessels, as well as Coast Guard examiners and boarding officers, understand the requirements for citizenship of workers on U.S. fishing vessels, and the type of documentation required for identification and proof of citizenship or alien status. For more information, go to www.fishsafe.info.

About the author:

Mr. Kemerer served as the fishing vessel safety program manager from 1996-1997, prior to retiring from active duty with the U.S. Coast Guard. Currently, he is employed as a commercial vessel safety specialist in the Office of Vessel Activities, Fishing Vessel Safety Division at Coast Guard headquarters.

Endnotes:

- ¹ As set forth in § 8103 (i)(3) and § 8103 (b)(2)(B).
- ² The term "highly migratory" is defined in section 3 of the Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. 1802.
- ³ For more information, go to <http://www.foreignlaborcert.doleta.gov/h-2b.cfm>.

TYPES OF NON-U.S. CITIZEN DOCUMENTS

Proof of identification is not necessarily proof of citizenship. For instance, social security cards and driver's licenses can be obtained by non-U.S. citizens. Proof of U.S. citizenship requires a birth certificate, U.S. passport, or Certificate of U.S. Citizenship (Form N-560 or N-561).

Documents/identification cards for aliens lawfully admitted to the United States for permanent residence include permanent resident cards and resident alien cards. Documents/identification cards for aliens admitted to the U.S. as a temporary resident on an employment permit/H-2B visa include DHS and Immigration and Naturalization Service (INS) non-resident alien for employment cards.



Protecting Our Marine Environment



Destruction of the F/V Challenger.

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Formerly a proud shrimping vessel, F/V *Challenger* fell on hard times after relocating to south Florida some years back. After debilitating problems with propulsion and mechanical systems, the vessel halted operations. It changed hands several times and was eventually

abandoned. Following a report of pollution from the vessel, Coast Guard Sector St. Petersburg responded to minimize the potentially adverse impact to the waters of the Caloosahatchee River and its sensitive environmental and ecological areas. Because the registered owner would not take responsibility for the cleanup, the sector incident management division (IMD) assumed federal control of the case. The federal on-scene coordinator ultimately expended more than \$356,000 from the Oil Spill Liability Trust Funds to remove the pollutants and destroy the vessel.



The F/V *Challenger's* hull is lifted out of the water by barge and crane. All photos courtesy of USCG, taken by MSTC Rafael Tirona.

The vessel was built in 1973 with a registered gross tonnage of 97 tons. It had a wooden hull 66 feet in length and 20 feet in breadth, two 2,500-gallon diesel fuel tanks, and a lube oil capacity of 55 gallons.¹ On March 2, 2007, the vessel owner purchased *Challenger* at an internet auction site for one dollar. It was in a deplorable state at the time of sale and that condition further deteriorated over time.

Eventually, the vessel broke free from its anchorage in Fort Myers, Fla., and endangered



sensitive marine areas as it drifted down the pristine Caloosahatchee River. Recognizing an obvious hazard to navigation, a Coast Guard Station Fort Myers Beach boat was deployed to the scene to provide assistance. After the vessel grounded three miles from its original anchorage, Station Fort Myers Beach personnel secured it in that position, where it remained until the sector incident management division personnel arrived to investigate. Immediately, IMD members observed a substantial amount of fuel and lube oil aboard and determined the vessel posed a significant pollution threat.

Given its location, a spill from the vessel would have impacted the Caloosahatchee National Wildlife Refuge four miles downriver. The 40-acre refuge includes three islands and is home to numerous protected animal species. The refuge consists of several mangrove islands that are covered with a variety of freshwater and brackish water vegetation including cabbage palms, sea grapes, and an assortment of other subtropical plants. It also includes wetlands, consisting primarily of shallow-water mangroves, which provide a nursery habitat for fish and crustaceans. The refuge is located adjacent to the Florida Power and Light Company's Orange River power plant. The warm water outflow from the power plant is a major wintering area for the endangered West Indian manatee. Other protected animals in the area include wood storks, Eastern indigo snakes, and bald eagles.

The Removal and Destruction Process

In 1996, the Coast Guard developed the abandoned vessel program to provide its units guidance and procedures for the removal and destruction of vessels from the navigable waters of the United States. Historically, abandoned vessels have been used for illegal dumping of used oil and hazardous materials that further increased the dangers to local residents, wildlife, and the environment. The Coast Guard encourages federal on-scene coordinators (FOSCs) to use this program when appropriate, since provisions within the Federal Water Pollution Control Act and the Comprehensive Environmental Response, Compensation, and Liability Act provide mechanisms and funding for the removal and destruction of abandoned vessels.



The F/V Challenger before the destruction and removal project began.

While it is fairly common for the Coast Guard to assume federal control of a pollution case when owners do not or cannot properly respond, it is unusual for the Coast Guard to seek to destroy a vessel. It is an expensive, time-consuming process that is best avoided if the owner will secure the vessel after pollution is removed. Because of the nature and scope of this project, the National Pollution Funds Center was consulted to ensure that this project was an appropriate use of the Oil Spill Liability Trust Fund. The following factors were considered when justifying the use of this fund:

1. The vessel was partially obstructing a navigable waterway.
2. The federal on-scene coordinator had pollutants removed from the vessel in the recent past, when it sank at anchor.
3. The owner was unwilling or unable to assume financial responsibility and liability for the vessel.
4. The vessel had been used as an illegal dumping



The F/V Challenger, partially sunk.

ATTEMPTS TO CONTACT THE RESPONSIBLE PARTY

Sector incident management division personnel made several attempts to contact the owner via phone and in writing to inform him of his responsibilities to secure the vessel and prevent pollution. Marine Safety Detachment Fort Myers issued a notice of federal interest, informing him of his responsibilities as the vessel's owner to take prompt and appropriate action. After the owner took no action, Sector St. Petersburg issued a notice of federal assumption that established a deadline for his action with the stipulation that the federal on-scene coordinator (FOSC) would intercede if no action was taken. Most notably, each piece of correspondence issued stated that the owner was liable for all costs incurred by the Coast Guard and that remediation action could include the removal and destruction of his vessel. District Seven legal staff provided guidance and oversight on all correspondence to ensure that these documents were within our jurisdiction and protect the Coast Guard from future litigation.

Confirmed receipt of case correspondence is critical to proving that the vessel's owner was made aware of the FOSC's requirements. Without such evidence, an owner could claim that he never received such documents and attempt legal recourse against the Coast Guard. As a result, all written correspondence was initially sent via DHL and required signature receipt upon delivery. Unfortunately, IMD personnel discovered that DHL delivery persons merely left the mailed documents on the owner's front doorstep in Ohio.

The sector could not proceed with removal and destruction efforts until receipt was confirmed and the owner was given an opportunity to respond. The sector eventually enlisted the assistance of a Coast Guard recruiter in Columbus to hand-deliver a copy of the letter to the owner's residence. A copy of the signed letter was returned to the sector for case records and, despite repeated further attempts, no further contact was established with the owner. With confirmation of document receipt and inaction by the owner, the case could move forward.

ground and probably would be used as such again.

5. The approaching hurricane season might produce a storm that would dislodge the vessel, creating further damage to the environment or obstruction of the waterway.

the hull appeared to be intact, but wood rot was prevalent throughout, and fasteners were corroded. The bridge and crew quarters were uninhabitable. It quickly became apparent that in its current state, the vessel could not have been operated without a complete overhaul.

From the results of a vessel survey, it was clear that *Challenger* was beyond feasible repair and had no fair market value beyond its material contents. An inventory of the vessel's items and effects was documented and their conditions recorded. The items found were in very poor condition and were essentially worthless. Prudence dic-

6. No local marina was willing to moor the vessel, since the owner had a history of not paying dockage fees.

State of Vessel and Value to Protect Against Litigation

Coast Guard policy requires units in custody of abandoned and unclaimed vessels to conduct a marine survey to determine the fair market value. In an effort to protect the Coast Guard against litigation, Marine Safety Detachment Fort Myers was tasked with conducting this survey before any removal and destruction operations could be performed. At the time of the inspection, the vessel was partially submerged. All navigational equipment aboard had either been removed or was damaged beyond repair. All compartments and voids were examined and discovered to contain various amounts of water or oil residue mixture. An inspection of the engine compartment revealed that machinery equipment, including the main diesel engine and generator, were flooded in nearly four feet of water and oil residue.

F/V *Challenger* had been out of service for more than a year and suffered from a lack of maintenance and upkeep. Its outriggers and anchoring system were completely rusted and showed obvious signs of wastage. Structurally,

The vessel owner purchased the *Challenger* at an internet auction site for one dollar.



tated that this information be well documented and maintained by the Coast Guard for at least three years.

Removal and Destruction Planning Phase

The sector incident management division project management team began ordering and evaluating contractor plans for removal and destruction. Resolve Marine Salvage and Towing presented a promising removal plan that incorporated the use of a crane and barge to lift the vessel onto the shoreline, with a cost projection of approximately \$300,000. Once on dry land, the destruction would begin. The wood and plastic debris would be transported via truck into a local landfill, and the steel would be donated to a local scrapyard. Resolve Salvage submitted an alternate plan to place a boom around the vessel to contain pollutants and then destroy it in the water. Removal of the debris could then take place using a smaller barge and crane. This method had a correspondingly lower cost estimate of about \$115,000.

IMD personnel led key stakeholder discussions with the Florida Department of Environmental Protection, Bureau of Environmental Response, and Lee County Department of Natural Resources (Marine Program) to solicit their recommendations and concerns on the project. While Lee County expressed no particular concerns, the Department of Environmental Protection wanted the destruction to occur on dry land, to prevent adverse environmental impact to the riverbed. Taking this into consideration, the federal on-scene coordinators elected to lift the entire vessel out of the water and onto shore before starting the destruction phase.

This planning phase was difficult because the incident management division personnel couldn't find a suitable location to conduct the destruction phase, nor could they find a loading site for the trucks to on-load the debris. The local Fort Myers marinas were well aware of the vessel's history, and refused to allow it to be brought to their facilities for destruction. Lee County offered a suitable site, but the limited operational window of just 24 hours dictated that the IMD seek alternate staging areas.

Eventually IMD personnel convinced the owner of Jack's Marine, located less than a mile from the *Challenger*, to use his site as the primary staging area for the destruction and debris removal phases of the project. Resolve Salvage negotiated an amicable per-day dockage fee rate with Jack's Marine, and this set the stage to begin the removal and destruction phase.

Removal and Destruction Phase

May 19, 2007 marked the start of the removal and destruction phases for the project. Raising and re-floating



The tug *Lana Rose* tows the *F/V Challenger* (with its outriggers already removed) to the designated destruction site.

the vessel was the initial step. This was accomplished by using a crane and barge to first right the fully laden vessel while simultaneously using submersible pumps to empty it. The vessel's outriggers and associated equipment were also removed. Once re-floated, the vessel was taken into tow and transported to Jack's Marine to prepare it for destruction.

The shallow water depth at the shoreline prevented the vessel from being moved any closer than 20 feet from the bank. This made it impossible to lift the waterlogged vessel from the water and to swing it onto shore using the crane. Resolve Salvage elected to remove all machinery equipment and other heavy components from the vessel in an effort to lighten the load. It took the combined efforts of the crane lifting the 97-ton ves-



The *F/V Challenger*'s structure is slowly demolished by barge and crane.

sel and a towboat to push the bow up on the shore. The heavy boat would go no farther.

Resolve Salvage employed a commercial backhoe to claw away the vessel's structure. As the backhoe dismantled the bow section of the vessel, it became significantly lighter and more of it was pushed onto shore

to continue with backhoe destruction. This process continued until the vessel was completely dismantled six days later.

Final Project Cost Summary and Lessons Learned

The final project cost total was \$356,055. The project costs breakdown can be summarized as follows:²

EXECUTION STAGE PROJECT NETWORK

The incident management division staff used the critical path method (CPM) to determine a viable execution stage completion date. The CPM is a tool commonly used by project managers in their efforts to develop a realistic schedule on project completion. The "forward pass" section of the CPM will provide the project manager with the earliest start and completion times for each activity, while the "backward pass" section provides the latest start and completion times. Combining both the forward and backward pass times will net the project's critical path.

The critical path tells the project manager which activities within the project schedule that cannot be delayed or the project will not be completed within the target completion date. For this project, the driving factor was to complete the execution stage prior to the official start of the hurricane season – June 1, 2007.

Table 1 illustrates the project's network (in hours) using both the forward and backward pass methods.

| ACTIVITY DESCRIPTIONS | ACTIVITY | Earliest Start | Latest Start | Earliest Finish | Latest Finish | Slack (LS-ES) | Critical Path |
|-------------------------------|----------|----------------|--------------|-----------------|---------------|---------------|---------------|
| Vessel Re-Floating Operations | A | 0 | 6 | 4 | 10 | 6 | No |
| Outrigger Removal | B | 4 | 10 | 8 | 14 | 6 | No |
| Vessel Towing Operations | C | 8 | 14 | 11 | 17 | 6 | No |
| Vessel Lightening Operations | D | 11 | 17 | 26 | 32 | 6 | No |
| Vessel Lifting Operations | E | 26 | 32 | 40 | 46 | 7 | No |
| Vessel Destruction Operations | F | 40 | 54 | 52 | 66 | 14 | No |
| Debris Transport Operations | G | 40 | 46 | 60 | 66 | 6 | No |
| Site Clean-up Operations | H | 60 | 66 | 66 | 72 | 6 | No |
| Landscaping | I | 66 | 66 | 80 | 80 | 0 | Yes |

Table 1

The forecasted project execution stage completion date occurred on May 27, 2007—approximately 80 hours, based on a 12-hour workday. While the overall cost ceiling had to be increased to account for contractor overtime and weekend rate costs, the project's execution stage was completed right on target. The only critical path activity was the last activity—landscaping—which meant that throughout the project's duration, the federal on-scene coordinator had ample flexibility to make on-scene adjustments without having to worry about meeting the projected execution stage completion date. Table 1 shows the activity calculations using the CPM.





The F/V *Challenger's* internal structure is demolished and carried away by a backhoe. The primary goal of this process was to significantly lessen the vessel's weight to facilitate lifting by the barge and crane onto shore.

Resolve Marine Towing and Salvage - \$313,051

Southern Waste Services - \$41,682

Coast Guard Direct Cost - \$1,322

The F/V *Challenger* removal and destruction case was very successful and provided a unique opportunity for the IMD project management team and sector to learn valuable lessons along the way.

Commandant approval for the project was attained on May 8, 2007, and the project management team had to move quickly to identify contractors with the necessary equipment to perform the removal project. The excessive amount of work in the post-Katrina Gulf Coast region made it difficult to find suitable heavy lift equipment with the capacity to handle a 97-ton vessel. Eventually, a crane and barge was diverted from Texas and re-routed to the project site in Fort Myers.

The inability to secure the right equipment for the job in a timely manner delayed the start of the execution stage by almost two weeks. This pushed the start of this stage closer to the beginning of hurricane season. In the future, the project management team will better facilitate this part of the process and may be even more selective in hiring contractors for a job of this magnitude.

The project management team quickly realized that things don't always go according to plan. It was unforeseen that the excessive weight of the completely saturated vessel would make it impossible to lift while attempting to move it onto shore. Additionally, the shallow water depths along Jack's Marine shoreline prevented a smooth transit of the vessel from water to shore. The inability to push up closer to shore required the crane to swing too far outboard to lift the vessel and place it onto shore. This greatly reduced the crane's lift capability. The only practical resolution was to use towboat assist to push up against the vessel while the crane maintained positive control to force the vessel into a position where demolition could begin.

Plans had to be modified and alternatives developed on-scene. The project management team recognized that in an effort to prevent similar occurrences in the future, they would have to consider all possible scenarios and multiple contingency plans to appropriately address them.

The close-down stage began immediately after execution on May 25, 2007. This stage was primarily administrative in nature and involved tasks such as drafting pollution situation reports and reviewing and compiling contractor daily invoices and case data entry. The team managed all costs and case documentation and was responsible for all aspects of this case from start to finish.

Benefits to the Environment

The destruction of F/V *Challenger* means it will no longer pose a problem to the marine environment. Sector St. Petersburg's timely response neutralized threats to the highly sensitive Caloosahatchee National Wildlife Refuge and river estuaries. As a direct result of this action, the potential for the vessel to be used for illegal dumping or becoming a public health hazard was completely eliminated. The Coast Guard clearly demonstrated its commitment to protecting the marine environment and our nation's waterways.

State and local stakeholders applauded the proactive approach taken regarding this vessel, and this case served as an impetus for future removal actions by other area agencies. After the destruction of the F/V *Challenger*, Lee County's Department of Natural Resources began making preparations to remove another abandoned fishing vessel threatening the nearby sensitive habitat.

About the authors:

MSTC Rafael S. Tirona is assistant chief of the Incident Management Division at Sector St. Petersburg. He has served in many assignments, including international instructor duty, two marine safety tours, and a patrol aviation anti-submarine warfare tour in the U.S. Navy. Chief Tirona holds a master's degree in business administration.

LT James T. Fogle is supervisor of Marine Safety Detachment Fort Myers. He has served as assistant chief of response at Marine Safety Office New Orleans and as a member of the Eighth Coast Guard District response advisory team. He was also pollution fund administrator for 13 Marine Safety Offices and six EPA regions.

LTJG William J. Sanders is chief of the Incident Management Division at Sector St. Petersburg. LTJG Sanders is a 2006 graduate of the Coast Guard Academy and holds a bachelor's degree in operations research and computer analysis.

Endnotes:

¹ Vessel characteristics obtained from critical profile in MISLE.

² Final contractor invoices from FPN M07011.

Vessel Response Plans

*Past, present,
and future.*



by MR. DAVID DU PONT
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Due to the growth in worldwide shipping and the continuing increase in vessel size, the 1960s and 1970s saw an increase in the number and size of oil spills. Seeking to address this issue, the International Maritime Organization (IMO) began requiring vessels to have vessel response plans¹ to improve ship owners'

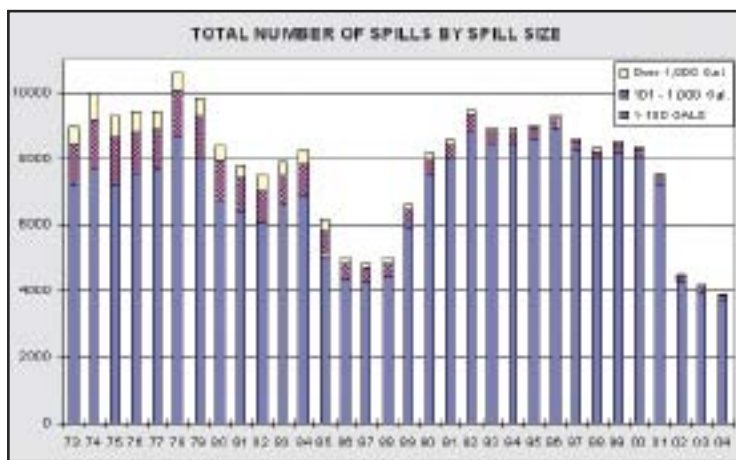


Figure 1: Total number of oil spills, by spill size. USCG graphic.

oil spill response readiness. Individual countries, including the United States, soon followed. In the United States, this was largely accomplished by enacting planning requirements directly aimed at increasing oil spill response capability and recovery capacity. While the volume of oil spilled in the United States has decreased (see Figure 1), the threat of a catastrophic oil spill of national significance from a commercial vessel has not.

Building upon existing domestic and international pollution response plan requirements, the United States has future plans to further enhance ship owners' and operators' oil and chemical spill response capability to

mitigate the threat of worst-case discharges upon the navigable waters of the U.S. To this end, the U.S. Coast Guard has four vessel response plan (VRP)-related rule-making projects in progress. It also has plans to overhaul its legacy plan review program and migrate to an electronic-based plan submission and

approval VRP management system.

IMO Plans

In response to major pollution incidents in the marine environment, most notably the *Torrey Canyon* spill of 1967, IMO member states dramatically revised requirements for the prevention and mitigation of pollution at sea.² The resulting International Convention for the Prevention of Marine Pollution from Ships, 1973, as modified by the protocol of 1978 relating thereto, or MARPOL 73/78, became the main international convention covering prevention of pollution in the marine environment from operational or accidental causes.



MARPOL 73/78 is an international treaty that regulates ship design, operation, and the disposal of wastes generated by vessel operation. It consists of six annexes. Annexes I and II are mandatory for all parties to the treaty, while Annexes III, IV, V, and VI are optional and only binding for parties that specifically accept them. All parties to MARPOL 73/78 must ensure that ships under their flag and those that enter their jurisdiction comply with applicable requirements.

Annex I entered into force on October 2, 1983, and all signatory states were obligated to enforce the regulations for the prevention of pollution by oil. Annex II for noxious liquids carried in bulk entered into force a few years later on April 6, 1987. Annex I and II of MARPOL 73/78 mandate the development and approval of pollution response plans for vessels. Plans include shipboard oil pollution emergency plans (SOPEPs) under Regulation 37 of Annex I, and shipboard marine pollution emergency plans (SMPEPs) under Regulation 17 of Annex II.

On June 14, 2007, the IMO requirements for the protocol on preparedness, response, and cooperation to pollution incidents by hazardous and noxious substances, 2000 (OPRC-HNS protocol) came into force. While the United States is signatory to Annex I and II of MARPOL, it is not signatory to the OPRC-HNS protocol.

Overall, the purpose of shipboard oil pollution emergency plans and shipboard marine pollution emergency plans is to minimize the environmental impact of oil and NLS, or noxious liquid substances, discharges from ships and to help shipboard personnel prepare for unexpected discharges. Regulation 37 of Annex I requires oceangoing oil tankers of 150 gross tons or more and oceangoing ships of 400 gross tons or more to carry an approved shipboard oil pollution emergency plan. In addition, vessels that carry any amount of oil aboard as cargo, operational waste, or fuel, and meet the specification above, must also maintain an approved SOPEP on board. Regulation 17 of Annex II requires any oceangoing ships of 150 gross tons and above certified to carry noxious liquid substances in bulk to maintain an approved SMPEP-NLS on board. Since most of the contents are the same as a SOPEP's, the International Maritime Organization permits plan holders to combine the two plans into a SMPEP.

The International Maritime Organization requires that the plans be approved by the states under which the vessel is registered. The United States, as party to MAR-

POL 73/78, designated the Coast Guard as the U.S. agency to ensure compliance. Every ship that enters a U.S. port or offshore terminal under U.S. jurisdiction is subject to Coast Guard boarding for verification of compliance with MARPOL 73/78. In addition, to ensure the compliance of U.S.-flagged vessels, the U.S. established federal regulation Title 33 CFR 151, implementing the international law Regulation 37 of Annex I at a national level, based upon IMO guidelines.

The Coast Guard was also charged with the responsibility of reviewing and approving International Maritime Organization plans for U.S.-flagged vessels. As a party to MARPOL 73/78, the U.S. Coast Guard is required to ensure compliance for U.S.-flagged vessels carrying noxious liquid substances. The Coast Guard has future plans to update 33 CFR Part 151 to reflect MARPOL 73/78 Annex II SMPEP requirements for U.S.-flagged vessels. At the present time, vessel owners and operators who request issuance of SMPEPs for their vessels can use NVIC 03-04 as a guide to develop such plans.

As of August 2007, approximately 2,700 U.S.-flagged vessels maintain active shipboard oil pollution emergency plans and 450 U.S.-flagged vessels maintain active shipboard marine pollution emergency plans. All International Maritime Organization plans are reviewed and approved by the Coast Guard and receive approval letters that are valid for five years from the date of approval.

It is important to note that the maintenance of a valid SOPEP or SMPEP-NLS is necessary for an applicable vessel to receive and maintain an international oil pollution prevention (IOPP) certificate and engage in international voyages to ports or offshore terminals under the jurisdiction of other parties to MARPOL 73/78. Vessels that fail to produce a valid IOPP certificate may be subject to port state controls of other parties to MARPOL 73/78, and ships may be detained, expelled, or refused entry.

MARPOL 73/78 has been so successful in its mission of reducing pollution at sea that in 1990 the National Research Council Marine Board of the United States credited MARPOL 73/78 with making "a substantial positive impact in decreasing the amount of oil that enters the sea."³ Figures 2 and 3 on page 64 illustrate this trend. In 1998, the volume of oil spilled was over 5,000,000 gallons less than that in 1978. Today, 144 countries representing almost 98% of the world's tonnage have become party to Annexes I and II of MARPOL 73/78.

Tank Vessel Response Plans

On March 24, 1989, the 987-foot tanker *Exxon Valdez*, loaded with 1,264,155 barrels of crude oil, was headed out from Prince William Sound, Alaska, to Long Beach, Calif. At four minutes past midnight, the vessel struck Bligh Reef in Prince William Sound, rupturing several cargo tanks and spilling nearly 11 million gallons of crude oil. Within two months, the oil had spread over 470 miles.⁴

Tank vessel response plan (TVRP) requirements are delineated in Title 33 Part 155 of the Code of Federal Regulations (33 CFR 155). Vessels that carry oil in bulk as primary or secondary cargo and operate on the navigable waters of the United States are required to submit a TVRP to the U.S. Coast Guard in accordance with OPA 90 and 33 CFR 155. The interim final rule for tank vessels was published in 1993, and the final rule, Regulation 33 CFR 155, was published in 1996. These regulations apply to U.S.-flagged and foreign-flagged



The *Exxon Valdez* ran aground in 1989, rupturing several cargo tanks and spilling nearly 11 million gallons of crude oil. Within two months, the oil had spread over 470 miles. USCG photo.

Largely as a response to concerns arising from the *Exxon Valdez* spill, the Oil Pollution Act of 1990 (OPA 90) was signed into law. This was the single-largest piece of legislation entrusted to the Coast Guard. OPA 90 amended Section 311(j)(5) of the Federal Water Pollution Control Act (FWPCA) and required the owner or operator of a tank vessel to prepare and submit a plan for responding, to the maximum extent practicable, to a worst-case discharge/substantial threat of such a discharge, of oil.

vessels operating in U.S. waters. Vessels required to submit a tank vessel response plan to the Coast Guard range in size from under 100 barrels to supertankers carrying over three million barrels of oil.

Some vessels that are exempted from these regulations [as listed in 33 CFR 155.1015(c)] include public vessels, vessels that do not carry oil (even if constructed to carry oil), and oil spill response vessels, when conducting response operations. The Coast Guard began receiving plans in 1992, and over the life of the project, approximately 2,950 plans covering tens of thousands of ves-



sels have been received, reviewed, and approved. Approximately 800 tank plans covering more than 5,000 vessels are currently active.

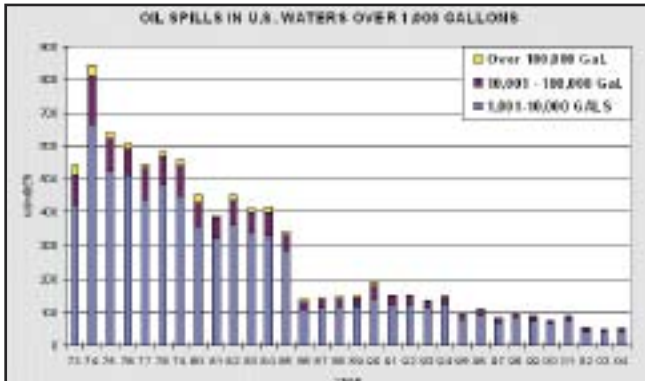


Figure 2: Oil spills in U.S. waters over 1,000 gallons, 1973-2004. Graphic courtesy of the USCG National Maritime Center. USCG graphic.

Tank vessel response plans contain essential information and strategies to be implemented when responding to a worst-case discharge oil spill. For example, this information includes procedures to mitigate oil spills

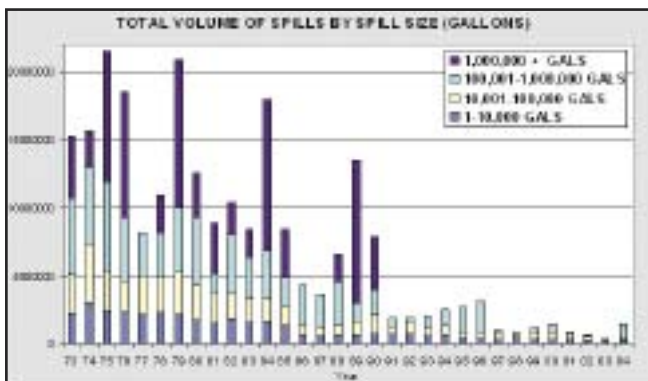


Figure 3: Total volume of spills, by spill size. Almost 67% of the volume of spills (by spill size) from 1973-2004 were spills greater than 100,000 gallons. However, there have been no oil spills over 1 million gallons between 1991 and 2004. USCG graphic.

resulting from casualties or shipboard operational activities, notification procedures, training and exercises, geographic information, and vessel information. Plans must also identify equipment available to clean up a worst-case discharge spill (98 to 100% of total cargo) or contract an oil spill removal organization, a company that provides the necessary equipment for response. Oil spill removal organizations are classified into spill levels by the USCG's National Strike Force Coordination Center. These classifications are used to determine if the appropriate level of spill response has been contracted for each plan—a critical component in properly planning for and cleaning up an oil spill.

Another important aspect of TVRPs is the requirement for qualified individuals. Plans must name at least two qualified individuals who are based in the U.S. and include 24-hour contact information. These individuals are authorized to act as the point of contact during cleanup operations and communicate with the federal on-scene coordinator and oil spill removal organization during a spill event.

Vessel response plans are very similar in purpose to facility response plans. They are designed both to prepare for emergency oil spill response and to aid in the prevention of oil spills. Due to ship movements, tank vessel response plans are reviewed and approved at the national level, as opposed to designated waterfront facility response plans, which are reviewed at the U.S. Coast Guard sector level. Facility response plans and tank vessel response plans should mirror and complement each other where possible.

TVRPs are submitted to the U.S. Coast Guard headquarters Office of Vessel Activities for comprehensive review and approval. Once a plan complies with the regulations, each vessel receives an approval letter with an expiration date of five years from the date of approval. At the end of this 5-year period, the plan must be resubmitted to receive another 5-year operating period authorization. This ensures that plans continue to comply with the regulations and any changes that may have occurred over the previous five years are incorporated. Each vessel receives approval to operate in desired captain of the port (COTP) zones. Without specific vessel response plan approval for a designated COTP zone, a vessel may not transport oil upon the navigable waters of the U.S. and may not enter a port or place subject to the jurisdiction of the United States.

Nontank Vessel Response Plans

On November 26, 1997, the freight ship *Kuroshima* broke away from its anchorage during a storm and ran aground in Dutch Harbor, Alaska, spilling approximately 1,119 barrels of fuel oil. Following this spill, the state of Alaska passed a law (18 AAC 75.400) requiring the owner or operator of a nontank vessel over 400 gross tons to file an application for approval of an oil discharge prevention and contingency plan.⁵

Another freight ship, the *New Carissa*, went aground on the night of February 4, 1999. The vessel was anchored about 1¹/₂ nautical miles off the Coos Bay, Ore., coast when rough seas caused the vessel to drag anchor. The

continued on page 66

VESSEL RESPONSE PLAN-RELATED RULEMAKING PROJECTS

The response plan regime for vessels will change in the future. New domestic and international requirements will build on the existing response plan foundation to provide an enhanced pollution response regime. The changes will be put in place via Coast Guard rulemaking projects, and there are a number in various stages of development. For the regulations found in Title 33 Code of Federal Regulations (CFR) Part 155, a summary of each domestic rulemaking project and its status follows:

**Title: VESSEL AND FACILITY RESPONSE PLANS FOR OIL:
2003 REMOVAL EQUIPMENT REQUIREMENTS AND
ALTERNATIVE TECHNOLOGY REVISIONS**

Docket Number: USCG-2001-8661

Summary: The Coast Guard proposes changes to its requirements for oil spill removal equipment under vessel response plans and marine transportation-related facility response plans. These changes would increase the minimum available spill removal equipment required for tank vessels and facilities, add requirements for new response technologies, and clarify methods and procedures for responding to oil spills in coastal waters.

Status: A notice of proposed rulemaking (NPRM) was published on October 11, 2002 (67 FR 63331). A final rule is expected in the near future.

**Title: SALVAGE AND MARINE FIREFIGHTING REQUIREMENTS;
VESSEL RESPONSE PLANS FOR OIL**

Docket Number: USCG-1998-3417

Summary: The Coast Guard proposes to revise the vessel response plan salvage and marine firefighting requirements for tank vessels carrying oil. These revisions will clarify the salvage and marine firefighting services that must be identified in vessel response plans. The proposed changes will assure the appropriate salvage and marine firefighting resources are identified and available for responding to incidents up to and including the worst-case scenario. The proposed rulemaking will also set new response time requirements for each of the required salvage and marine firefighting services.

Status: An NPRM was published on May 10, 2002 (67 FR 31868).

Title: NONTANK VESSEL RESPONSE PLANS

Summary: The Coast Guard will implement a statutory requirement that an owner or operator of a self-propelled, nontank vessel of 400 gross tons or greater, which operates on the navigable waters of the United States, must prepare and submit an oil spill response plan to the Coast Guard. The rulemaking will specify the content of a response plan, including the requirement to plan for responding to a worst-case discharge and a substantial threat of such a discharge. The rulemaking will also specify the procedures for submitting a plan to the Coast Guard.

Status: To provide guidance to industry, a Navigation and Vessel Inspection Circular (NVIC) was published on February 4, 2005. NVIC 01-05 is titled "Interim Guidance for the Development and Review of Response Plans for Nontank Vessels." Change One to NVIC 01-05 was published on January 13, 2006.

Title: TANK VESSEL RESPONSE PLANS FOR HAZARDOUS SUBSTANCES

Docket Number: USCG-1998-4354

Summary: The Coast Guard proposes regulations that would require response plans for certain tank vessels operating on the navigable waters of the United States that could reasonably be expected to cause substantial or significant and substantial harm to the environment by discharging a hazardous substance. These regulations are mandated by the Oil Pollution Act of 1990 (OPA 90), which requires the president to issue regulations requiring the preparation of hazardous substance response plans. The primary purpose of requiring response plans is to minimize the impact of a discharge of hazardous substances into the navigable waters of the United States.

Status: An NPRM was published on March 22, 1999 (64 FR 13734).

captain and crew attempted to raise anchor, but were unable to free the vessel. In the early hours of February 5th, the *New Carissa* found herself hard aground on the Oregon coast. The incident resulted in the discharge of nearly 11,000 barrels of fuel oil. More than 3,000 barrels went to the bottom when the vessel was scuttled in the North Pacific Ocean.⁶

These incidents prompted the Coast Guard to petition Congress to enact legislation to require vessel response planning for nontank vessel traffic. On August 9, 2004, the president signed the Coast Guard and Maritime Transportation Act of 2004 (CGMTA 2004). Sections 701(a) and (b) of this act amended sections 311(a) and (j) of the Federal Water Pollution Control Act, allowing the Coast Guard to issue regulations requiring the owner or operator of a nontank vessel to submit a plan for responding, to the maximum extent practicable, to a worst-case discharge, and to substantial threat of such a discharge, of oil.

The CGMTA 2004 defined a nontank vessel as a self-propelled vessel of 400 gross tons (as measured under section 14302 of Title 46, United States Code) or greater, other than a tank vessel, that carries oil of any kind as fuel for main propulsion and that is a vessel of the United States, or operates on the navigable waters of the United States. Section 608 of the CGMTA 2006 clarified the applicability of nontank vessel response plan (NTVRP) rulemaking to vessels of 400 gross tons or greater, as measured under the convention measurement system in 46 U.S.C. 14302, or the regulatory measurement system of 46 U.S.C. 14502 for vessels not admeasured under 46 U.S.C. 14302. Additionally, section 608 of the CGMTA 2006 specified that only those vessels that operate on the navigable waters of the U.S. are required to submit these plans.

CGMTA 2004 required nontank vessel response plans to be submitted to the Coast Guard by August 8, 2005. Since the Coast Guard could not issue regulations regarding these NTVRPs by this date, the Coast Guard

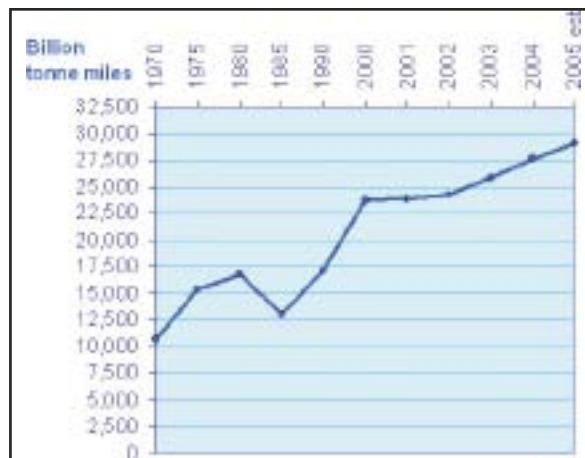


Figure 4: World seaborne trade 1970 to 2005. Throughout the last century the shipping industry has seen a general trend of increases in total trade volume. Over the last four decades, total seaborne trade estimates have nearly quadrupled from less than 6 thousand billion tonne-miles in 1965 to over 27 thousand billion tonne-miles in 2004. Graphic courtesy Fearnley's Review. Figure for 2005 has been estimated from information at www.marisec.org.

vessel response plan that meets the provisions of 33 USC 1321(j)(D)(5) will be issued interim operating authorization letters for up to two years, or until the NTVRP regulations have been promulgated. If the regulation has not been issued by the time the 2-year authorization has expired, the owner or operator may extend their interim operating authorization for another two years by "re-certifying," in writing, that they have ensured the availability of, through contract or other approved means, the necessary private personnel and equipment to respond, to the maximum extent practicable, to a worst-case discharge, and to substantial threat of such a discharge from their vessel, as mandated by 33 USC 1321(j)(5)(D).

On the Horizon

The Coast Guard is striving to obtain a more balanced approach toward environmental stewardship and facilitating maritime commerce. Managing information more efficiently is one key to fulfilling this goal. Several regulatory and industrial agencies have already set up vessel response plan electronic plan submission portals, such as the Panama Canal and the state of Texas. The Coast Guard is taking notes on how to design and use these systems in order to design and implement a quality electronic vessel response plan management system (see sidebar).

It has taken a number of major oil spills for the U.S. as well as the international community to realize the impact oil spills can have on the environment and the

issued interim guidance in the form of Navigation and Vessel Inspection Circular (NVIC) 01-05 to owners/operators of nontank vessels to meet their legal requirements under the FWPCA. To date, the U.S. Coast Guard headquarters Office of Vessel Activities has received over 2,500 plans containing over 11,000 nontank vessels. This greatly expands on the already successful program for tank vessels and further ensures the protection of our nation's waterways.

Until completion of the NTVRP regulations, nontank vessels submitting a nontank

Vessel Response Plan Electronic Migration

The vessel response plan program has plans to go digital in the near future in support of the Commandant's initiative to improve electronic resources. We are overhauling our website — <http://www.uscg.mil/vrp> — by updating content, updating the format, and moving this information to Homeport, the Coast Guard's Internet portal for the maritime industry. We are currently developing plans to accept electronic vessel response plans and convert to an electronic submission, review, and approval system. Vessel response plans are currently submitted in paper-based format, with the exception of revisions less than 15 pages (or 1.5MB), which can be submitted to vrp@uscg.mil.

The envisioned electronic vessel response plan review and approval system will be designed similar to the existing U.S. Coast Guard security plan program, which requires the submission of security plans via Homeport. Another envisioned benefit to an electronic VRP migration is to upload the various types of vessel response plans on file into the U.S. Coast Guard's Marine Information for Safety and Law Enforcement (MISLE) database. This will provide USCG personnel in the field with instant access to emergency contact and detailed oil spill resource information contained in the vessel response plans. The improved availability of this information will enhance federal on-scene coordinator risk-based decision processes and facilitate response coordination and oversight responsibilities.

It is envisioned that vessel response plans will be submitted electronically via Homeport, which will guide applicants through a series of screening questions to qualify the submission, revision, or resubmission. The Homeport VRP submission portal will directly link to MISLE, and upload key information such as tank diagrams, qualified individual contact information, contracted oil spill removal organization information, salvage information, and more.

Merging with MISLE will streamline USCG resources and help to prevent unnecessary data entry errors and redundancies in our e-VRP database with data fields such as vessel names, vessel identification numbers, owner/operator, flag, etc. Currently the vessel response plan program maintains a separate stand-alone on-line USCG database (<http://www.e-vrp.com>) available to the general public to provide instant status information regarding the review and approval of VRPs, along with information on critical plan information.

When vessels arrive in their COTP zones, Coast Guard units across the country are challenged to manage and obtain information from multiple databases. These information sources include MISLE, the ship arrival notification system, the e-VRP database, and vessel traffic service offices, if available. Integrating the e-VRP database into MISLE will reduce the number of sites USCG vessel arrival desks must use. The USCG plans to provide the same level of public transparency to the new MISLE VRP database through the use of the Coast Guard's maritime information exchange, <http://psix.uscg.mil/>.

Ultimately, the migration to an electronic vessel response plan submission, review, approval, and management system will greatly improve U.S. Coast Guard service to its stakeholders. Plan holders will no longer need to rely on expensive couriers to deliver bulky plans to Coast Guard headquarters, and will instead be empowered to deliver compliance documents within seconds. USCG field personnel will have instant access to vessel response plans. USCG VRP review staff at headquarters will be able to better manage and facilitate approvals by eliminating lost and delayed correspondence.

need for pollution response planning standards. However, the regulations that have been implemented in the past two decades have served their intended purpose of enhancing preparedness and response resources while minimizing the impact of oil spills.

Since the implementation of vessel response plan requirements, the number, size, and severity of oil spills in U.S. waters has decreased. While this trend is encouraging, the risk of a spill of national significance still exists from commercial vessels, and the future poses many

challenges for the maritime industry and the U.S. Coast Guard to reduce this risk. New regulations that are mandated, planned, or in the final stages of implementation revising VRP standards will enhance the USCG's goal of responding to and mitigating the impact of oil and chemical spills in U.S. waters.

By providing instant access to electronic vessel response plans in MISLE, the USCG's goal of transitioning the VRP program to an electronic submission, review, and approval management system will greatly improve the maritime community's ability to communicate with the U.S. Coast Guard and comply with vessel response plan standards. Electronic submission will also enhance the USCG's management and oversight of oil and chemical spill incidents.

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Ms. Jennifer Heinonen, a contractor from Advanced Technology Systems, has worked on the VRP program for over three years. She serves as the manager of the tank VRP project, overseeing the reviews of approximately 800 tank plans.

Mr. David Gibson, also a contractor from Advanced Technology Systems, has worked on the VRP program for over three years. He serves as the manager for the nontank VRP project, overseeing the review of over 1,900 nontank plans.

Endnotes:

- ¹ The collective group of vessel response plans required by the IMO, MARPOL 73/78, and U.S. Federal Water Pollution Control Act are referred to as VRPs in this article.
- ² The *Torrey Canyon* and IMO regulations can be found on the International Maritime Organization website at <http://www.imo.org>.
- ³ International Maritime Organization, "Focus on IMO," London, United Kingdom, 1998, p. 9.
- ⁴ <http://www.evostc.state.ak.us/History/FAQ.cfm>
- ⁵ <http://www.darrrp.noaa.gov/pacific/kuro/index.html>
- ⁶ CAPT M.J. Hall for the United States Marine Safety Office Portland, "Crisis on the Coast: Federal On-Scene Coordinator's Report and Assessment of M/V *New Carissa* Oil Response," Vol. I, June 1999.

U.S. Coast Guard and Customs and Border Protection Joint Operations

Security Boardings and Examinations



by LCDR MARC KNOWLTON
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When newly appointed Secretary of Treasury Alexander Hamilton focused his energies on securing the fiscal solvency of a fledgling United States, he realized that a maritime regime was needed to stem the flow of contraband and to expand the rule of law into the maritime domain. He designed an integrated approach between 10 customs houses [predecessor to today's Customs and Border Protection (CBP)], and 10 revenue marine cutters [predecessor to today's U.S. Coast Guard (USCG)]. The success of that program was instrumental to the success of the republic.

Through collaboration between the Coast Guard and CBP, today's imperative to secure our country against the nefarious goals of terrorists and smugglers in, against, and through our ports once again is being accomplished.

Strategic Impetus for Joint USCG/CBP Efforts

Why are the U.S. Coast Guard and Customs and Border Protection such natural partners in maritime homeland security? Both agencies share a tradition of multimission capabilities and authorities that intersect in our nation's ports; respect the delicate balance required to facilitate commerce while enhancing cargo and port security; and employ risk-based tactics to translate abundant, technology-enabled data into actionable information. The National Strategy for Maritime Security's

emphasis on maritime domain awareness and layered security implicitly requires the USCG and CBP to develop a common operating picture with risk-based targeting data and to integrate operational capabilities at various maritime points of vulnerability.

To mitigate a complex assortment of risks in the Tampa Bay maritime transportation system, U.S. Coast Guard Sector St. Petersburg and CBP Tampa collaborate in targeting vessels, cargoes, containers, and people for joint security and law enforcement activities at sea and in port. Thanks to a rich local history of collaboration within the Tampa Bay port community, the Coast Guard/ Customs and Border Protection partnership has developed a multilayered security and law enforcement regime that translates intelligence and abundant vessel data into mission-actionable information.

The Region

Tampa Bay is the world's leader in fertilizer and high-risk fertilizer chemical component shipments, supplying well over 50% of Florida's petroleum products and hazardous chemicals. The narrow, 40-nautical-mile, 43-foot-deep channel hosts a significant volume of cruise ships, single-skin tank vessels, liquefied petroleum gas vessels, and a steadily increasing volume of container ships. The bay also surrounds peninsular MacDill Air Force Base and its



tenant commands, including U.S. Central Command and U.S. Special Operations Command.

The region is also home to a large environmentally sensitive area and is confronted with the dilemma of a waterfront property boom in areas directly adjacent to the port's channels and waterfront industrial areas. Additionally, a significant percentage of Florida's electricity-generating output relies on Tampa Bay's ports.

Over the past 30 years, a series of tragic port incidents, including the sinking of the Coast Guard Cutter *Blackthorn* (1980), the Sunshine Skyway Bridge disaster (1980), and the "Three-Ship Collision" (1993), have exemplified many of the inherent risks within Tampa Bay.¹ They also helped to unite the port community to prevent future destructive incidents.

Post 9-11 Implications

Shortly after 9-11, the Coast Guard established new 96-hour advance notice of arrival requirements and Customs and Border Protection expanded its maritime security roles, particularly in prescreening vessel crews. Local USCG and CBP offices created security screening



U.S. Coast Guard Petty Officer Sanchez, left, from the vessel boarding and security team, discusses field of fire and safe movement of an armed team with a Customs and Border Protection Officer. USCG photo.

and "detain on board" standards for all inbound vessel crews, establishing a new level of agency cooperation.

The Tampa Bay Harbor Safety and Security Committee (TBHSSC) played a key role in coordinating new federal and state security rules for visiting ships and integrating the new requirements into commercial practice. The TBHSSC and the Tampa Bay Pilots Association adopted a unique approach to ensure that all vessels and crews were properly vetted by the Coast Guard and CBP prior to entry of each ship into the port. This approach was a vital catalyst for increased daily cooperation between the USCG and CBP.

Coast Guard/CBP Exchange Officer Program

In March and April 2006, Coast Guard Sector St. Petersburg and CBP Tampa exchanged personnel to improve collaboration. During this exchange, Coast Guard and Customs and Border Protection personnel learned of the partner agency operational "language," built stronger professional relationships, and identified information that could be shared to improve risk-based activity targeting.

In June 2006, ADM Thad Allen, Commandant, U.S. Coast Guard, and Ralph W. Basham, Commissioner, Customs and Border Protection, signed a joint memorandum establishing an agency-wide partnership between the Coast Guard and Customs and Border Protection, focusing on five key areas:

- targeting,
- joint vessel boardings,
- information sharing,
- training,
- professional exchange.

A second local professional exchange revealed the need for a joint standard operating procedure to intensify collaboration. This joint operating procedure formalized joint efforts in vessel targeting, at-sea boardings, dockside operations, and training.

Joint Vessel Targeting

As a result of the investments in Coast Guard/Customs and Border Protection collaboration, the CBP advanced targeting unit (CBPATU) and the Coast Guard port state control (PSC) branch informally exchange the results of advanced targeting efforts for each arriving vessel several times throughout the day and, formally, through an afternoon conference call between the two units. The CBPATU analyzes crew data generated from the electronic advanced notice of arrival system and the requisite cargo data filed through the automated manifest

system. CBP automated analysis systems combine this information with law enforcement data and pertinent intelligence to determine the threat level posed by each vessel arrival. The PSC branch analyzes risks of each arrival using the electronic advanced notice of arrival system and Coast Guard automated databases that identify applicable intelligence and measure compliance with domestic and international safety and security regimes.

Each agency schedules daily inspections and boardings based on the above-mentioned targeting criteria and shares relevant intelligence and targeting information through a joint targeting database. The joint database information is presented each morning in the daily command operations brief, chaired by the Coast Guard sector commander and the CBP assistant area port director for tactical operations.

Despite resource constraints that prevent co-location of Coast Guard and CBP in the Tampa Bay area, this “virtual joint targeting” process provides a functional common operating picture. This actionable information enables CBP and USCG decision makers to coordinate joint operations based upon each agency’s unique law enforcement authorities and capabilities.

Joint At-Sea Boardings

If targeting information indicates that a vessel poses a potentially severe risk to the port, Coast Guard and CBP commanders may decide to conduct a joint boarding of the vessel at sea. Various factors, including data anomalies, presence of stowaways, and intelligence information are some of the factors that can lead to a joint at-sea boarding.

The Tampa Bay joint vessel boarding team is comprised of Coast Guard vessel boarding and security team law enforcement specialists; Coast Guard port state control officers, who specialize in domestic and international safety and security regulations; and the Customs and Border Protection antiterrorism and contraband enforcement team, who contribute expertise in counterterrorism, immigration, and customs laws. This team was one of the first in the country to conduct joint boardings at sea and dockside.

These boardings allow each agency to assess and mitigate risks prior to and during transit into port. The critical mass of cooperating, jointly trained personnel has radically improved the efficacy of several boardings for migrant, counternarcotics, and homeland security operations.

Joint Dockside Operations

Even when joint, at-sea boardings are not deemed necessary, joint dockside boardings are sometimes warranted and are conducted based on various targeting factors.



Customs and Border Protection Officers lead a joint container inspection. USCG photo.

Joint dockside operations enable expedited inspection of items reviewed by both agencies, such as cargo documents and crew security plans, and allows technical experts to focus on identified risk factors while leveraging complementary skill sets to complete inspections. This also enables the sharing of gear such as remotely operated vehicles for sweeping hulls and piers, drug detection equipment, and radiation detection gear. This results in boardings that keep the port safe and facilitate commerce.

Joint Dockside Container Operations

The risks posed by arriving container shipments provide another avenue for collaboration. CBP employs an arsenal of nonintrusive inspection devices, including large-scale gamma x-ray systems, radiation portal monitors, and hand-held radiation detection equipment. Coast Guard hazardous materials inspectors provide authority for undeclared hazardous materials audits and other transportation-related inspections.

To mitigate risks of containerized cargo in the port, CBP Tampa and the USCG conduct surge container enforcement operations based on cargo manifest risk assessments. One such joint operation consisted of a physical verification of the manifests along with an examination of containers for adherence to proper hazardous materials and safety regulations. Another joint operation consisted of screening all containers departing the port with the large-scale gamma imaging system in addition to radiation screening.

Joint Training

USCG Sector St. Petersburg and CBP Tampa have aligned training programs with joint operations to build and maintain team cohesion while honing technical skills. This training primarily involves joint vessel boardings and joint container inspections.





The joint USCG/CBP boarding party prepares for an armed “take-down” of the bridge. USCG photo.

The joint vessel boarding team trains regularly in tactical concepts; safe boarding practices; hidden compartments, confined spaces, identification, and documentation inspections; and many other areas of expertise. Because at-sea tactical boardings are not yet standard practice within CBP, the CBP antiterrorism and contraband enforcement team volunteers are required to pass a physical fitness and survival swim evaluation aligned with Coast Guard boarding team member requirements. Next, they receive classroom and on-the-job training in Coast Guard at-sea and in-port boarding policies and procedures.

Cross-functional training is also conducted in various aspects of container inspections. In January 2007, CBP Tampa trained Sector St. Petersburg personnel on the mobile radiation portal monitor to enhance understanding of CBP’s radiation detection capabilities. Coast Guard inspectors have reciprocated with training in container cargo loading standards and inspection safety procedures.

Trainees are not expected to attain the technical expertise of their agency counterparts. Instead, they gain an understanding of partner strategies, authorities, capabilities, and tactics that improves overall situational awareness and promotes operational innovations.

The Way Forward

Coast Guard Sector St. Petersburg/CBP Tampa has been identified as one of six national testbeds for USCG/CBP collaboration, with specific emphasis on the virtual co-location achieved through regular communications and the local joint vessel targeting database.

Future plans to improve collaboration include secure video conferencing capabilities between Coast Guard

and CBP targeting units to improve relationship-based information sharing. Additional improvements to the joint database are also expected, with significant potential for use of business intelligence and data-mining tools that can further automate the targeting process and enable targeting personnel to shift their focus from data entry to information analysis.

Finally, Coast Guard and Customs and Border Protection personnel will continue to train together and improve joint operational capabilities and coordination. Additional professional exchanges will reinforce the gains made and mitigate the impact of personnel transfers, and we will look to other ports for best practices that can be adopted to improve the security and safety of Tampa Bay.

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CWO4 Kevin Austin, U.S. Coast Guard
Assistant, Chief Port State Control, Sector St. Petersburg

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U.S. Customs and Border Protection-U.S. Coast Guard Memorandum, Subject: CBP-USCG Collaborative Efforts—Joint Operations.

Endnote:

¹ The CGC *Blackthorn* sank on January 28, 1980 after a collision in the mouth of Tampa Bay. Also in 1980, a freighter knocked out a large section of the Sunshine Skyway Bridge. See the Winter 2007-08 issue of *Proceedings of the Marine Safety & Security Council* for information on the 1993 three-vessel collision.

“Uninspected” Does Not Mean Unregulated

Uninspected towing vessel security plan verification examinations.

by LCDR SCOTT MULLER
Project Manager, U.S. Coast Guard Office of Vessel Activities

With the onset of the Maritime Transportation Security Act of 2002 (MTSA) and the International Ship & Port Facility (ISPS) code, many uninspected towing vessel (UTV) owners and operators have seen an increase of U.S. Coast Guard inspectors aboard their vessels. As they have been classified as “uninspected” vessels, the operators are understandably not used to the presence of Coast Guard inspectors. However, the inspectors are playing a vital part in our nation’s homeland security mission—they are conducting vessel security plan verification exams.

MTSA mandated new regulations for maritime security, such as these security assessments and plans, to prevent security incidents in the maritime domain and ensure the safety of maritime commerce and domestic ports. MTSA and the ISPS code place the responsibility on the owner or operator of a vessel to complete an accurate security assessment that addresses those vulnerabilities in the vessel security plan. The Coast Guard is responsible for verifying that the vessel is complying with the approved plan. It is through security plan verification (SPV) exams that the Coast Guard verifies that the required security measures are in place.

Security Boardings and Examinations



UTV MTSA/ ISPS Applicability

In December 2002, the International Maritime Organization (IMO) established a set of international security-oriented regulations relating to vessel and port facilities—SOLAS XI-2: special measures to enhance maritime security, which implemented the ISPS code. ISPS is applicable to all cargo vessels over 500 international gross tons (including UTVs) engaged on international voyages.

On October 22, 2003, the Coast Guard implemented domestic security regulations for maritime security under the authority of the Maritime Transportation Security Act. The requirements of the act align, where appropriate, with the security requirements in the SOLAS amendments and the ISPS code. However, the MTSA has a broader application that includes domestic vessels and facilities. Maritime Transportation Security Act regulations are codified in 33 Code of Federal Regulations (CFR), Chapter I, Subchapter H—Maritime Security.¹

Towing vessels, such as assist tugs, assist boats, helper boats, bow boats, harbor tugs, ship-docking tugs, and harbor boats, are not subject to 33 CFR since either the primary towing vessel or the facility will be subject to



the regulations and will account for these vessels in the security plan.

As discussed in the preamble to the final rule and highlighted in enclosure (4) to Navigation and Vessel Inspection Circular 04-03, the vessel security requirements were developed to address risks posed by those towing vessels engaged in the transportation of hazardous and dangerous cargoes.

The focus of the regulations are on towing vessels that transport barges with certain dangerous cargoes and barges subject to 46 CFR subchapter D or O, which limits the burden on the towing industry while increasing maritime security. Even in the case of limited operations, some cargoes are so dangerous that in order to minimize risk, the vessels carrying those cargoes are regulated under MTSA/33 CFR 104.

It is Coast Guard policy² that a vessel subject to MTSA/33 CFR 104 must operate in accordance with its approved vessel security plan at all times. Regulated vessels are always subject to these requirements, no matter what they are carrying. That is, vessel security plans may not be turned “off” when the vessel carries non-regulated cargoes and back “on” when transporting regulated cargoes. Rather, a vessel must always implement its vessel security plan, but may contain variable security measures to cover multiple operating conditions, including intermittent operations. For example, the vessel security plan must address the variable security, a measure that the vessel may use such as minimal security measures in place while the vessel is in lay-up status. Conversely, the vessel security plan must also address measures for resuming operations, such as sweeping the vessel after re-establishing access control.

Security Plan Verification Exams

MTSA implementation is one of the top priorities for the Department of Homeland Security and the Coast Guard. The USCG is also responsible for verifying, through security plan verification exams, that each MTSA/ ISPS-applicable vessel complies with the vessel security regulations. On October 22, 2003, the Coast Guard announced in the Federal Register³ its intention to conduct SPV exams not only on inspected vessels, but on uninspected vessels subject to MTSA as well. Although uninspected vessels are not required to undergo SPV exams by regulation, the Coast Guard is committed to encouraging all vessel owners of uninspected vessels to undergo initial security plan verification exams on a voluntary basis.

Vessel security plans may not be turned “off” when the vessel carries non-regulated cargoes and back “on” when transporting regulated cargoes.

The MTSA verification process is substantially the same for UTVs as it is for inspected vessels. For inspected vessels, the Coast Guard conducts security plan verification exams in conjunction with the vessel’s scheduled inspections, such as during the inspection for certification or an annual re-inspection for endorsement on a certificate of inspection.

Uninspected towing vessels, on the other hand, do not have these normally scheduled inspections. Instead, the Coast Guard will coordinate scheduling the date and location for the security plan verification exam with the UTV owner or operator. The Coast Guard may also conduct SPV exams in conjunction with other Coast Guard examinations or boardings.

After the initial security plan verification exam, uninspected towing vessels that are subject to the Maritime Transportation Security Act undergo subsequent SPV exams once every five years, while those subject to both MTSA and ISPS undergo subsequent exams twice every five years, to align with the requirements for the International Ship Security Certificate. The Coast Guard may conduct SPV exams more frequently based on risk, such as an increase in the terrorism threat level.

Because of the inherent dynamics of the UTV industry and its frequent movement of vessels, the Coast Guard requests that uninspected towing vessel owners and operators contact their local U.S. Coast Guard officer in charge, marine inspection (OCMI) zones to schedule the SPV exam. SPV exams normally take several hours for Coast Guard inspectors to complete.⁴ For safety purposes, the Coast Guard prefers that these exams do not take place while the vessel is underway.

The purpose of the security plan verification exam is to verify that the security measures required by the UTV’s vessel security plan or alternative security plan are in place. The Coast Guard’s responsibility includes verifying that:

- the vessel complies with the vessel security plan,
- the vessel security assessment is accurate,

- the measures in place adequately address the vulnerabilities.⁵

Preparing for an Exam

To facilitate the SPV exam, owners and operators should prepare for and consider a number of issues. It is imperative that the vessel security plan is on board the vessel as required by regulation. Also, the assigned crew and vessel security officer should attend the exam so the Coast Guard inspectors can briefly interview them regarding general security practices and/or specifically assigned security duties.

Inspectors may measure the vessel security officer's performance by interviewing relevant personnel and reviewing records and documents. Because drills provide an effective means to evaluate crew proficiency, the inspector may observe the crew performing a security drill, which should test an element or elements of the approved security plan or alternative security program.

Finally, Coast Guard inspectors will incorporate a cursory examination of critical safety equipment during the SPV exam. The inspector will use the uninspected towing vessel examination report to record the results of the exam, along with written requirements that document deficiencies, if any. The inspector will leave a copy of the report with the vessel's master and forward another copy to the owner.

The UTV owner or operator must immediately address all deficiencies found during an SPV exam. A "deficiency" is noncompliance or condition in which the vessel is temporarily unable to comply with its approved VSP. For example, there is a deficiency when a vessel security plan specifies that an intrusion detection alarm will protect each access point, but the device does not function.

After the Exam

The Coast Guard will work cooperatively with vessels while verifying compliance and addressing deficiencies. This is especially true for those vessels on "domestic only" routes that are making a good-faith effort to implement vessel security plans and are otherwise in substantial compliance.

For minor deficiencies that do not jeopardize the security of the vessel, the inspector may employ temporary measures to mitigate the risk, such as duplicate or substitute measures. For more severe deficiencies, such as the complete failure of an entire security system, or is-

ues that pose a direct risk to the vessel's security, "no-sail" action is appropriate to halt vessel operations. A captain of the port (COTP) order is used for these "no-sail" deficiencies for uninspected vessels. Vessels subject to the ISPS code, on the other hand, will not receive an international ship safety certificate if the inspector detects any deficiencies during a security plan verification exam.

When deficiencies are noted, the COTP may consider an entire scale of enforcement tools, such as documenting an initial, minor violation in a letter of warning; with subsequent violations documented in a notice of violations, civil penalties, or criminal penalties.

In certain cases, the Coast Guard may not issue a deficiency, but rather require an amendment to the vessel security plan. That is, the inspector may find that a certain condition exists that compromises the security of the vessel, but finds that the vessel is technically compliant with its VSP. In such cases where the vessel security plan measures are found to not overcome certain vulnerabilities, an amendment is required.⁶

UTV Security Program Challenges

As indicated earlier, the Coast Guard is committed to ensuring that all MTSA-regulated vessels fully implement the Maritime Transportation Security Act security regulations. As such, the Coast Guard has conducted security plan verification exams on inspected vessels, as well as on uninspected vessels. The Coast Guard established a goal to complete initial SPV exams on all uninspected vessels by the end of 2006. It nearly met this goal, completing security plan verification exams on more than 97% of the approximately 4,770 U.S. uninspected fleet.

This task was not without its challenges, like scheduling the security plan verification exams on the MTSA uninspected fleet. Because uninspected vessels are not required to undergo Coast Guard inspection on an annual basis, the Coast Guard had limited contact and/or information on these vessels in order to conduct outreach and schedule the exams. Complicating the matter, the inherent dynamic and frequent movement of these vessels does not place a vessel in any real "home port" under any OCMI zone, so it was difficult for the OCMI zones to "claim" responsibility in planning SPV exams for any particular vessel. As a result, the Coast Guard listed a vast majority of uninspected vessels as "orphans"—those not assigned or "claimed" by any particular OCMI.



These issues were resolved through the hard work and dedication of Coast Guard personnel from many Coast Guard offices around the country, including Coast Guard headquarters, areas, districts, and sectors. First, the Coast Guard improved data quality within its vessel and activity-reporting database (the Marine Information for Safety and Law Enforcement, or MISLE) with respect to Maritime Transportation Security Act-regulated vessels. This removed 308 vessels from MTSA-regulated status because those vessels were not involved in Maritime Transportation Security Act-regulated activities. Next, Coast Guard sectors worked hard to identify all MTSA-regulated vessels operating in their areas of responsibility. This increased the “claimed” fleet size from 908 vessels overall, and reduced the “orphan” fleet from 1,523 vessels to only 292.

Once the “claimed” fleets were organized, OCMI zones were able to contact uninspected towing vessel operators and schedule exams. However, for those operators who were not reachable or did not schedule an exam, some sectors conducted harbor patrols using Coast Guard vessels to identify and board MTSA-regulated uninspected towing vessels, and conduct SPV exams. Unfortunately, some of these exams required the vessel to halt its operations. In all, these efforts to identify uninspected vessels and conduct the exams ultimately enhanced overall maritime security awareness within the fleet, in particular vessels that have received minimal Coast Guard contact in the past.

The Way Forward

Uninspected vessels and uninspected towing vessels play an important role in our nation’s maritime infrastructure. The security assessments and plans required by MTSA protect these vessels from security incidents and help ensure the safety of maritime commerce and our nation’s ports. The maritime industry and the Coast Guard have made great strides toward improving homeland security since the events of 9/11. There have been challenges, but the process is improving with increased familiarity with post-9/11 security measures in the maritime domain.

Upcoming inspection regulations for towing vessels will only further improve Coast Guard and UTV owner and operator interaction. In the Maritime Transportation Act of 2004, Congress directed the Coast Guard to

add towing vessels to the list of vessels subject to safety inspections. Although this regulation is under development (see Federal Register, Vol. 69, Thursday, December 30, 2004, 78471 - Inspection of Towing Vessels), it may require the Coast Guard to conduct inspections aboard uninspected towing vessels on a more regular basis. It is foreseeable that Coast Guard inspectors would then conduct security plan verification exams on UTVs in conjunction with scheduled safety inspections, as is currently done with the inspected fleet. This would remove the present burden of UTV owners and operators from scheduling subsequent SPV exams and reduce the need for inspectors from having to reach out and find MTSA-regulated UTVs for security plan verification exams.

Until then, I recommend that uninspected towing vessel owners and operators use the MTSA guidance to maintain their MTSA implementation processes. To avoid unintended delay in UTV operations from unscheduled security plan verification exams, I also recommend that owners, operators, and their local Coast Guard inspectors stay in continuous contact regarding MTSA compliance.

About the author:

LCDR Scott Muller served as a senior marine inspector and investigating officer. Past assignments included MSO Hampton Roads and MSO Tampa as well as graduate school for modeling and simulation at Old Dominion University. He is currently the project manager for the International Convention for the Prevention of Pollution from Ships (MARPOL) and vessel security in the Office of Vessel Activities at Coast Guard headquarters.

Endnotes:

- ¹ 33 CFR Part 104 contains the maritime security regulations for vessels. Compliance with the maritime security regulations of 33 CFR 104 satisfies the requirements for ISPS.
In accordance with 33 CFR 104.105 (11), the maritime security regulations are applicable to the owner or operator of any towing vessel greater than eight meters in registered length that is engaged in towing a barge or barges subject to 33 CFR 104.
- ² Barges that are subject to 33 CFR 104 are defined in 33 CFR 104.105 (8)—a barge subject to 46 CFR chapter I, subchapters D or O; and 33 CFR 104.105 (9)—a barge carrying certain dangerous cargo in bulk or barge that is subject to 46 CFR Chapter I, subchapter I, that is engaged on an international voyage. Under 33 CFR 101.105, a certain dangerous cargo (CDC) means the same as defined in 33 CFR 160.204.
- ³ Section 8.9 of Enclosure (8) to NVIC 04-03 and MTSA/ISPS Policy Advisory Council 53-05.
- ⁴ Federal Register, Vol. 68, 60489.
- ⁵ NVIC 04-03 provides guidance on the Coast Guard’s VSP verification exam process. NVIC 04-03 may be downloaded under the maritime security section on the Coast Guard’s Homeport web page at <http://homeport.uscg.mil/mycg/portal/ep/home>.
- ⁶ Enclosures (2) and (3) of NVIC 04-03 discusses this process in more detail.
- ⁷ The owner or operator of a vessel initiates amendments to the VSP in accordance with 33 CFR 104.415.

What You're Saying



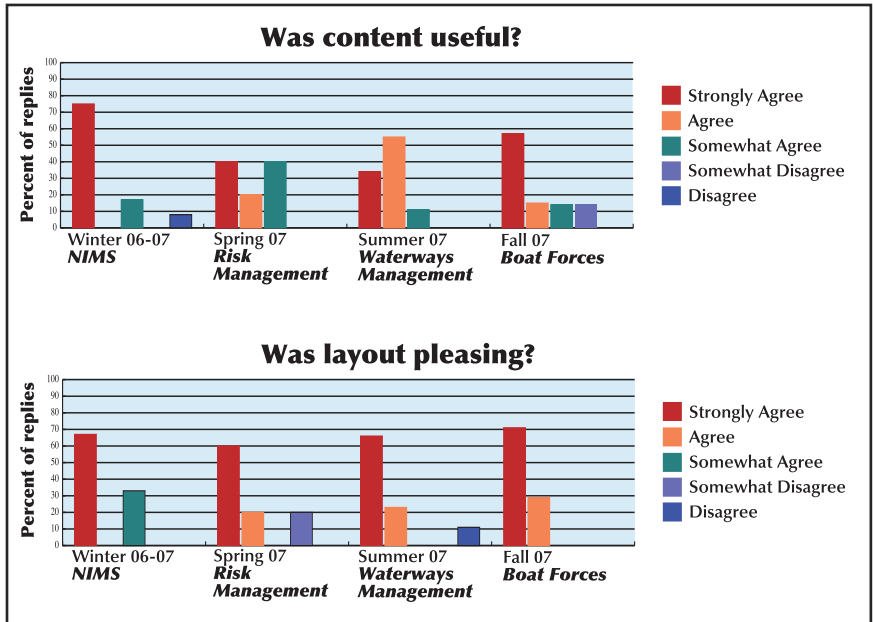
How about a regular column on casualty investigations and prevention? Single-topic issues are really boring! Winter 2006-07

Articles that highlight the CG ability to forge successful partnerships are very welcome. It really shows what can be done well with a government agency that has a KNACK for getting such a broad range of missions and then must rely upon more than just dollars to accomplish them. I work in an off-dock cargo handling facility. Some focus with an article or two that's relevant to this portion of the industry under the main subject of an issue might be helpful. Winter 06-07

The amount of technical information presented in recent issues was overwhelming. Although well written, it may have been a little too much for your average reader, unless most of your readers are in the admiralty. Winter 06-07

Great content and very timely themes lately. Nice work! Magazine appears to be on a real upswing and a giant leap forward in professionalism and look. Real meaty content being provided by a well-rounded collection of authors and subject matter experts — not just a bunch of Coasties giving sermons. I also like the opportunity to provide and see feedback now in the magazine. Keep up the great work. BZ! Summer 2007

Help us get through it in bite-sized chunks or perhaps disseminate the Cliff Notes version via CG Central or Homeport. This sheer volume of reading at the field level is overwhelming and will most likely go unread at the field level. Fall 2006



Security and safety are both serious subjects. To catch the readers' attention it might be worth considering including a humorous anecdote connected with the above topics. Spring 2007

Enjoyed this issue as casualty investigations provide hard-to-learn real-world situations concerning seamen, ships, equipment & rules. Would like more (many more) casualty reports, causes and conclusions and more interesting reading to your non-Coast Guard (and retired USCG) readers. Summer 2006

How about "Collision" series, bearing down on what went wrong, why and what might have been done differently given the applicable ColRegs? In your Deck and Engineering Queries sections, it's VERY distracting to have the correct answer highlighted before a chance to read (and make decisions as to) all the options. Suggest inverted answer key at bottom as you used to have. Having the answer staring you in the face before making the decision destroys any "educational" value. Thanks. Summer 2007

I would like to read about real-life action or incidents regarding security, criminal activities, violations of rules & regulations, etc. and the investigations, disposition, or end results of these kinds of matters. Spring 2006

The engineering and nautical questions at the end of each issue are good, and a good challenge. Please don't show the answers on the same page, though! Much better to have the answers a few pages away. Summer 2007

Tell us what you think.

Survey available online: www.uscg.mil/proceedings



Reader's Survey



What We're Doing

PROCEEDINGS Magazine READER'S SURVEY

"I would like to read about real-life incidents..."
"How about a regular column on casualty investigations?"
"Would like more (many more) casualty reports..."

We have added a regular "Lessons Learned" section in *Proceedings*, where we will delve into marine casualties.

We will explore how each incident occurred, outline the U.S. Coast Guard marine casualty investigation that followed, describe the lessons learned through the investigation of these incidents, and document any changes in maritime regulations that occurred as a result.

"Would like to see a little more on seamanship and seaworthiness and maybe a little less on homeland security and law enforcement."

"Single-topic issues are really boring!"

Look for special sections in upcoming editions, where we will explore varied topics in addition to the main issue topic.

We will also continue to include "Mariner's Seabag" and other features in future issues.

Most importantly: We're listening!

*We appreciate hearing your opinions and ideas.
Keep them coming!*

Go to www.uscg.mil/proceedings, click on "Reader's Survey," and tell us what you think.

"...way too much data all at once. Help us get through it in bite-sized chunks. The sheer volume of reading...is overwhelming..."

"The amount of technical information presented in recent issues was overwhelming. Although well written, it may have been a little too much for your average reader, unless most of your readers are in the admiralty."

We hear you—and agree!

We have added sidebars that contain "must-read" information to most of *Proceedings'* articles. Look for text with special graphic treatment, set off from the main text of an article.

We have also added more charts, tables, and graphics to illustrate and emphasize important information.

"The engineering and nautical questions at the end of each issue are good. Please don't show the answers on the same page, though!"

"In your Deck and Engineering Queries sections, it's VERY distracting to have the correct answer highlighted before a chance to read (and make decisions as to) all the options."

QOnce again, we're on the same wavelength.

We had come to that same conclusion and implemented a redesign of the Nautical Queries section for the Fall 2007 issue, just as these comments from the Summer 2007 survey were coming in. **Take a look at the new Nautical Queries** and let us know what you think.

We're pleased that you read *Proceedings* with such careful attention, and we're always happy to hear of ways to make *Proceedings* more interactive.

Reader's Survey

Training to the Job

The Coast Guard's effort to increase marine inspector and foreign vessel examiner competency levels.



by MR. BRIAN FISHER
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Sectors Division

Those more recently trained as marine inspectors over the past decade have probably heard stories of how we trained inspectors "back in the day." If you don't already know, "back in the day" generally refers to when marine inspectors were assigned to marine inspection offices (MIO) and were only loaned to the local captain of the port (COTP) upon request.

It was a time when marine inspector training consisted of one 12-to-18-week resident course at the Reserve Training Center in Yorktown, Va., that incorporated instruction on vessel inspection, mariner licensing, vessel documentation, and investigations. Once your classroom training was complete, you returned to your unit to be assigned to a mentor who would mold you into a competent and credible marine safety professional.

This worked in those days because MIOs were exclusively focused on commercial vessel safety issues. Each unit's success was directly associated with the competency of its marine inspectors. Marine inspector credentials were requisite for license examiners, vessel documentation specialists, and especially investigators. As the MIOs combined with the COTP offices (becoming marine safety offices, or MSOs), our workforce became more diversified, and our training needs changed. In response, the training ports were born.

Training ports were established in ports that had the volume and diversity of inspection activity that would support acquisition of core inspection qualifications

within a 24-month period. The intention was to cycle all first-tour inspectors through a training port and then use them to stock the rest of the program with qualified inspectors. As the Coast Guard continued to reorganize into supergroups and activities, our training needs changed again. While it is generally accepted that the training ports produced competent inspectors, the concept failed in that we could not produce and retain the volume of qualified resources necessary to keep pace with the changing needs of the field.

In 1998 the training ports were disbanded and a new marine inspection training program was launched. The new program laid out a plan that included five weeks of initial resident training at the training center in Yorktown, completion of correspondence courses, and supervised on-the-job training. This new program depended heavily on aggressive program-level oversight and accountability. While units struggled to redistribute and balance resources to develop and implement security initiatives, the oversight mechanism of this new training program had little effect on ensuring the consistency and quality of implementation. As the commercial vessel safety program found its place in the sector organization, it was evident that if we were to retain the technical expertise necessary to perform domestic vessel inspections and foreign vessel examinations, improvements to the commercial vessel safety training and qualification program were necessary.





Mr. Cris Cueto, left, supervisor and marine inspector of the barge section at U.S. Coast Guard Activities New York, explains to LT John Miller how to inspect a boiler aboard a steam-propelled passenger vessel. USCG photo by PA3 Mike Hvozda.

The USCG Sector Performance Analysis

The revitalization of the training and qualification program began in 2004 with a comprehensive sector performance analysis. The overall goal of this project was to support Coast Guard organization needs by establishing job performance requirements, performance standards, and competency requirements while also determining the needed skills, experience,

and education requirements needed to fill sector positions. The project was a contractor-supported collaborative effort among Coast Guard headquarters, training center Yorktown, and numerous field units.

Analysis completed in October of 2006 enabled the Coast Guard to identify and document marine inspector and foreign vessel examiner job performance requirements along with the performance support (schools, other training, job aids, etc.) necessary to provide Coast Guard members with enough knowledge to successfully conduct domestic vessel inspections and foreign vessel examinations. This resulted in an entirely new performance-based commercial vessel safety training and qualification system using a human performance technology (HPT) approach. HPT ensures a systematic approach to identifying, attaining, and continuously improving performance through a variety of interventions based on analysis. Changes to the new system include the creation of and/or significant changes to:

- “core” and “strand” training courses,
- performance qualification standards (PQS),
- field job aids,
- more stringent qualification processes and oversight requirements,
- a recertification requirement.

Separation of Domestic Vessel Inspector and Foreign Vessel Examiner Training and Qualification Standards

One of the most prominent changes to the new commercial vessel safety training and qualification system was the separation of the foreign vessel examiner training and qualification standards (i.e. port state control

officer) from the domestic vessel inspectors (i.e. the marine inspector) to properly address the vast differences between the domestic vessel inspection and foreign vessel examination processes.

As a result of the separation, a pilot port state control officer (PSCO) training course was developed and held in 2006. The content of the PSCO course was removed from the legacy marine inspector course and significantly updated to focus on the “core” requirements needed to prepare Coast Guard personnel to successfully complete follow-on performance qualification standards tasks and eventually become qualified to properly conduct foreign vessel examinations.

Training topics during this intense three-week PSCO course include, but are not limited to:

- purpose of port state control and port state control concepts;
- professional ethics and demeanor;
- awareness of cultural differences with foreign crews;
- vessel targeting processes;
- application of SOLAS requirements to foreign freight and petroleum tank vessels for hull, machinery, fire protection, lifesaving equipment, communications, navigation equipment, and navigation systems;
- safe management;
- special measures for maritime safety and security, load lines, tonnage, manning and mariner certification, and MARPOL;
- application of domestic requirements (predominately navigation safety, pollution prevention, and maritime security requirements) to foreign freight and petroleum tank vessels;
- practical guidelines on how to examine foreign freight and petroleum tank vessels and systems for compliance;
- control actions;
- reporting requirements;
- appeals of Coast Guard actions.

This course is taught using lectures, in-class exercises, laboratory exercises, and ship visits, emphasizing hands-on experience and procedures.

The existing marine inspector course was also completely revised and stood up in 2006. This updated (domestic) marine inspector course provides enhanced entry-level training for Coast Guard marine inspectors in:

- basic hull construction and nomenclature;
- welding qualification procedures;
- hull inspection and dry-dock requirements;
- lifesaving systems, equipment, and personal lifesaving gear;
- firefighting systems;
- auxiliary systems, and gasoline and diesel propulsion;
- electrical system design considerations;
- machinery inspection;
- technical review of stability and subdivision;
- occupational safety for inspectors.

This course is also taught using lectures, in-class exercises, and laboratory exercises, emphasizing hands-on experience. Emphasis is also placed on developing the student's ability to identify and apply U.S. regulations and standards during the inspection of U.S. flag commercial vessels. One of the major improvements to the course was the acquisition of a 70-foot small passenger vessel, which has significantly enhanced the hands-on training capability.

Evaluation of all Commercial Vessel Safety "Strand" (Specialized) Training Courses

The Coast Guard continues to conduct evaluations on its non-Coast Guard-taught, contracted training courses. These courses are designed to provide specialized training in areas such as gas carrier and chemical tank vessel systems, inert gas/crude oil washing systems, wood boat and fiber-reinforced plastic pressure vessel repair and inspection, and confined space entry. Additional specialized training courses for foreign vessel examiners and marine inspectors are being explored. New contractor performance work statements have been drafted, providing prospective contractors with clear, updated expectations of what the Coast Guard requires. As a result, the subsequent revised training courses will provide significantly increased training capabilities.

New Foreign Vessel Examiner and Domestic Vessel Inspector Performance Qualification Standards

Along with new "core" and "strand" training courses, all the foreign vessel examiner and marine inspector PQS have been redesigned to significantly increase the requisite level of competency Coast Guard foreign vessel examiners and marine inspectors need to properly examine foreign vessels and inspect domestic vessels. The new performance qualification standards promulgated in the fall of 2007 are as follows:

- Port State Control Examiner (new qualification)

- Foreign Freight Vessel Examiner
- Foreign Tank Vessel Examiner
- Foreign Chemical Tanker Examiner
- Foreign Gas Carrier Examiner (new qualification)
- Foreign Passenger Vessel Examiner
- Hull Inspector
- Hull Inspector (Tankship)
- K-Boat Inspector
- T-Boat Inspector
- Life Raft Inspector
- Machinery Inspector
- Machinery Inspector (Steam)
- Mobile Offshore Drilling Unit Inspector
- Offshore Supply Vessel Inspector

The most notable change to the new performance qualification standards is the inclusion of a PQS task element deferment option. This option allows a unit to defer performance qualification standards elements that are not available for completion for that competency within the unit's inspected fleet. Deferred PQS elements will require a comment explaining why the element was deferred. If an element is deferred, the inspector/examiner will not be authorized to carry out activities that require the skill deferred. For example, if a unit's fleet has no wooden small passenger vessels, the PQS elements specific to wood boats could be deferred. The inspector would receive a legitimate T-boat inspector qualification and contribute to the unit's training readiness. When the inspector is reassigned to another unit that has wooden small passenger vessels, the deferred elements would have to be signed off before conducting inspections requiring the subject skills. This approach makes the "locally issued qualification" unnecessary and allows the program managers to measure programwide training readiness based on specific unit needs. The only performance qualification standards element not deferrable by the local unit is the required resident courses. Resident course performance qualification standards elements may only be deferred by the commandant of the U.S. Coast Guard headquarters Office of Shore Forces. A formal request detailing the circumstances necessitating deferment of the resident course will be evaluated on a case-by-case basis.

Complete Rewrite of all Foreign Vessel Examiner and Domestic Vessel Inspector Field Job Aids

In the fall of 2007, new foreign and domestic vessel examination/inspection field job aids (CG-840 books) were released for use by USCG foreign vessel examiners and marine inspectors. These new job aids have



been significantly improved from previous versions and provide updated examination and inspection guidance, address changes in international and U.S. regulations, and provide for enhanced examination and inspection consistency throughout the Coast Guard.

Strict Process Rules for the Qualification of Marine Inspectors and Foreign Vessel Examiners

For various reasons, USCG oversight of the marine inspector and foreign vessel examiner qualifying process has seemingly become too relaxed over the years in some, but not all, instances. In order to ensure consistency and accountability throughout the Coast Guard toward ensuring that only truly qualified people are certified to conduct examinations and/or inspections, the USCG has promulgated clearer, stricter qualification rules and will hold those units not following the new rules accountable. The new policy clearly defines the expectations and requirements for local units to designate, in writing, PQS verifying officers and qualification boards. In addition, local units will have to ensure verification examinations are conducted, follow the new recertification process, and are no longer authorized to issue local qualifications.

New Qualification Recertification Requirement for Foreign Vessel Examiners and Domestic Vessel Inspectors

Another significant improvement to the new commercial vessel safety training and qualification program is the im-

plementation of a recertification process. To ensure members are up to date with current examination and/or inspection procedures and policy, members will only be considered “certified” to conduct exams/inspections if they have completed an exam or inspection related to a specific competency within the past six months.

In addition, when foreign vessel examiners and/or marine inspectors transfer to a new unit, they are required to conduct a verification examination/inspection. The verification examination is essentially a means for the new unit to verify that the examiner or inspector still retains the required competency level necessary to properly conduct an examination or inspection.

These new recertification requirements are merely the first step in the Coast Guard’s continuing effort to establish an effective training program to ensure its examiners/inspectors retain and gain additional knowledge necessary to perform the mission. Additional recertification and educational requirements are continually being explored.

Local Qualifications No Longer Authorized

To ensure consistent minimum competency level requirements for marine inspectors and foreign vessel examiners Coast Guard-wide, qualification standards developed at the local unit level are no longer authorized as a sole replacement for the nationally promulgated performance qualification standards workbooks.

The new PQS workbook sets the minimum competency requirements that must be demonstrated in order to earn a qualification. In some situations unit-specific organizational issues and/or mission requirements may require additional performance qualification standards tasks. To address this, commands are authorized and strongly encouraged to identify additional performance-based requirements not addressed in the required PQS workbooks and develop tasks as needed to ensure mission success. These additional tasks are shared with the responsible Coast Guard headquarters program managers to bolster the continual improvement of the commercial vessel safety training and qualification process.

Revisions to the Marine Safety Specialist Warrant Officer Selection Process

Coast Guard chief warrant officers (CWOs) have always played a vital role in the commercial vessel safety program, and make up the bulk of field inspectors. A dedicated marine safety warrant officer specialty, the marine safety specialist (MSS) position was created in 2004 as a



Coast Guard Chief Warrant Officer Ray Cain, marine safety inspector for Marine Safety Office Puget Sound, inspects the engine room of the ferryboat *Spokane*. The *Spokane* travels between Seattle and Bainbridge Island, Wash., and is able to carry 218 cars and 2,500 passengers. The Coast Guard performs routine inspections of the ferryboat to ensure crew and passenger safety. USCG photo by PA2 Jacquelyn Zettles.

result of a study conducted by the Center for Naval Analysis. Prior to June 2005, enlisted ratings from a diverse workforce competed for selection to their respective CWO specialties. Upon successful selection, some were given the choice of staying in their legacy program or to take an assignment in the marine safety program.

During the 2005 and 2006 CWO appointment boards, the process of having seven enlisted ratings compete for promotion to the MSS specialty failed to provide the rating diversity necessary to maintain the requisite blend of engineering and deck expertise. Specifically, inspectors with engineering backgrounds were not being selected in adequate numbers to replace those lost through retirement and/or promotion.

To solve this problem the Coast Guard now manages the MSS specialty as two communities (i.e. deck and engineering). This allows for better assignment decisions and for training and competency requirements to be better targeted, ultimately creating solid, professional subject matter experts for both deck and engineering disciplines.

Continual Improvement Process

Another commercial vessel safety training program success is the revitalization of the standardized “level 3” evaluation process at the Coast Guard training centers. Following completion of the training course, students as well as their supervisors are provided a survey. The results provide feedback to improve such training.

To strengthen the continual improvement of the commercial vessel safety training and qualification process, the PQS workbooks, job aids, and training courses will be dynamic—continually assessed and updated to reflect current Coast Guard policy, regulations, inspection techniques, and technologies. In addition to the “level 3” evaluation process, the field has been provided a dedicated feedback mechanism to present recommended changes to respective program managers for swift action.

While the Coast Guard has made significant strides toward improving the commercial vessel safety training and qualification program over the past several years, such improvements focused primarily on building and increasing the required competency levels. The next equally important step is to address current and future resource requirements, developing a strategy to ensure



LT Michael Adams, a marine safety inspector from Marine Safety Office Mobile, Ala., inspects for the proper operation of a pressure vacuum valve onboard the 808-foot, Liberian-flagged oil tanker *Crude Ocean* during a foreign tank vessel exam.

the long-term retention of USCG marine inspectors and foreign vessel examiners and maintain their growth in experience levels. At the time this article was written in late 2007, the Coast Guard was aggressively developing strategic plans to address this critical next step. The completion of these plans, coupled with the recent improvements to the program, will ultimately pave the way for the U.S. Coast Guard to develop and retain only the most competent and experienced marine inspectors and foreign vessel examiners.

About the authors:

Mr. Brian Fisher served in the U.S. Coast Guard for over 30 years, retiring as a commander, and is currently employed at Coast Guard Sector New York as the chief of the cargo vessel inspections branch. He has over 25 years' experience in the marine safety field, including assignments as a training port commercial vessel safety training coordinator; staff instructor at the Marine Inspections and Investigations School in Yorktown, Va.; chief of the inspection division, USCG Activities New York; and traveling inspector for the marine safety program's traveling inspections and quality assurance staff.

LCDR Scott Klinke has served in the U.S. Coast Guard for over 15 years and is currently stationed at Coast Guard headquarters in the foreign and offshore compliance division of the Office of Vessel Activities. He has over 10 years' experience in the marine safety field, primarily in foreign vessel examinations, marine inspections and investigations, and a previous operations afloat background with duty assignments on four Coast Guard cutters.

LT Loan O'Brien has served in the U.S. Coast Guard for more than nine years. She is currently assigned to the U.S. Coast Guard headquarters Office of Shore Forces. LT O'Brien holds a bachelor's degree in physiological science from the University of California, Los Angeles, and a master's degree in organizational management from the University of Phoenix.

Acknowledgement:

Special thanks to CWO Larry Steinmetz, Office of Management Staff Division, Coast Guard headquarters.



Administering the Marine Safety & Security Compliance Program



The Mission Management System

How the Coast Guard complies with IMO's quality flag and port state standards.

by MR. ANTHONY MORRIS

Commercial Safety Vessel Specialist

U.S. Coast Guard Office of Quality Assurance and Traveling Inspectors

Growth in America's port activities, changes in commerce and the maritime industry, and response to disasters prompted significant changes to the Coast Guard's marine safety program over the last two decades. As a result of new legislation, Coast Guard headquarters offices issued new or modified regulations and policies, and hundreds of specialists helped to ensure implementation.

Traditionally, leaders affect changes to the Coast Guard by distributing directives via message or instruction, and offices follow up by checking for results in reports, data entry, or feedback from industry. Programs coordinate adjustments to training, and supervisors continue with practical on-the-job experiences for reinforcement.

In marine safety, to prepare for vessel and facility inspections and safety drills, marine inspectors, investigators, port operations, and other specialists complete frequently updated courses, or personnel qualification standards. This also helps them to effectively respond to and investigate a variety of marine casualties and oil spills. Since the mid-1990s, marine safety work has increased in quantity and complexity. The State Department says waterborne trade is up 3.8% a year and carries about 90% of the total weight of international trade.¹ New ships use novel designs and base some requirements on performance standards, so understanding systems and processes is critical to effective regulation. While programs and training developers are addressing higher skill levels, traditional training methods are about to be reinforced and supplemented

by the Coast Guard mission management system (MMS).

Following formation of the Department of Homeland Security, the marine safety program renewed efforts to secure our ports and waterways. Captains of the port based strategies on risk analyses, which prompted the Coast Guard to adapt a proactive philosophy of prevention. Marine safety became the Office of Prevention. With this new title and greater responsibilities, senior management realized a need to work smarter and more efficiently. Timing couldn't have been better, because international initiatives for quality systems and audits began in 2002. Two commandants have now endorsed development and implementation of what is now called the mission management system, emphasizing the importance of meeting customer needs as well as statutory and regulatory requirements.

What is a Mission Management System?

The mission management system is a quality tool—a set of policies, processes, and procedures required for planning and executing established requirements. These requirements are the things we have to do in order to accomplish our objectives—the “musts” or “shalls” of our jobs. The MMS integrates various internal processes within the organization, and describes how and when different offices, divisions, or branches work together (Figure 1).

The mission management system helps senior management measure, control, and improve core business processes, leading to overall improved performance.

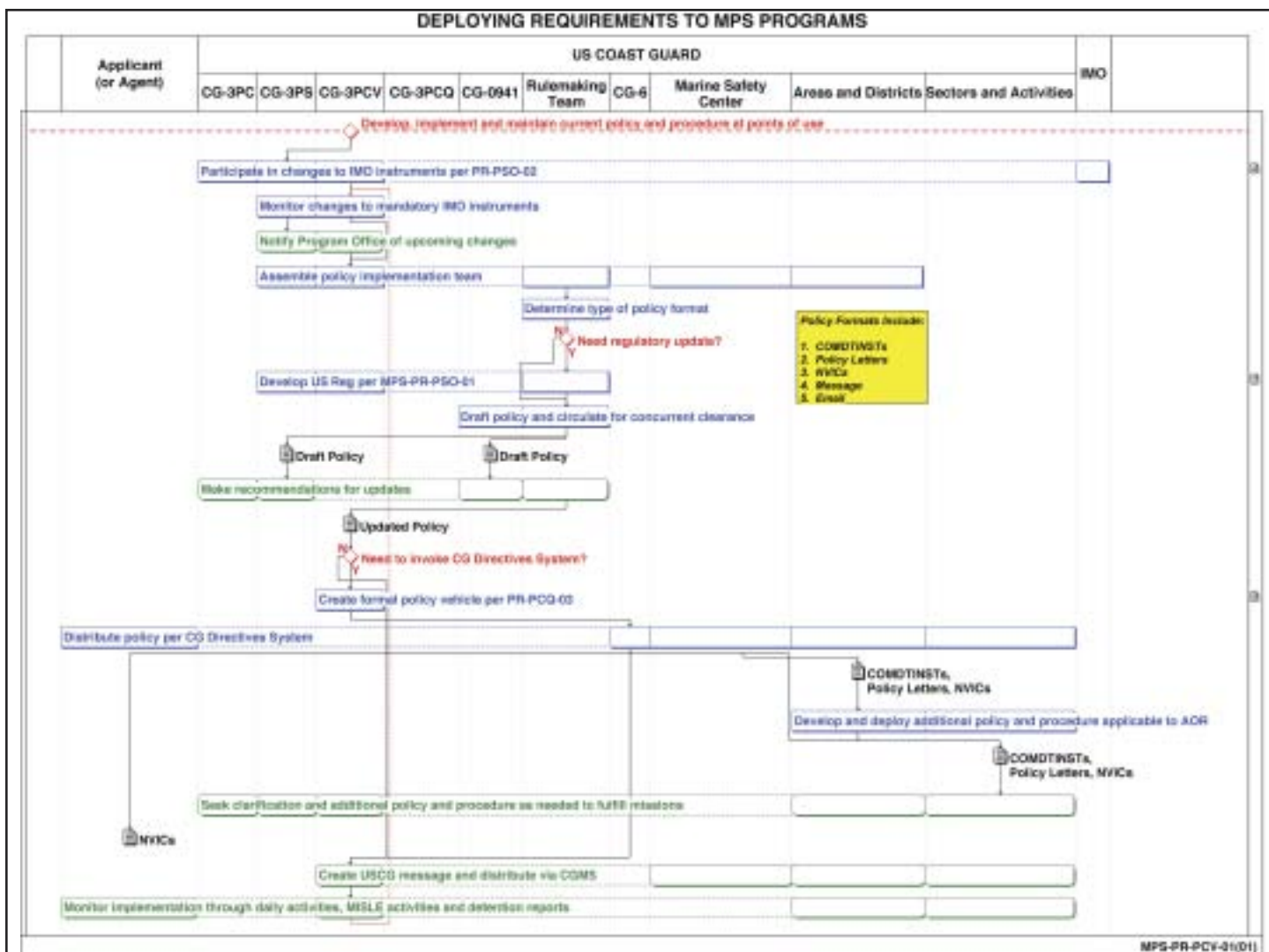


Figure 1: Example of the procedure to deploy requirements to the field, illustrating the roles of various offices. USCG graphic.

We use the American National Standard ISO 9001:2000 to manage the system. This standard outlines responsibilities for our senior and mid-level managers, as well as for field personnel. It also requires that we establish measures to track how well we are doing our jobs. Results are required to be shared, explained, and analyzed so it is clear where we need to improve.

Improvement is one of the most important parts of the system. When users or administrators recommend ways to improve mission fulfillment, their ideas are entered into a project improvement list, assigned to owner program representatives, reviewed for feasibility and outcomes, and then developed and implemented. In this way, program performance gets better and better.

How Can the MMS Help Us All Do a Better Job of Meeting Work Requirements?

ISO 9001:2000 mandates all system users to work in a smart, organized, and systematic way. One basic re-

quirement of the system—documentation—forces us to look at records and directive material. We must be clear about requirements both to internal staff and in guidance to external customers. We use publications like the Marine Safety Manual, checklists such as CG-840, books, forms, NVICs, and even e-mail to tell people how to work. Since we fulfill our missions worldwide, however, we want to make sure personnel are using the most up-to-date directives so ships entering port in Honolulu are treated the same as ships entering Norfolk, Va. To do this, we control versions of directives and instructions by posting specially numbered documents on the MMS website (under the “resources” tab of CG Central). This is why e-mail may work for immediate action, but is not acceptable beyond short periods. I think we all understand the complexity of our current system and the energy it takes to change or update some of our publications. Through the mission



management system we have found a way to make official changes and updates quickly.

The ISO standard also requires the strong commitment of our leadership, and for that commitment to be passed down to the rank and file. This ensures everyone with individual responsibilities for outcomes is a stakeholder and has the power to effect change.

Another key system requirement ensures personnel are competent and provided the proper training, skills, and opportunities for experience that equip them to carry out our mandates. We must match qualifications to job requirements and need to also “grow” experts who will eventually make resource and budget decisions.

Section 8 of ISO 9001:2000 requires us to measure, analyze, and improve our work. As we follow identified processes to achieve stated objectives, we need to know that what we do is effective. One way of checking is through measures. Before being used to analyze our work, metrics must be carefully thought out, built into data collection systems, and validated to make sure we’re correctly measuring the right things. Currently the Coast Guard has some measurement tools. CG business information, found on the “CG Analytics” tab of CG Central, is a tool for looking at work statistics. By using and understanding data from our core processes, senior leaders can see how our resources are being used and how well we are meeting Coast Guard missions. These metrics can be used by senior management and field personnel to determine where to make enhancements or changes to improve mission performance.

While metrics give us empirical data to analyze, ISO 9001:2000 also requires periodic internal audits to see if we indeed work according to plan. Auditing our processes means that we are always looking to validate and verify our work. If during an audit we find outcomes or practices not conforming to standards (non-conformities), we note them and use the system to review and correct or implement new ways to do business where nonconformities turn out to be positive practices. Corrective actions force users to take on the often tough task of re-evaluating the effectiveness of a process. Some corrective actions are easy, while others need a formal analysis and possibly the involvement of senior management. This was intentionally set up, by design, as part of the mission management system.

Corrective actions, metric analysis, and internal audits are all tools used by stakeholders to ensure the internal

health of the mission management system. To see that the MMS is working as planned, the Coast Guard has decided to measure its effectiveness through our port and flag state programs.

The Coast Guard volunteered to join members of the International Maritime Organization (IMO) and audit use of port and flag state instruments to analyze how we implement, enforce, and harmonize our international and domestic requirements. The voluntary IMO member state audit scheme (VMSAS) is a program adopted by member governments to help bring consistency to maritime operations across the world. The primary areas of focus are port state, flag state, and coastal state operations, which may, in the future, include security-related issues associated with each element. VMSAS requires that participating governments use IMO instruments such as SOLAS 74 (as modified by its 1978 and 1988 Protocols); MARPOL 73/78; STCW; the International Load Line Convention, 1966 (as modified by its Protocol 1988); the International Convention on Tonnage Measurement of Ships, 1969; and COLREG 72 as amended. The MMS, with centralized, current procedures readily available for auditors, makes such assessments efficient.

How Do We Benefit From a Mission Management System?

One benefit of a mission management system is the documented linking of domestic requirements with our international mandates. From these established links, we identify objectives for core system processes that can be measured for effectiveness. By using the ISO 9001:2000 standard to run our MMS, we can be certain that our system will measure up to the scrutiny of an external audit. This is not to say that the system will be devoid of weaknesses or, in some cases, nonconformities.

What the standard provides is a system for identifying and addressing those issues for corrective or preventive actions. It must be understood that nonconformity is not punitive—it is an area in the system where we lack control, so we don’t meet our objectives as planned. This lack of control could lead to bigger problems if not corrected early. So a benefit of using the standard for the mission management system allows users to identify, isolate, and eventually correct problems when they occur.

By demonstrating that we have control of our processes, and can make changes quickly, the Coast

Guard shows it can adapt to changing world demands while keeping our basic foundations intact. By staying true to our foundations and actively using the MMS, requirements can be verified, validated, and seamlessly integrated into our system. This benefit of using the mission management system can help the Coast Guard continue its role of being a leader of the world maritime community.

To help our system stakeholders better understand the voluntary IMO member state audit scheme, the MMS, and our adapted standard, the office of quality assurance and traveling inspections, provides ISO 9001:2000 lead auditor training to port state and flag state personnel. To date, training sessions have been held at Coast Guard headquarters, LANTAREA, PACAREA, and Miami. This certified training provides attendees with an understanding of the standard that will help them use the system. Soon, training will be available to MMS users through the Coast Guard's e-learning system. This training will outline a practical approach to system use and management. As the system matures, sectors can identify individuals for lead auditor train-

ing who will be internal auditors and help manage the system locally and throughout the program.

In further support of VMSAS, the U.S. Coast Guard has provided certified auditors to the IMO for international audits of the Marshall Islands, Cypress, and Canada. In the fall of 2007, the U.S. Coast Guard scheduled a "practice" audit by Canada. These audits provide an opportunity for us to compare our program to our international partners in an effort to work toward the goal of worldwide consistency of maritime operations.

About the author:

Mr. Anthony Morris retired from Coast Guard active duty in 2004 after numerous assignments in marine safety. He currently works as an auditing specialist and quality standard system developer in the Office of Quality Assurance and Traveling Inspectors. As a certified ISO 9001:2000 Quality Management System auditor, he is responsible for the oversight, implementation, and auditing of the marine safety mission management system for the Coast Guard maritime licensing and documentation program; the marine inspection, investigation, and port safety and security program; and the USCG headquarters regulatory development program.

Endnote:

¹ Rodney E. Slater (Secretary of the U.S. Department of Transportation), "Transportation: The Key to Globalization," Economic Perspectives, an Electronic Journal of the U.S. Department of State, Vol. 5, No. 3, October 2000.



2007 Annual Index



Nautical Engineering Queries

Prepared by NMC Engineering Examination Team



1. In an AC circuit, the inductive reactance of a coil varies with the _____.

- A. resistance of the circuit
 - B. frequency of the circuit
 - C. voltage of the circuit
 - D. current of the circuit
-

2. Reset control is also referred to as _____.

- A. derivative control
 - B. integral control
 - C. rate control
 - D. proportional control
-

3. Boiler water hardness in modern high-pressure boilers should be kept as close to “zero” as possible by chemically treating with _____.

- A. trisodium phosphate
 - B. soda ash
 - C. caustic soda
 - D. all of the above
-

4. A six-cylinder, single-acting, four-stroke/cycle diesel engine has a bore of $10^{1/2}$ inches, and a stroke of one foot, producing 75 HP per cylinder at 720 RPM. What is the mean effective pressure in the engine cylinders for the stated conditions?

- A. 39.7 psig
- B. 79.4 psig
- C. 476.4 psig
- D. 952.7 psig

Nautical Deck Queries

*Prepared by NMC Deck
Examination Team*

Q

uestions

1. **INLAND ONLY** A single vessel being towed alongside shall show _____ .
 - A. one all-round white light
 - B. sidelights and a sternlight
 - C. only the outboard sidelight and a sternlight
 - D. a special flashing light, sidelights, and a sternlight

2. Which stock number indicates an NGA (NIMA) chart designed for navigation and anchorage in a small waterway?
 - A. WOAZC17
 - B. LCORR5876
 - C. 15XHA15883
 - D. PILOT55

3. The master of a small passenger vessel fitted with loading doors must ensure that the doors are closed, watertight, and secured _____.
 - A. at all times when underway unless operating on protected or partially protected waters
 - B. when leaving the dock
 - C. when loading cargo
 - D. at all times, at the dock or underway when the loading door is not actually being used for passage

4. What is NOT a condition for a salvage claim?
 - A. The property saved must be "maritime property."
 - B. The salvors must save or attempt to save any life in peril.
 - C. The salvage service must be voluntary.
 - D. The property must be in peril.



1. A. resistance of the circuit - Incorrect Answer: The circuit current will vary in inverse proportion to a change in resistance, but the inductive reactance will not change.
- B. frequency of the circuit - Correct Answer: Inductive reactance varies in direct proportion to the frequency (f) of the circuit, and inductance (L) of the coil ($X_L = 6.18(f)(L)$). An increase in frequency and/or inductance results in an increase in inductive reactance, and a decrease in frequency and/or inductance will result in a decrease in inductive reactance.
- C. voltage of the circuit - Incorrect Answer: The circuit current will vary in direct proportion to a change in voltage, but the inductive reactance will not change.
- D. current of the circuit - Incorrect Answer: Varying the current has no effect on the inductive reactance. See explanation in note.

Note: When an AC current is passed through a coil of wire, or "inductor," a counter-electromotive force (cemf) is generated that delays the increase or decrease in flow of current. The opposition the inductor presents to the change in flow of alternating current is referred to as inductive reactance (X_L), and is measured in ohms. Inductors are used as current-limiting devices on large AC machines, and as "chokes" in filter circuits.

2. A. derivative control - Incorrect Answer: Derivative control is also referred to as rate control. A proportional plus derivative control will produce the effect of increasing the stability of the system, reducing the tendency to overshoot the set point and improving the transient response.
- B. integral control - Correct Answer: Integral control is also referred to as reset control. A proportional plus integral control will have the effect of eliminating steady-state errors (offset) inherent in proportional only control, but will also result in the process overshooting the set point.
- C. rate control - Incorrect Answer: Rate control is another term for derivative control.
- D. proportional control - Incorrect Answer: Proportional control is considered to be a linear feedback control. See explanation in note.

Note: Proportional control is one type of feedback process control that continuously adjusts the controller output based on the difference between the process variable (temperature, level, pressure, etc.) and the set point. The greater the difference between the process variable and the set point, the greater the controller output. Derivative (rate) and/or integral control (reset) are added to proportional control to improve the response. When the three are used together, the acronym PID is used to describe the controller.

3. A. trisodium phosphate - Correct Answer: Chemically treating the boiler water with trisodium phosphate maintains the hardness of the water at close to zero. Trisodium phosphate reacts with water to form sodium hydroxide and disodium phosphate. The sodium hydroxide increases the alkalinity to minimize boiler tube corrosion, while the disodium phosphate reacts with the scale-forming sulfates of calcium and magnesium to form a sludge that is removed by the process of blow down.
- B. soda ash - Incorrect Answer: Soda ash, or sodium carbonate, is an alkaline compound that neutralizes corrosive acid salts and increases the alkalinity of boiler water. In addition, soda ash reacts with the scale-forming sulfates of calcium and magnesium to form sludge. However, soda ash decomposes to caustic soda at elevated temperatures and pressures, which could lead to caustic embrittlement of metal surfaces. Thus, it is not normally used in high-pressure boilers.
- C. caustic soda - Incorrect Answer: Caustic soda, or sodium hydroxide, is an alkali that neutralizes corrosive acid salts and increases the alkalinity of boiler water. Caustic soda is rarely used as the primary treatment chemical for high-pressure boilers due to the fact that excess quantities of it can lead to caustic embrittlement.
- D. all of the above - Incorrect Answer: Choice "A" is the only correct answer.

Note: Hardness is a measure of the mineral content of water generally expressed in parts per million (ppm). Calcium and magnesium are the primary minerals found in "hard water," and will separate out of solution to form scale that adheres to the boiler tube surfaces. The scale deposits act as insulators and reduce the heat transfer rate across the tube surface at the point of deposition, which results in the increase of the tube metal temperature until overheating, softening, blistering, or tube failure may occur.

4. A. 39.7 psig - Incorrect Answer: "A" is incorrect, as power occurs only once in two revolutions and "360" should have been used as "N" rather than "720".
- B. 79.4 psig - Correct Answer:
- C. 476.4 psig - Incorrect Answer: "C" is incorrect, as mean effective pressure is calculated per cylinder, and remains the same regardless of the number of engine cylinders ($P \neq 479.4 \text{ psig} = 6 \times 79.4 \text{ psig}$).
- D. 952.7 psig - Incorrect Answer: "D" is approximately double the value of "C," and is incorrect.

| |
|---|
| $\text{HP} = \frac{\text{PLAN}}{33,000}$ |
| $\text{HP} = \text{shaft, or brake horsepower} = 75 \text{ HP}$ |
| $P = \text{mean effective pressure}$ |
| $L = \text{piston stroke in feet} = 1 \text{ foot}$ |
| $A = \text{effective area of the piston, in}^2 = \pi r^2 = 3.14(5.25)^2 = 86.5 \text{ (} r = 0.5 \text{ bore)}$ |
| $N = \text{number of power strokes per minute} = 720 \text{ RPM} \div 2 = 360$ |
| $33,000 = \text{unit of power (1 hp), or foot-pounds per minute}$ |
| Solving HP equation for P results in: |
| $P = \frac{\text{HP (33,000)}}{\text{LAN}} = \frac{75}{(1)(86.5)(360)} = 79.4 \text{ psig}$ |

Note: Mean effective pressure is the average pressure exerted on a piston during each power stroke, and is determined by formula or by means of a planimeter.

1. A. one all-round white light
Incorrect Answer. Inland Rule 24(f) states that when a single vessel is towed alongside, it must show a sternlight, sidelights, and a special flashing light. Rule 24(f) does not permit a single vessel or any number of vessels being towed alongside or pushed in a group to display an all-round white light.
- B. sidelights and a sternlight
Incorrect Answer. Inland Rule 24(f)(ii) specifically requires that a vessel being towed alongside shall exhibit not only sidelights and a sternlight, but also a special flashing light.
- C. only the outboard sidelight and a sternlight
Incorrect Answer. Inland Rule 24(f)(ii) states that a vessel being towed alongside shall exhibit a sternlight and (at the forward end) sidelights and a special flashing light.
- D. a special flashing light, sidelights, and a sternlight
Correct Answer. Inland Rule 24(f)(ii) states that a vessel being towed alongside shall exhibit a sternlight and (at the forward end) sidelights and a special flashing light. Inland Rule 24(f) is different from International Rule 24(f) in that vessels being pushed ahead or towed alongside in international waters are not required to display a special flashing light.

Note: Inland Rule 24(f): Provided that any number of vessels being towed alongside or pushed in a group shall be lighted as one vessel, except as provided in paragraph (iii): (i) a vessel being pushed ahead, not being part of a composite unit, shall exhibit at the forward end sidelights, and a special flashing light; (ii) a vessel being towed alongside shall exhibit a sternlight and at the forward end, sidelights and a special flashing light; and (iii) when vessels are towed alongside on both sides of the towing vessels a sternlight shall be exhibited on the stern of the outboard vessel on each side of the towing vessel, and a single set of sidelights as far forward and as far outboard as is practicable, and a single special flashing light.

2. A. WOAZC17 Incorrect Answer. This chart is for the Great Circle Sailing Chart—North Atlantic. WOA designates a world chart of the Atlantic Ocean, ZC designates Great Circle, and 17 is the chart number.
- B. LCORR5876 Incorrect Answer. This chart designation LCORR is not used in the chart catalog system.
- C. 15XHA15883 **Correct Answer.** This chart is designed for navigation and anchorage in a small waterway as immediately evident by the designation HA, which means Harbor and Approach. Number 15 refers to the region and subregion, the X refers to the chart not being part of a portfolio, and 15883 is the chart number.
- D. PILOT55 Incorrect Answer. PILOT55 is not an accurate chart number. When the Defense Mapping Agency (DMA) produced these charts, the designation PILOT referred to a pilot chart and 55 stood for the North Pacific Ocean, which was followed by four more digits that corresponded to a month and year. The government no longer produces Pilot Charts.

3. A. at all times when underway unless operating on protected or partially protected waters **Correct Answer. See note.**
- B. when leaving the dock
Incorrect Answer. The loading doors may be left open within protected or partially protected waters as long as the master deems this operation is safe for the vessel.
- C. when loading cargo
Incorrect Answer. Loading doors are not required to be closed when loading cargo and may be kept open within protected or partially protected waters as long as the master deems this operation is safe for the vessel.
- D. at all times, at the dock or underway when the loading door is not actually being used for passage
Incorrect Answer. The loading doors are not required to be secured at all times, at the dock or underway, and may be left open within protected or partially protected waters as long as the master deems this operation is safe for the vessel.

Note: 46 CFR 185.335 (a) states that except as allowed by paragraph (b) of this section, the master of a vessel fitted with loading doors shall assure that all loading doors are closed and secured during the entire voyage. Paragraph (b) states that loading doors other than bow visors may be opened when operating in protected or partially protected waters, provided the master of the vessel determines that the safety of the vessel is not impaired. In paragraph (c), "loading doors" include all weathertight ramps, bow visors, and openings used to load personnel, equipment, and stores in the collision bulkhead, the side shell, and the boundaries of enclosed superstructures that are continuous with the shell of the vessel.

4. A. The property saved must be "maritime property."
Incorrect Answer. The property involved in the salvage operation must be classified as "maritime property" according to salvage regulations and satisfy three conditions before a salvage award can be claimed. Maritime property does not include every category of property found in tidal waters. Vessels used in navigation; as well as their gear, cargo, and wreckage, even rafts; are considered "maritime property," but not such things as light-vessels, buoys, or other floating seamarks.
- B. The salvors must save or attempt to save any life in peril.
Correct Answer. If such action would endanger the personnel involved in the salvage operation then the salvor is not required to save or attempt to save any life in peril. This is not one of the three conditions required for a salvage claim.
- C. The salvage service must be voluntary.
Incorrect Answer. The salvage service must be of a voluntary character and the salvor must not be under any contractual or official duty to render assistance to claim a salvage award.
- D. The property must be in peril.
Incorrect Answer. The maritime property involved must be in peril is one of the three conditions needed to successfully claim a salvage award.

Note: Three conditions must be fulfilled before the rescue of maritime property can be considered a valid claim for a salvage award. They are 1) the property must be in danger, 2) the service rendered must be of a voluntary character, and 3) the service must be successful.





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