

U.S. COAST GUARD
SECTOR BALTIMORE
SMALL PASSENGER VESSEL
GUIDEBOOK



2005

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A. U.S. Coast Guard Sector Baltimore

Our Mission is to effectively and efficiently:
Manage the upper Chesapeake Bay and tributaries for the benefit of all.
Promote safer, more secure, and environmentally sound waterways
Respond to maritime emergencies and support other national priorities
while preserving our region's unique heritage for future generations.

Introduction

The Commander, Sector Baltimore is appointed by the Commandant on the Coast Guard as the Captain of the Port (COTP) and Officer in Charge, Marine Inspection (OCMI) for the Baltimore Zone. The area of responsibility is detailed in 33 CFR 3.25-15. His functions as COTP include, without limitation, the protection and security of vessels, harbors, waterfront facilities, anchorages, and ports and waterways safety. His functions as OCMI include inspection of vessels in order to determine that they comply with the applicable laws and are in a seaworthy condition for the service for which they are intended. He is also responsible for certification of U.S. vessels, licensing of U.S. maritime personnel and investigation of marine casualties.

Small Passenger Vessel Inspection Branch

Small Passenger Vessel Inspection Branch is responsible for inspection of all small passenger vessel under 100 gross tons that carry more than six passengers, as well as uninspected towing vessels, uninspected passenger vessels, and uninspected fishing vessel program.

Disclaimer And Limitation Of Liability

The information contained is provided as a public service by the Small Passenger Vessel Inspection Branch and Sector Baltimore. The Department of Homeland Security (DHS) and U.S. Coast Guard make no claims, promises or guarantees about the accuracy, completeness, or adequacy of the contents of this manual and expressly disclaims liability for errors and omissions in the contents. No warranty of any kind, implied, expressed or statutory is given with respect to the contents of this manual. References in this manual to any specific commercial products, processes, or services, or the use of any trade, firm or corporation name is for the information and convenience of the public, and does not constitute endorsement, recommendation, or favoring by DHS or the U.S. Coast Guard.

The Code of Federal Regulations and the Marine Safety Manual is the official source for this information and should always be consulted for the most recent updates.

IMPORTANT TELEPHONE LISTINGS

TITLE	NAME	EXTENSION
CG Sector Baltimore Listing:		
Commander	(Captain Springer)	
Deputy Commander	(Commander Burton)	
Secretary	(Ms. Gillen)	(410) 576-2561
Sector Baltimore Fax		(410) 576-2524
Chief, Inspections Division		(410) 576-2566
Chief, Small Passenger Vessels Branch		(410)-576-2656
Small Passenger Vessels Fax		(410) 576-2553
Deep Draft Vessel Inspection		(410) 576-2517
Chief, Response Department		(410) 576-2585
Chief, Waterways Management Branch		(410) 576-2526
Law Enforcement Officer		(410) 576-2664
Investigations Division		(410) 576-2558
Search & Rescue Duty Officer (24 hours)		(410) 576-2521
To Report A Marine Casualty (24 hours)		(410) 576-2693
<u>MISCELLANEOUS</u>		
Regional Exam Center, CG Baltimore, MD		(410) 962-5132
Vessel Documentation, CG Martinsburg, WV		(800) 799-8362
User Fee Information, Atlanta, GA		(800) 941-3337
Recreational Boating Safety Hotline		(800) 368-5647
CG Boating Safety Courses		(800) 336-2628

B. Laws and Regulations

Understanding Laws and Regulations that Apply to Small Passenger Vessels

PLAIN LANGUAGE: Although "plain language" is the best way to describe vessel standards, our explanation of requirements or standards will often include law or regulation cites as references. Using legal references is not meant as a bureaucratic response but only to properly identify the source of the requirement.

It is important to be familiar with legal references and each vessel owner is strongly encouraged to obtain a copy of the Small Passenger Regulations. The Following explanation of "USCs", "CFRs", subchapters "T" and "K" is offered to put these references in perspective.

LAWS and STATUTES: All laws enacted by Congress during the course of a year are published in chronological order in a volume known as the United States Statutes at Large. The United States Code (USC) is a consolidation and compilation of these laws organized by subject (title) in 50 volumes. Statutes pertaining to vessels are contained in Title 46, entitled "Shipping" which is further divided into chapters by vessel type or subject. For example, Chapter 35 in Title 46, United States Code, is titled "Carriage of Passengers" and is abbreviated 46 USC Chapter 35. The specific statute that requires small passenger vessels to be inspected is 46 USC 3301.

REGULATIONS: Laws often give only general requirements of the intent of Congress. Specific standards or requirements are generally implemented and enforced by prescribing regulations. Regulations like the Statutes are grouped by subject in Titles and are published in the Code of Federal Regulations, which are revised annually. Commercial Vessel Safety regulations are published in Titles 33 CFR (Navigation) and 46 CFR (Shipping) that provide detailed guidance for the design and operation of inspected vessels and establish minimum requirements for uninspected vessels. These titles are divided into Chapters (Chapter 1 is U.S. Coast Guard) and further divided into Subchapters by vessel type or operation.

SMALL PASSENGER REGULATIONS

Small Passenger Vessel regulations are published in 46 CFR Subchapter K (46 CFR Parts 114-122) and T (46 CFR Parts 175-185).

Subchapter T applies to vessels that carry more than 6 passengers for hire. The vessel must admeasure less than 100 Gross Tons (GT), and carry not more than 150 passengers or have overnight accommodations for not more than 49 passengers.

Subchapter K applies to vessels less than 100 gross tons that carry more than 150 passengers, or have overnight accommodations for more than 49 passengers.

Additional Regulations

Additional Subchapters in Title 46 may apply to small passenger vessels depending upon the vessel's equipment, cargo, route and other conditions of operation. A partial list follows:

Subchapter A: (46 CFR Parts 1-9), Procedures applicable to the public: contains requirements for accident investigation, license suspension and revocation, vessel inspection general procedures, appeal rights, boundary lines, etc.

Subchapter B: (46 CFR Parts 10-15), Licensing and Certification.

Subchapter C: (46 CFR Parts 24-26), Uninspected & fishing vessel regulations.
Subchapter D: (46 CFR Parts 30-40), Tanker (oil barge) regulations.
Subchapter E: (46 CFR Parts 41-46), Load Line regulations.
Subchapter F: (46 CFR Parts 50-64), Marine Engineering regulations.
Subchapter G: (46 CFR Parts 66-69), Documentation & Admeasurement regulations.
Subchapter H: (46 CFR Parts 70-89), Large Passenger Ship (over 100GT) regulations.
Subchapter I: (46 CFR Parts 90-106), Freight Vessel regulations.
Subchapter J: (46 CFR Parts 110-113), Electrical regulations.
Subchapter Q: (46 CFR Parts 159-165), Equipment Standards & Approvals.
Subchapter S: (46 CFR Parts 170-174), Stability & Subdivision regulations.
Title 33 CFR: Navigation & Navigable Waters, pollution regulations.
Title 47 CFR: Telecommunications regulations.
Title 49 CFR: Transportation, dangerous cargo regulations.

PUBLICATION ORDERING INFORMATION

These regulations may be ordered by writing, or by calling the Government Printing Office :

Government Printing Office
Documents Department
Washington, DC 20402
(202) 512-1800

They may also be found on the World Wide Web at: <http://www.access.gpo.gov/nara/cfr/cfr-table-search.html>

Navigation and Vessel Inspection Circulars (NVIC) provide much of the guidance marine inspectors use in determining satisfactory completion of repairs, upgrades, and requirements. They are also available to the public at: <http://www.uscg.mil/hq/g-m/nvic/index.htm> Some important NVIC's to the small passenger vessel operator are:

NVIC 7-95 Guidance on Inspection, Repair and Maintenance of Wooden Hulls
NVIC 7-68 Notes on Inspection and Repair of Steel hulls
NVIC 11-80 Structural Plan review Guidelines for Aluminum Small Passenger Vessels
NVIC 8-87 & 8-87 Change 1 Notes on Design, Construction, Inspection and Repair of Fiber Reinforced Plastic (FRP) Vessels

The complete listing should be consulted for NVIC's pertaining to the individual vessel.

The **Marine Safety Manual** is the primary policy and procedural manual for the marine safety program and serves as a guide for the consistent and uniform administration of marine safety activities. This manual is located at: <http://www.uscg.mil/hq/g-m/nmc/pubs/msm/>.

For more details on world wide web sites which can provide electronic information to the small passenger vessel community see Section 'S' at the end of this manual.

Passenger Defined

Title 46 USC 2101 (21)(B) defines a passenger on a small passenger vessel as any individual carried on the vessel except:

1. The owner or representative of the vessel;
2. The master or crewmember engaged in the business of the vessel and who has not contributed consideration for carriage and who is paid for services;
3. An employee of the owner of the vessel engaged in the business of the owner, except when the vessel is operating under demise (time) charter;
4. An employee of the demise charterer of the vessel, engaged in the business of the demise charter;
5. A guest on board a vessel that is being operated only for pleasure, or a guest on board a sailing school vessel, who has not contributed consideration for carriage on board;
6. An individual on board a towing vessel of at least 50 gross tons who has not contributed consideration for carriage on board; or
7. A sailing school instructor or sailing school student.

C. CERTIFICATES AND DOCUMENTS

Certificate of Documentation

In order to operate, all vessels over 5 net tons must have a current, valid Certificate of Documentation on board. The Certificate of Documentation must be renewed every year. Approximately 45 days prior to the expiration of the document, the owner will receive, at his/her home of record, a renewal notice (CG-1280). Upon receipt, the owner should verify the information, sign the form and return it to the central documentation office in Martinsburg, WV. At that time, the documentation office will send out a new Certificate of Documentation. If a document is not renewed, it is invalid and a Notice of Violation is processed against the owner of the vessel (46 CFR 67.5-9 & 11). For further information, contact the:

USCG National Vessel Documentation Center
2039 Stonewall Jackson Drive
Falling Waters, WVA 25419-9502
(304) 271-2502 or (800) 799-8362.

Vessel Admeasurement

The Coast Guard has changed the application procedure for measurement of vessels under the optional simplified measurement system. As of May 2, 1988, all applications required under 46 CFR 69.5 will be accepted and processed as part of the vessel documentation process at the central documentation office in Martinsburg, WV. For more information go to the website at: www.uscg.mil/hq/msc/t3.htm.

Supplementary Information

Tonnages calculated under the Optional Simplified Measurement method are employed as a basis to document a vessel. Simplified measurement presently applies to domestically operated commercial vessels less than 79 feet in length overall and to barges of any length, and to pleasure vessels of any length, whether or not engaged in international voyages. The Coast Guard central documentation office will enter the simplified measurement data into the Marine Information for Safety and Law Enforcement (MISLE), thus eliminating the need for separate processing of simplified measurement applications at Coast Guard headquarters.

Applications for simplified measurement will be forwarded to the Vessel Documentation Center upon request. For further information contact:

Commanding Officer
Marine Safety Center (MSC-4)
400 7th Street, S.W.
Washington, D.C. 20590
(202) 366-6481.

Normal office hours are between 7:00 a.m. and 3:30 p.m., Monday through Friday, except holidays.

Application for Inspection

The Application for Inspection form CG-3752 is needed to start an Inspection for Certification. At the start of the inspection, the old COI is removed from the vessel until the inspection is completed and a new certificate is issued.

Initial Inspection

An Application for Inspection must be submitted prior to new construction or conversion. A very detailed route description and the number of passengers requested for each route is very important to determine the applicable vessel standards for lifesaving equipment, stability, etc

Coast Guard User Fee Policy

46 CFR 2.10-1 thru 2.10-20

The Omnibus Budget Reconciliation Act of 1990 required the Coast Guard to establish and collect user fees for Coast Guard services related to the inspection and examination of commercial vessels. 46 CFR 2.10-1 establishes vessel inspection fees for all vessels required to have a COI. Owners must pay the annual user fee on or before the user fee anniversary date. The date on which a vessel's annual inspection fee is due each year will remain the same for the service life of the vessel. If the user fee payment is overdue, no inspection or examination services will be provided until the vessel owner provides satisfactory proof that the appropriate fee has been paid.

Exemption from User Fee

Those applying for an exemption to the user fees policy must meet the following: the organization has to be charitable, not-for-profit, and use their vessel(s) exclusively for training youths in boating, seamanship, and navigational skills. Those qualifying for the exemption must submit a written request for exemption, with the vessel name, the vessel identification number, and evidence that the organization and vessel meets the criteria listed above.

Exemptions – (46 CFR 2.10-5)

(a) Vessels owned or operated by an organization which is charitable in nature, not for profit, and youth oriented may be exempt from the fees required by this subpart provided that the vessels are used exclusively for training youths in boating, seamanship and navigation skills.

(b) Vessel owners or operators must submit a written request for exemption to the Officer in Charge Marine Inspection of the Marine Inspection Zone in which the vessel normally operates. The exemption request must provide the vessel name, the vessel identification number, and evidence that the organization and vessel meets the criteria set forth in the paragraph (a) of this section.

When a Fee Must Be Paid

46 CFR 2.10-20 states that unless otherwise specified, vessel owners must pay the fee required before the inspection or examination services are provided. Annual vessel inspection fees must be

paid in U.S. currency by check or money order, drawn on a U.S. bank, and made payable to the U.S. Treasury. The vessel name and its vessel identification number must accompany all payments. Unless otherwise specified, these payments will not be accepted at Coast Guard field offices, but must be mailed to the following address:

Nations Bank
USCG Inspection Fees
P.O. Box 105663
Atlanta, GA 30348-5663

Failure to receive a user fee notification letter in no way relieves the vessel owner of the responsibility to pay the annual vessel inspection fee on or before the user fee anniversary date. For question pertaining to user fee payment policy, please call (800) 941-3337. For any other question pertaining to user fee policy, call Commandant (G-MRP-2) at (202) 267-6825, or (202) 267-0785.

Inspection Sticker

Owners and operators are reminded of the requirements of 46 CFR 176.310, which prohibits the operation of the vessel without a "Certificate Expiration Date" sticker. If your vessel is certified and you currently do not have one of these stickers, please contact the SPV Branch Chief for one. The purpose of the sticker is to increase public awareness of vessel inspection requirements and to encourage the public to favor vessels that meet these requirements. The sticker is a glossy orange, blue and white decal that will have the expiration date of the COI punched out. The sticker should be readily visible to each passenger prior to boarding the vessel and to patrolling Coast Guard law enforcement personnel.

Certificated Small Passenger Vessels Operating with 6 or Less Passengers

If a vessel intends to operate outside the terms of the COI, (operating with six or less passengers or for commercial fishing,) the OCMI Baltimore must be notified in writing of the intended use of the vessel. The vessel's COI may be endorsed to the effect after a review on a case-by-case basis.

46 USC 3313(a) states "during the term of a vessel's Certificate of Inspection, the vessel must be in compliance with it's conditions, unless relieved by a suspension or an exemption granted under section 3306(e) of this title." **This means that the certificated vessel must meet the terms and conditions of its COI, even if it is being operated with 6 or less passengers.** See also, 46 CFR 176.114.

Understanding Your Certificate of Inspection

It is important that all information on your COI be accurate and up-to-date. You should thoroughly review your COI and completely understand the conditions of operation and any limitations. If you have any question, do not hesitate to contact the SPV Branch for information.

Posting of Certificates of Inspection

Each page of the COI must be framed under glass or other removable transparent material and posted in a conspicuous place so as to be available for passengers to view (46 USC 3312 and 46 CFR 176.302). In instances where this would be impractical, the regulation allows an exemption so as to merely keep the COI aboard the vessel (e.g., open boats may keep the COI in a weather-tight container). The vessel's stability letter also needs to be posted as per 46 CFR 176.306.

D. VESSEL MANNING and LICENSING

Licensing Regulations

The license grades of Master or Mate are available for small passenger vessels in the following route services: Inland, Near Coastal (up to 200 miles offshore) and Ocean. These licenses are issued in 50-ton increments up to 200 gross tons.

These licensing provisions have been incorporated on the vessel COI, see 46 CFR 10 and 12. For further information, contact the Regional Exam Center, Customs House, 40 South Gay Street, Baltimore, MD 21202-4022, or phone (410) 962-5132.

Manning Requirements for Small Passenger Vessels Operating in the OCMI Baltimore Zone

It is always the operator's responsibility to have the vessel sufficiently manned to ensure the safety of the passengers and vessel. The conditions outlined in the regulations and on the vessel's COI must be observed at all times. Because these are "minimum" requirements, the operator may (and sometimes should) use more deckhands than required by the COI. The total number persons aboard must never exceed that authorized by the COI.

Contact the Small Passenger Vessel Branch at (410) 576-2656 for specific questions regarding the manning for a particular vessel. The OCMI is authorized to determine specific manning for a vessel, usually depending on a particular route and conditions of operation. In determining manning requirements for small passenger vessels operating in the OCMI Baltimore zone, the following factors, in addition to the statutory and regulatory requirements are considered:

- a. Vessel configuration;
- b. Type of operation;
- c. Special consideration for waters of operation;
- d. Configuration of rigging and sails for sail and auxiliary/sail vessels.

The required complement of licensed officers and deckhands is listed on the vessels COI. Deckhands are unlicensed, undocumented persons employed by the owner/operator to assist with the safe operation of the vessel. In general, one deckhand will be required for each deck that is accessible by passengers. The following guidelines will be used in determining required manning (although special conditions of operation may warrant other required crew).

For vessels carrying a varying number of passengers, a sliding scale may be used to determine of deckhands on the COI. Additionally, if the vessel's general operation is 12 hours or less, or there is no facility for the off duty crew to rest, the COI will be endorsed with "WHEN THE VESSEL OPERATES MORE THAN 12 HOURS IN ANY 24 HOUR PERIOD, AN ALTERNATE CREW SHALL BE PROVIDED."

The requirement for a licensed mate is in 46 CFR 15.810. The licensed mate requirement may be eliminated when the vessel is operating less that 12 hours in a 24 hour period and when the vessel is carrying less than 399 passengers. However, when the vessel is not carrying a licensed mate and is carrying 150-399 passengers, a designated SENIOR DECKHAND is required. This Senior Deckhand should be designated in writing by the master with a copy retained onboard the vessel. The Senior Deckhand shall be capable of directing the emergency response of the vessel's crew. In the event the master should become incapacitated, the Senior Deckhand must be capable of maneuvering the vessel and returning safely to port.

*Note: Vessels with overnight accommodations for more than 49 passengers, regardless of the number of day passengers, are required to carry a licensed mate.

Sail and Auxiliary Sail Vessels

Typically, additional deckhands are required on these vessels to assist the master in the event of a man overboard or other marine casualty. In rare instances, an exemption from the deckhand requirement may be considered. If a master is able to demonstrate to the satisfaction of the OCMI or attending Marine Inspector that they can respond to emergencies such as man overboard, fire, or flooding without the assistance of crewmembers while still maintaining safe control over the vessel, a reduction in deckhands would be appropriate. It is important to note that these are rare cases and are reserved for only the most capable masters. If a reduction in manning is authorized, the COI will be endorsed to reference the OCMI's exemption letter to the master. This letter shall be carried onboard the vessel at all times with the COI

Launches and Water Taxi Vessels

These vessels must carry a deckhand. However, consideration for elimination of the deckhand will be given on a case-by-case situation. The OCMI will base this on the area of operation, vessel traffic in that location, and the ease of the vessel's operation (mooring, maneuvering, etc.).

Engineering Duties on Vessels

Licensed engineers are not normally required aboard small passenger vessels (note: steam vessels always require engineers). These vessels should not, however, be operated unless some member of the crew has a certain level of engineering, training and experience. This individual should have a good working knowledge of the operation and use of the main and auxiliary machinery, steering systems, alarms, fueling techniques and emergency procedures. USCG Marine Inspectors will ensure that a member of the crew has this knowledge.

Deckhand Training and Qualifications

Aside from 46 CFR 122 and 185 which requires each crew member receive training such that they can respond to, at a minimum, the emergencies listed on the emergency instruction placard, the Coast Guard does not prescribe deckhand qualifications by regulation. Marine inspectors are encouraged to support operator efforts in the area of crew training, however the proper training and qualification of deckhands is the responsibility of the marine employer and the master. NVIC 1-91, "Recommended Qualifications for Small Passenger Vessel Deckhands," provides guidelines and training topics for deckhands to ensure safe operation of a small passenger vessel. Collateral duties of deckhands should not include activities such as cook or food and beverage handler.

46 CFR 122.420 and 185.420 address the required frequency of training and the vessel's emergency station bills. In evaluating deckhand requirements, the following duties and responsibilities should be considered:

- Aid the master in mooring and unmooring;
- Assist in anchoring and weighing anchor;
- Assist passengers with vessel lifesaving equipment;
- Steer the vessel under the master's direction when required;
- Serve as lookout when required by the master;
- Assist with emergency repairs to the vessel;
- Assist with firefighting and dewatering during emergencies.

Crew Drills

Crew Drills are required by 46 CFR 122.520 & .524 and 188.520 & .524. Further, it is now required that these drills (firefighting and lifesaving) be duly logged in the vessel's permanent log.

Attraction Vessels

Attraction vessels are vessels that are put on public display, or used as platforms for a public exhibit, and carry passengers only while moored to a dock. By charging visitors some form of admission to board, or accepting donations or some other valuable consideration, attraction vessels are subject to U.S. laws as a passenger (46 CFR Subchapter H) or a small passenger vessel (46 CFR Subchapter T or K).

An attraction vessel may be issued a COI to permit the operation as a passenger or small passenger vessel if the OCMI is satisfied that the vessel complies with the guidelines listed in the Marine Safety Manual. The COI may be issued for a period of up to 1 year. The COI validity is OCMI zone specific.

In determining manning requirements for attraction vessels in the OCMI Baltimore zone, the following factors, in addition to the statutory and regulatory requirements are considered:

- vessel configuration;
- type of operation;
- special consideration for water of operation, including traffic in the area (protection from surging at a pier);
- configuration of rigging and sails for sail and auxiliary/sail vessels.

E. ROUTE & MAXIMUM PASSENGER DETERMINATIONS

Vessel routes are determined by a combination of vessel construction, stability, lifesaving equipment and other special hazards, such as cold water, lack of rescue facilities, safe harbors, etc.

Vessel Routes

The area of operation permitted for each vessel is determined by the OCMI. Such areas of operation are authorized on the COI under the major headings "Oceans", "Coastwise", "Limited Coastwise", "Lakes, Bays and Sounds" or "Rivers". Further limitations are described by reference to bodies of water, geographical points, distances from shore, depths of channels, seasonal limitations and so forth, in the Conditions of Operation section of the COI.

Operation of the vessel on routes of less severity than that specifically described on the COI is generally permitted. The order of severity is Oceans; Coastwise; Limited Coastwise, Lakes, Bays and Sounds, and Rivers. Differences in local conditions of operation may need to be taken into account.

Determining Number of Passengers

The maximum number of passengers permitted is based on such factors as stability, route, general arrangement, emergency escape access, rail space or clear deck area and seating. Note: a vessel must carry sufficient Personal Flotation Devices (PFDs) and lifesaving gear for the total persons allowed as required by 46 CFR 117 and 180. Methods for determining passengers allowed based on length of rail, clear deck area or by seating are explained below.

Length of Rail Criteria

One passenger is allowed for every 30" of clear rail space available to the passengers at the vessel's sides and across the transom. Rail space in congested areas unsafe for passengers such as at the bow near anchor equipment, line handling equipment, etc., or in way of sail booms and running gear, will not be considered.

Deck Area Criteria

One passenger is allowed for every 10 sq. ft. of deck space available for passenger use. In computing area, the following will not be counted:

- concession stands;
- toilet and washrooms;
- companionways, stairways, etc.;
- spaces occupied by and necessary for handling lifesaving equipment;
- spaces below deck which are unsuitable for passengers and which would not normally be used by passengers;
- interior passageways less than 30" wide and passageways on the open deck less than 18" wide

Fixed Seating Criteria

One passenger is allowed for every fixed seat or 18" of width of bench seating actually provided. Each bench or seat will be measured separately. The total length of all seating will not be divided by 18" to determine seating. Bench seating areas that do not provide adequate leg room (such as inside corner of benches at 90 degrees from each other) are not counted.

Combination of Fixed Seating/Deck Area Criteria

The number of passengers permitted on any one deck may be determined by combining the fixed seating **and** deck area criteria together. Or, on any given deck, you can use **only** the length of rail criteria. You may not combine the length of rail criteria with any other criteria on any given deck.

F. STABILITY

A stability test, either full or simplified, is required on all small passenger vessels in the OCMI Baltimore zone unless specifically exempted in writing by the OCMI.

Terms and Definitions

The terms "Protected", "Partially Protected" and "Exposed" as applied to vessels are contained in 46 CFR 170-174, and are addressed locally by the OCMI Baltimore. Other stability terms such as, subdivision, watertight integrity, damage stability, intact stability and seaworthiness for T-Boats are found in 46 CFR 178 and 179.

Protected: A Rivers route. In the OCMI Baltimore zone this includes all rivers from their mouths to their reaches except the Potomac River from Smith Point, VA to the Potomac River (Rt. 301) Bridge.

Partially Protected: Lakes, Bays and Sounds; and Limited Coastwise routes. In the OCMI Baltimore zone, this includes the Chesapeake Bay, including the Potomac River from Smith Point, VA to the Potomac River (Rt. 301) Bridge. This also includes Assawomen and Sinepuxent Bays, and the Atlantic Ocean, within 20 miles from a harbor of safe refuge, in the OCMI Hampton Roads zone.

Exposed: Coastwise and Oceans routes. In the Baltimore zone, there are only a few vessels that will operate in these waters. Exposed waters are considered to be the Atlantic Ocean, more than 20 nautical miles from a harbor of safe refuge.

Full Stability Test (46 CFR 171.045)

A full stability test and associated calculations are required for the following vessels:

- greater than 100 gross tons;
- 65 ft or greater (length of vessel measured over deck)
- carries more than 12 passengers on an international voyage
- carries more than 150 passengers;
- propelled by sail or auxiliary sail;
- stability is questioned by OCMI;
- all new construction, major conversions, rebuilds or significant route increase requests on the above vessels.

Simplified Stability Test (46 CFR 178.330)

A simplified stability test may be permitted by the OCMI for mechanically propelled vessels under 65 ft carrying not more than 150 passengers. This test is done on a pass/fail basis by moving weight and comparing the angle of heel with a reference mark.

Upper Deck Passengers and Stability

Weight shift by passengers on the upper deck may have a significant effect on vessel stability and all operators are reminded to review their COI and Stability Letter for upper deck limitations.

All vessel operators should implement stringent control procedures to strictly enforce upper deck passenger limits listed on the vessel’s stability letter. Passengers naturally tend to go to the upper deck and will crowd the rails to view a special occurrence. Adding extra passengers on the upper deck shifts the vessel's center of gravity upwards, with adverse effects on the stability. Passenger movement from one side of the vessel to the other presents a significant heel moment, especially on smaller vessels. Athwartships and vertical weight shifts may make the vessel unstable.

Posting of Stability Letter

A stability letter must be posted with the COI. (See example next page)

Passenger Control

As required under 46 CFR 121.610 and 184.610, each vessel must be equipped with a public address (PA) system as follows:

<u>If the vessel is:</u>	<u>and carries:</u>	<u>then the vessel must have:</u>
Greater than 65 ft		a fixed installed PA system
Not more than 65 ft	more than 49 passengers	a battery bullhorn or fix PA system
Not more than 65 ft	not more than 49 passengers	none required if announcements can be made from the operating station and can be heard in all accommodation spaces

The PA system is also very useful for the required passenger safety orientation prior to getting underway, as per 46 CFR 121.506 and 185.506.

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
U.S. Coast Guard
Sector Baltimore

2401 Hawkins Point Road
Baltimore, MD 21226-1791
Staff Symbol: PRV
Phone: (410) 576-2656
Fax: (410) 576-2553

16710

SAMPLE

Master, M/V *Baltimore*, Official Number 1111111

Dear Master:

It is your responsibility to maintain this vessel in a satisfactory stability condition at all times.

A simplified stability test, witnessed by the U.S. Coast Guard, was performed on the M/V *Baltimore*, Official Number 1111111, at Solomon's Island, Maryland, on May 20, 2002. The test was conducted in accordance with the requirements of Title 46 Code of Federal Regulations (CFR) §178.340. Results indicate that the M/V *Baltimore*, as presently outfitted and equipped, has satisfactory stability for passenger service under reasonable operating conditions to carry a maximum of 51 persons on partially protected waters.

No changes in the construction or equipment shall be made to this vessel without prior notification to the cognizant Officer in Charge, marine Inspection, and receipt of permission from said officer. Since passenger capacity and route are based upon other considerations in addition to stability, you are cautioned that:

The maximum passengers allowed and total persons allowed shall be as specified on the Certificate of Inspection.

This stability letter shall be posted under suitable transparent material at or near the operating station of the M/V *Baltimore*.

Sincerely,

G. L. BOONE
Lieutenant Commander, U.S. Coast Guard
Chief, Inspections Division
By direction of the Officer in Charge,
Marine Inspection

G. DRYDOCK EXAMINATIONS

Purpose and Scope

The purpose of the drydock examination is to completely ascertain the structural integrity of the hull, its fasteners, and all through-hull fittings. This inspection encompasses not only the underwater areas such as the hull, water intake/discharge fittings, rudder, shafting, etc., but also all interior spaces, voids, and cofferdams. Fuel, ballast, and fresh water tanks are inspected when necessary to determine hull condition or when opened for repairs or cleaning. The steering gear, rudder and rudder post, and the shaft and cutless bearing will also be examined.

Dry Docking Policy

The brackish water of the Upper Chesapeake Bay poses a unique environment for vessels. Because brackish water has a lower salinity level, corrosion occurs at a slower rate and woodborers tend to be less of a concern. However, brackish water does not afford the same mild operating medium as fresh water.

Drydocking intervals shall be based on the following definitions:

- (1) Fresh Water (Five-year drydock interval): Chesapeake Bay and tributaries north of the William Preston Lane (Chesapeake Bay) Bridge, Potomac River north of the Potomac River Bridge (Rt. 301), or other rivers from their mouths to their reaches that are virtually fresh (Patapsco, Severn, etc.).
- (2) Brackish Water (Three-year drydock interval): Chesapeake Bay between the William Preston Lane Bridge and Smith Point, Virginia, or Potomac River south of the Potomac River Bridge (Rt. 301). A vessel that operates in salt water for more than six months in any 12-month period is not eligible for a three-year drydock interval.
- (3) Salt Water (Two-year drydock interval): Chesapeake Bay south of Smith Point, Virginia, or any waters not specifically defined as other than salt water by the local OCMI.

Vessels with “Lakes, Bays, and Sounds: Chesapeake Bay and its tributaries” routes will be given a two year drydock interval. A vessel whose Master attests that the vessel operates north of Smith Point, VA more than six months in a 12 month period over a two year period is eligible for a drydock interval change to three years. After the following drydock inspection, the interval returns to two years.

See example of a Dry Dock Interval Change Request at the end of this section.

Preparation for a Drydock / Hull Exam

Prior to a marine inspector arriving at a vessel, the owner/operator shall do the following:

- Clean, but do not paint the exterior of the hull;
- Ensure all internal spaces are open for inspection and well ventilated;
- Ensure bilges are clean and dry;
- All sea valves opened or removed for inspection;
- Have all certificates and documents ready for examination.

Fastener Removal Policy

All vessels **less than 15 years old** will not be normally subject to mandatory fastener removal unless there are indications of problems (cause), after a thorough internal and external visual examination of the hull, through-hull fittings and planking. An exception to this is an existing vessel not originally built to Subchapter "T" Inspection Standards but certificated later in life. For such a vessel, a random sampling of fasteners should begin at the 5th year of age and every 5th year thereafter in **salt water service**, and 10th year of age and every 10th year thereafter in **fresh water service**.

All vessels **over 15 years old** shall have a minimum of eight fasteners removed from the following areas, two fasteners shall be removed from planks at the chine/turn of the bilge forward and aft (total of four), four from planks at the garboard strakes, port and starboard (two per side), and two in way of the propellers. An inspector may increase the number of fasteners removed for inspection if he feels it is warranted by the found conditions of the fasteners previously removed. Locations of fastener removals will be accurately recorded in our records for future reference to ensure that adjacent fasteners are removed for examination over time.

Vessels **completely fastened below the waterline with Monel** will have fasteners removed once for verification of material and case documentation. The vessel will only require fastener removal from then on at the discretion of the attending inspector when an inspection indicates removal for closer examination is appropriate.

Fastener pulling **intervals** will be as follows:

- at 15 years of age, then every 5 years for vessels in salt water;
- at 15 years of age, then every 10 years for vessels in fresh water.

Wood plank on frame vessels that are **fully sheathed with fiberglass, CFlex, or a W.E.S.T. system** will not normally be subject to fastener removal as per the above schedule. Vessels in this zone that will have these processes applied shall be refastened before application. Any owner or operator who is contemplating applying such a system must have approval from this office prior to sheathing, which will include a detailed hull examination and refastening condition determination.

Vessels of **glued or cold molded composite construction** will be reviewed on a case by case basis, and not normally subject to fastener removal as per the above schedule.

Alternatives to removal of fasteners such as the use of Non-Destructive Testing (NDT) methods may be accepted on a case by case basis as approved by this Office.

Repairs and Alterations -- When to notify the Coast Guard

Repairs or alterations to the hull, machinery, or equipment that could potentially affect the safety of the vessel must not be made without the approval of the OCMI, except during an emergency. When repairs are made during an emergency, the owner, operator or master shall notify the OCMI as soon as practicable after such repairs or alterations are made. Repairs or alterations which affect the safety of the vessel include, but are not limited to, the replacement, repair or refastening of deck or hull planking, plating and structural members; repair of plate or frame cracks; repair of masts on sailing vessels; repair or replacement of electrical wiring, fuel lines, tanks, boilers and other pressure vessels; alterations affecting stability; and repair or alteration of lifesaving, fire detecting, or fire extinguishing equipment.

The owner or operator shall submit drawings, sketches or written specifications describing the details of any proposed alterations to the OCMI. The OCMI must approve a proposed alteration before the work is started. Drawings are not normally required to be submitted for repairs or replacements in kind. Undertaking alterations/repairs without prior Coast Guard approval is a risk the owner should not take. Inspectors will make this fact known to the owners in the fleet. Modifications not meeting U.S. Coast Guard rules and regulations and/or rules of a recognized classification society may not be approved, causing revision, unforeseen delays, and expenses. Further, if an inspector cannot physically get to an area where a non-approved alteration/repair was made due to its location on the vessel, removal for testing or rejection may be necessary.

Fall Drydocking Encouraged

When vessel repairs are contemplated or the hull condition is suspect, early drydocking in the fall will allow ample time to complete any required repairs, alterations, or modifications prior to the next season. As the work is completed, an inspector can periodically visit the vessel during the winter months and/or early spring to examine the vessel. This also allows plenty of time for the completion of any plans required for modifications and adequate time for Coast Guard plan review and approval.

Decay in Wood Hull Boats: Cause, Detection and Prevention

The Coast Guard guidance in NVIC 7-95 should be consulted often. It contains an overview and discussion of problems with wood hulls and has an excellent list of information sources and reference materials on the whole spectrum of woods and fasteners, their life cycle (characteristics, and recommended uses) and the maintenance required to prevent rot and other deterioration.

Wooden vessels have proven to be suitable for long service when properly constructed, maintained and ventilated. The greatest enemy of wood is decay or rot. Most wood decay is preventable if care is used in construction, maintenance and repair.

Decay in wood is caused by fungi that are parasitic plants whose growth depends on suitable temperature (50-90 degrees F.), suitable food (wood) and moisture (20-30% wood moisture content). Fresh water from condensation, rainwater, or leaking pipes is necessary to grow fungi. There is no such thing as "dry rot." Decay will not take place if the moisture content of the wood remains below 20%. On the other hand, too much moisture will not support fungi growth either. Fungi are living plants that can and do travel from an infected area to sound wood.

Advanced decay is easy to detect. The wood is normally discolored, softened, or brittle and may show cracks or collapsed areas. Early decay is more difficult to detect. No known test can be substituted for experience in spotting early decay. Early detection of decay can be found by one or a combination of the below listed methods:

- Discolored paint or indentations of the wood surface;
- Sounding with a hammer will produce a dull sound and is especially useful on stanchions that may have decayed centers;
- A wood awl or screwdriver will easily penetrate soft wood;
- Splinters of wood turned up by a knife blade will break off abruptly instead of producing a long clean splinter found in good wood;
- Fasteners will be easy to remove and will strip the wood when tightening;

- Drilled holes may be used for timbers. The ease of drill entry and the type of chip produced will show the soundness of the timber. **Drilled holes should obviously be kept to a minimum and plugged fully** with an epoxy filler or other appropriate material (to prevent entry way for bores and/or fungi).

The most effective prevention of decay is done at initial construction in the use of a naturally decay resistant or pressure treated wood. A vessel design that allows full ventilation of all its enclosed spaces will promote water evaporation. This decreases wood moisture content and slows or stops fungi growth. Ensure that drain pipes and scuppers are free of rain water, can drain over the side and that deck seams are well caulked, especially at the end of the grain. When in fair weather, open hatches and deck fittings to supplement the air circulation. Remove unnecessary dunnage that traps moisture and blocks air circulation. Remember decay will only grow in wood where fresh water is present. Salt water will not support fungi growth and salting the bilges with rock salt has become a common practice in some parts of the country. However, there are three disadvantages to this practice in that (1) salt dissolves rapidly and goes over the side when pumping bilges; and, (2) strong salt solutions are hard on wood and have questionable value; and, (3) the salt may act as a catalyst for deterioration of ferrous fasteners and copper or aluminum connections to the hull.

Wood Preservatives or Chemical Treatment

All wood preservatives or chemical treatments should be specifically approved by the OCMI. In general, only treatments sold over the counter for normal retail will be authorized.

(Address Reply to:)
(Telephone Number)

REQUEST FOR DRYDOCK INTERVAL CHANGE

The undersigned requests the required Drydock Hull Exam for the certificated Small Passenger Vessel *Vessel Name:* _____; *Official number* _____ to be changed to three years.

I understand that a drydock hull exam interval change is only applicable for a vessel that operates north of Smith Point, VA more than six months in a 12 month period over a two year period. This change will apply for this interval only.

The vessel has been operated on the following routes; *List waters and geographical limit as well as time (in weeks) spent in which waters:*

(*From Last Drydock date*) _____ (*to Inclusive date*) _____.

I attest to the safe condition of this vessel, and know of no reason that this vessel cannot safely operate during the requested change in drydock interval.

(*Owner's Signature*) _____

(*Print Name*) _____

Date _____

Keep in mind that interval changes are not approved until you receive a written reply from U.S. Coast Guard Sector Baltimore.

(*Return This Request To:*)

Small Passenger Vessel Branch
Commander
USCG Sector Baltimore
2401 Hawkins Point Road
Baltimore, MD 21226-1791
Fax: 410-576-2553

H. INSPECTION - GENERAL

Types of Inspections

There are three routine inspections that the vessel will undergo.

The Inspection for Certification is completed when the vessel is newly constructed and is valid for 5 years for a vessel that does not make international voyages. The purpose of this exam is to verify compliance with all applicable regulations and to evaluate the safety of the vessel's hull structure and equipment for the duration of the certificate. The inspection encompasses not only hull integrity but also equipment inspection and operational testing of the engines, steering, and other vital systems. The results of the last drydocking will be used to help evaluate hull condition. An Application for Inspection should be submitted a minimum of 30 days prior to the expiration date on the COI. The vessel shall not operate if the COI is expired.

The vessel must undergo a Reinspection every year. This inspection should be completed within 3 months before or after the anniversary date on the COI. The scope of this exam is the same as the Inspection for Certification but in less detail. The vessel shall not operate if the Reinspection has not been completed within 3 months after the anniversary date.

Drydock Exams are required, as previously discussed, at 2, 3, and 5 year intervals depending on the route. After the inspection you will receive an Amended COI that indicates the vessel has had the exam. The inspection should be scheduled 30 days prior to the "Next Exam" date on page two of the COI. The vessel shall not operate past the required Drydock Exam date.

Inspection Scheduling

In order to schedule an inspection, each vessel owner or operator should contact the Small Passenger Vessel (SPV) Branch and work out a date that is agreeable to both parties. The date for the renewal of the COI and its annual re-inspections can be found on the front page of the COI. The first point of contact should always be the vessel's assigned inspector or the Chief of the SPV Branch at 410-576-2656. Our Branch encourages you to contact the Chief of the SPV Branch or the Inspections Division Chief at 410-576-2566 if you feel you are not getting the type of services you require.

Past Due Inspections

If the vessel is past due for annual inspection, examination or requires administrative action which would otherwise cause the COI to lapse, expire, or impact vessel owners ability to meet the conditions of the COI, the COI may be removed from the vessel by the SPV Chief or vessel Inspector. The owner will then receive instructions, in writing, that the vessel is no longer eligible to operate as a certificated vessel.

Pre-Inspection Procedures

An Application for Inspection shall be completely filled out by the vessel's owner or agent at least 30 days prior to an inspection for certification (46 CFR 176.105). The application is not required for a drydock inspection or an annual re-inspection within the prescribed time intervals; however, Sector Baltimore requires these inspections to be scheduled 30 days in advance. The next required drydock date can be found on page two of your vessel's COI.

Requirements Issued After Inspection (CG-835s)

At the completion of an inspection, a marine inspector may issue requirements for vessel repairs, equipment replacement, or testing of equipment or systems to the vessel owner or operator. These

requirements are generally issued on a form CG-835, commonly called "835s." An 835 requirement is an outstanding deficiency against the vessel's COI and will normally allow the vessel to continue operations until items can be corrected. 835s issued for lifesaving, fire protection, or other serious safety deficiencies will result in the prohibition of carrying passengers until the discrepancies are corrected. These are known locally as "No Sail" items.

The owner or operator (O/OP) is responsible to ensure that these requirements are completed by the date indicated at the time of inspection. Prior to expiration, the owner or operator must contact the OCMI either by telephone or in writing to report that either the requirements have been completed or that an extension is needed. The O/OP must explain why they cannot correct the deficiency in the time originally allotted. The OCMI will then make a determination if an extension is warranted. Removal of the COI, civil penalties, or actions against Merchant Marine licenses are all possible if the requirements are not completed.

I. CONSTRUCTION AND ROUTE CONSIDERATIONS

Route considerations are based on a vessel's watertight and weathertight integrity, deck drainage, coaming heights for doors and sills, voyage type and/or other vessel construction arrangements (scantlings, subdivision, etc.).

Watertight Integrity

General Definitions: (Subchapter T (46 CFR 175.400) & K (46 CFR 114.400))

SCUPPER: a pipe or tube of at least 1.25" in diameter leading down from a deck or sole, through the hull to drain water overboard.

FREEING PORT: any direct opening through the vessel's hull or bulwark to quickly drain overboard water that has been shipped onto exposed decks.

WATERTIGHT: designed and constructed to withstand a static head of water without any leakage, except, that watertight for the purposes of electrical equipment means enclosed so that water does not enter the equipment when a stream of water from a hose with a nozzle 1 inch in diameter that delivers 65 gallons per minute is sprayed from a distance of 10 feet for 5 minutes.

WEATHERTIGHT: water will not penetrate in any sea condition, except, "weathertight equipment" means equipment is constructed or protected so that exposure to a beating rain will not result in the entrance of water.

Hatches (46CFR179.360 T & 46CFR116.1160 K)

Hatches in weather decks must be watertight. Hatches may be weathertight if on a watertight trunk 12" high, in a cabin top, in an enclosed watertight space, or if the vessel is on a protected (rivers) route. If used for access by crew or passengers, hatches must be operable from both sides and may not be fitted with locks. If the hatch is an emergency escape, in addition to the above, access must not be blocked by equipment or any other obstructions.

Hatch Securing Devices

Professional mariners realize the importance of keeping hatch covers secured to maintain the watertight integrity of the hull. Several marine casualties (flooding & sinking) were caused when water entered the hull through an open hatch. All hatches on all weather decks must be fitted with a securing device (dogs, screws, latches, etc.), and captive devices (chains, hinges, etc.).

Doors:

Watertight door requirements are contained in 46 CFR 179.330 for T and 46 CFR 116.1160 for K.

Freeing Ports:

The purpose of freeing ports is to quickly shed water before the next boarding sea. This is particularly important in a well deck or a cockpit vessel. Although it is true that freeing ports make a wetter boat, they also make it a safer boat. Care should be taken that freeing ports are not restricted or covered in any way. Flappers are permitted as long as they are not capable of being secured.

Deck heights above LWL: The distance between the water and the deck (while the vessel is in the loaded condition) must be at least 10" unless the vessel operates on protected waters only. If the vessel's deck height is less than 10" from the load water line and operates on partially protected or exposed waters, additional requirements of subdivision and stability must be met. 46 CFR 178.420 - 430.

Watertight Coamings: A weathertight door must be provided for each opening in a deckhouse. A permanent watertight coaming 6 inches high for vessels on an exposed or partially protected route and 3 inches high for vessels on a protected route must be provided for each door.

Engine Boxes: If the engine box is not a watertight hatch, a 12 inch watertight coaming is required. An owner may request that a 6 inch coaming and a weathertight hatch (i.e. gasket and means to latch the box down) be substituted in lieu of a 12 inch coaming.

T-Boat Types:

Open Boat: (46 CFR 178.440) An open boat is a vessel which is not protected from the entry of water by a complete deck, or protected by a partial weather deck and superstructure and which is seaworthy for the waters upon which the vessel operates. To determine if a vessel is an open boat, the following conditions must be satisfied: The weather deck must be open to the bilge and any water on the weather deck cannot drain overboard. If either of these criteria is not met, the vessel is not an open boat.

Cockpit Vessel: (46 CFR 171.010(a)) A vessel with an exposed recess in the weather deck extending no more than one-half of the vessel's length over deck (LOD) measured over the weather deck. To determine if a vessel is a cockpit vessel, the following conditions must be satisfied:

- Length of the cockpit cannot exceed one-half of the length over deck of the vessel (LOD).
- The cockpit deck must be watertight and the bulwarks fitted with scuppers or freeing ports for drainage. Drainage requirements will be determined by measurements and calculations done by a marine inspector.

Well Deck Vessel: A well deck vessel is defined as "a vessel with a weather deck fitted with solid bulwarks that impede the drainage of water over the sides or an exposed recess in the weather deck extending one-half or more of the length of the vessel measured over the weather deck (LOD). The well deck must be watertight with freeing ports for drainage. Drainage requirements will be determined by measurements and calculations done by a marine inspector.

Flush Deck Vessel: A vessel with a continuous watertight deck located at the uppermost sheer line of the hull.

Rail Height and Construction (46 CFR 177.900 for T) & (46 CFR 116.900 for K)

Rail height on small passenger vessels depends on the type of service of the vessel. The OCMI Baltimore will use the 46 CFR T and K regulations in all rail size determinations. A variance may be granted in special cases, after careful evaluation of route, conditions of operation, passenger accessibility to rails, and with due regard for passenger safety. Rails shall consist of evenly spaced courses and spacing between the courses shall not be greater than 12". The lower rail courses may not be required where all or part of the space below the upper rail is fitted with bulwark, chain link fencing, wire mesh or the equivalent. On ferries and excursion vessels, openings of more than 4 inches in diameter, or rails and slats more than 4 inches apart are not permitted. In these vessels, the OCMI could permit canvas dodgers to be fitted around the rails. Rails must be able to withstand a 200 pound point load. Always check with your marine inspector before any modifications.

Seat Construction and Arrangements on Small Passenger Vessels

(46CFR176.113(b)(3) & 177.820 for T and 46CFR115.113(b)(3) & 116.820 for K)

The following standards apply to fixed seating and portable seating as specifically approved:

1. A seat must be provided for each passenger permitted in a space for which the fixed seating criterion was used to determine the number of passengers allowed.
2. A seat must be constructed to minimize the possibility of injury and avoid trapping occupants.
3. Installation of seats must not hamper ready escape.
4. Seats, including fixed, temporary, or portable seats, must be installed as follows:
 - a. An aisle of not more than 15 feet in length must be at least 24 inches in width.
 - b. An aisle of over 15 feet in length must be at least 30 inches in width.
 - c. Where seats are in rows, the distance from seat front to seat front must be at least 30 inches and the seats must be secured to a deck or bulkhead.
 - d. Seats used to determine the number of passengers permitted must be secured to the deck, bulkhead, or bulwark.

Portable Seats on Small Passenger Vessels

Portable seats may be allowed on small passenger vessels, provided the general arrangement meets the requirements for fixed seating. The primary concern is the maintenance of clear escape routes. Portable seats, when used in high density, can too easily block escape routes if not secured. Some types of a securing method for portable seats that will maintain clear escape routes may be required. All portable seats must be specifically approved by the OCMI.

Mooring Equipment - Anchor and Line Requirements

(46 CFR 184.300 for T and 46CFR121.300 for K and T) All vessels shall be equipped with ground tackle and hawsers as deemed necessary by the OCMI. The following table sets forth the guidelines for this office.

Small Passenger Vessel Anchor/Chain Recommendations (ABYC)

Vessel		Manila Rope*		Danforth**				Northill**		
Length	Size	Length	Standard		Hi-Tensile					
	Diam.		Weight Symbol	Hold Pwr.	Weight Symbol	Hold Pwr.	Symbol	Weight	Hold Pwr.	
17-24'	½"	270'	8S 9SR	480	5H	400	6R	12	450	
25-32'	½"	270'	13S 16SR	720	12H	900	12R	27	900	
33-38'	¾"	270'	22S	1200	12H	900	12R	27	900	
45-54'	1 1/8"	270'	65S	2300	35H	1600	20R	46	1500	
55-70'	1 ¼"	270'	85S	2700	60H	2400	30R	80	2200	
71-90'	9/16"	360'	130S	3100	90H	2900	50R	105	3200	
	Galv. Cable									
91-110'	5/8"	360'	180S	3500			50R	105	3200	
	Galv. Cable									
111-130'	(See ABYC & Other Recognized References for Anchor & Cable Sizes)									

* If synthetics, wire or chain are used, their strengths should be equal to manila line.

** Danforth ** Symbol
 S- Standard R - Northill
 SR- Sure Ring
 H- Hi Tensile

The weights in the table are based on standard lightweight anchors with high holding power such as Danforth or Northill types. Suitable reductions in the anchor weights can be permitted on an equivalency basis for anchors of unusually high holding power such as Danforth Hi-Tensile. Conversely, if patent (stockless) anchors are used, the weight should be increased by 30%. Unusually large small passenger vessels or unusual situations must be referred to the OCMI for acceptance.

Anchor Windlasses: Generally a small anchor (up to 75-80 pounds) can be raised by hand by one person when fitted with a manila or synthetic line. Heavier anchors will require a mechanical hand or powered windless. However, available manpower, means to secure the anchor line to permit a rest period while raising by hand, route, etc. may be considered.

Heating and Cooking (46 CFR 184.220 and .240 for T and 46 CFR 121.220 and .240 for K)

Gas systems **are not** allowed on vessels constructed with fiber re-enforced plastic, when laid-up with general-purpose resin. Gasoline systems for cooking, heating or lighting are prohibited. Also, fireplaces and space heaters with open flames are prohibited by 46 CFR 121.202 and 46 CFR 184.202.

J. LIFESAVING EQUIPMENT

Lifesaving equipment requirements vary with the vessel's route. See the following for a summary of lifesaving equipment requirements for most Subchapter "T" and "K" vessels operating in the OCMI Baltimore Zone:

Subchapter "K" Survival Craft Requirements, 46 CFR 117.200

Route	Survival Craft Requirements
OCEANS	(a) Cold Water ¹ – 100% ILR ² (b) Warm Water ³ <ul style="list-style-type: none"> (i) W/overnight accommodations⁵ – 100% IBA (ii) W/O overnight accommodations⁴ – 67% IBA
COASTWISE	(a) W/overnight accommodations ⁵ – 100% IBA (b) W/o overnight accommodations <ul style="list-style-type: none"> (i) Cold water - 67% IBA (ii) Warm water - 50% LF (iii) Within three (3) miles of shore w/ float free 406 MHz EPIRB – 50% LF
LIMITED	
COASTWISE (NMT 20 NM)	(a) W/overnight accommodations ⁵ – 100% IBA (b) W/o overnight accommodations <ul style="list-style-type: none"> (i) Cold water⁶ - 67% IBA (ii) Warm water – 50% LF (iii) Within three (3) miles of shore w/ float free 406 MHz EPIRB – 50%.LF <ul style="list-style-type: none"> (a) Cold water – 50% LF (b) Warm water – NONE
GREAT LAKES	N/A to this Zone
LAKES, BAYS & SOUNDS ^{8 9}	
	(a) W/overnight accommodations – 67% IBA (b) W/o overnight accommodations <ul style="list-style-type: none"> (i) Cold water – 100% LF (ii) Warm water – 50% LF (iii) Within one (1) mile of shore – NONE
RIVERS ^{9 10}	(a) Cold Water <ul style="list-style-type: none"> (i) 50% LF (ii) Within one (1) mile of shore – NONE (b) Warm water - NONE

¹ Cold water means the cognizant OCM I has determined the monthly mean low temperature of the water is ≤ 59° F.

² Vessels operating < 50 miles from shore may carry 100% IBA in lieu of ILR

³ Warm water means the cognizant OCM I has determined the monthly mean low temperature of the water is > 59° F.

⁵ IBA for total number of overnight passengers allowed. Additional primary lifesaving may be required.

⁴ Vessels operating in warm water may substitute 100% LF in lieu of 67% IBA

⁶ Certain vessel operations may substitute 100% LF in lieu of IBA

⁸ Shallow water exception. 117.208(e)

⁹ OCM I may reduce survival craft requirements based on the route, communications schedule & participation in VTS

¹⁰ Shallow water exception 117.208(d)

Note: *A buoyant apparatus may be used to meet the requirements for life floats if the buoyant apparatus was installed prior to March 11, 1996 and if the buoyant apparatus remains in good and serviceable condition. However, an existing buoyant apparatus may not be used to satisfy the requirements for life floats on existing vessels wishing to upgrade the total number of passengers. If you have questions regarding these requirements, contact your marine inspector for guidance.*

ABBREVIATIONS USED ON PREVIOUS PAGES:

ILR Inflatable Liferaft
IBA Inflatable Buoyant Apparatus
LF Life Float

Survival Craft: Arrangements and Equipment (46CFR180.130 for T & 46CFR117.130 for K)

All lifesaving equipment must be USCG approved, readily accessible, and capable of being both manually and automatically deployed. See NVIC 4-86 for the proper float free arrangements or hydrostatic release. OCMI Baltimore has determined that vessels operating north of Smith Point only may continue to operate without a float free link provided they have 200 feet or more of painter. However, upon the renewal of the vessel’s painter a float free link is required. Vessels certificated to operate over the entire Chesapeake Bay must have a float free link attached to a 100 foot painter.

Waterlights for Ring Life Buoys and Life Floats (46CFR180.175 for T & 46CFR117.175 for K)

Waterlights are required on ring life buoys and all life floats for small passenger vessels. Waterlights must be Coast Guard approved under 46 CFR 161.010. Calcium carbide waterlights are no longer approved.

Personal Flotation Devices (PFDs) (46CFR180.71 for T and 46CFR117.71 for K)

All PFDs are required to be Type I life preservers. A Type I is any approved wearable device designed to turn an unconscious person in the water from a face down position to a vertical or slightly backward position. The adult size devices provide a minimum buoyancy of 22 pounds and the child size devices provide a minimum buoyancy of 11 pounds. The PFDs on vessels limited to inshore operations require only reflective tape. PFDs on vessels operating more than 20 miles from a harbor of safe refuge must also have PFD lights (46 CFR 180.75 and 46 CFR. 117.75).

Inspection of PFDs

The life jacket is first checked visually to determine its general condition. The envelope, tie straps, stitching, and lifting attachments (if equipped) will be carefully checked. If they show signs of rot or deterioration, they shall be tested by hand. Other conditions that may indicate an unserviceable condition are excessive hardness, stiffness, lumpiness, non-resilience, oily, or excessive mildew. Note: Mildew destroying the reflective properties of the tape on life jackets is the most common cause for rejection during an inspection. Moisture removing materials (desiccants) placed in the life jacket storage has been observed to significantly decrease mildew.

If the general condition of a lifejacket is found unfit for service and beyond repair, it will be immediately destroyed and removed from the vessel. Minor repairs and cleaning may be accomplished in accordance with 46 CFR 160.006 and NVIC 2-63.

PFDs other than Type I, in Excess of Required Equipment

Special purpose buoyant devices such as hunter’s jackets, ski vests and work vests are authorized as

excess equipment on certain vessels when certain conditions are met. 46 CFR 117.78(b) and 46 CFR 180.78(b) regarding "Additional PFDs" state that the stowage location of the PFDs carried in addition to those required by 117.72 and 180.72, "must be separate from the lifejackets, and such as not to be easily confused with that of the lifejackets." In other words, stowed separately and marked accordingly.

Requirements for Child PFDs (46 CFR 180.71 & 46 CFR 117.71)

Unless children are not to be carried and that restriction is endorsed on the vessel's COI, there shall be approved PFDs suitable for children equal to at least 10% of the number of people allowed by the COI to be on board. In the event that there are more children carried than the number of child PFDs required (10% of total P.O.B.), then the operator shall provide sufficient child PFDs for each child carried. It is the owner's responsibility to provide sufficient child PFDs. See NVIC 14-92 for suitability of certain adult PFDs for children weighing 75-90 pounds.

"Extended Size" PFDs: (46CFR 180.71(b)(2))

When all adult PFDs carried onboard are "Extended Size" with lower size limits of 47 inches and 45 pounds, then only 5% of additional child size PFDs need be carried.

New Life Jacket Rules for Children: Does this affect you?

The United States Coast Guard published an Interim Rule in the June 24, 2002, Federal Register requiring all children under 13 years old to wear a Coast Guard approved life jacket, that fits, when underway on a **recreational vessel** unless they are in an enclosed cabin or below decks. This Rule became effective December 23, 2002. It included an education and public awareness phase from July 1 to December 31, 2002.

The Coast Guard stressed that the rule only applies in those States that currently have no rule requiring children to wear a life jacket, however, in those States that possess any requirement, the rule recognizes and adopts that State's requirement.

Commercial Passenger Vessels already operate under regulations (see above) which govern children on those vessels. However, if the vessel is operating as a recreational vessel in either Maryland or Virginia, the following is provided:

The state of Maryland already has laws in effect which will apply in this case. They are as follows from the MD state website at: www.dnr.state.md.us/nrp/052901.html.

Effective June 1, 2001, all children under the age of 7 must WEAR a United States Coast Guard approved Personal Flotation Device (Life Jacket - Type I, II, III or V) while underway on a recreational vessel under 21 feet in length on Maryland waters. Recreational vessel includes motorboats, sailboats, canoes, kayaks, rowboats, and any other device capable of being used for transportation on the water, when the vessel is being used for other than commercial purposes.

The Life Jacket must be the proper size for the child and must be in good and serviceable condition.

This requirement does not apply when:

- A vessel is moored or anchored.
- A child is below deck or in an enclosed cabin.

The state of Virginia, however, does not currently have any requirements on the books so the Federal Rule would apply. For more information on the VA boating requirements see: <http://www.dgif.state.va.us/boating/>.

Failure to have a child wear a Coast Guard approved life jacket will be treated the same as not having a life jacket readily available. Penalties may be assessed up to \$1,100 maximum for each violation, but typically they would be assessed in the \$50 to \$250 range per violation.

Children, Infants and Life Jackets: Having children wear life jackets is just a good idea. All of the educational boats in the Baltimore OCMI zone have a complete extra set of Coast Guard approved life jacket vests. The children wear them at all times while onboard. These do not meet the Type I requirements for certification but they are easier to move around in and therefore keep on the children. Many operators have asked about life jackets for infants. Here is the information provided on the Coast Guard website (www.uscg.mil/hq/g-m/mse4/pfd.htm) on the subject.

To work right, a PFD must fit snugly on a child. To check for a good fit, pick the child up by the shoulders of the PFD. If the PFD fits right, the child's chin and ears will not slip through.

PFDs are not babysitters. Even though a child wears a PFD when on or near the water, an adult should always be there, too.

Question: What do you recommend for a 7 month old child? She rides in the car seat while in the car but it seems like that would sink like a rock if the boat ever capsized. What should she sit in and what type of life vest would you recommend that she wear?

USCG response: We recommend a Type II infant PFD for a child of this size.

IMPORTANT MESSAGE - Since infants and children come in many sizes and shapes, the U.S. Coast Guard and personal flotation device (PFD) manufacturers urge that PFDs be tested immediately after purchase. You should test your PFD in a swimming pool. Test it with the infant or child who will be wearing the PFD. Just because it works for one infant or child does not mean it will work for another in the same manner. Check for proper weight range, comfortable fit, and especially a stable face-up position in water. Infants and children are difficult to float in a face-up position because of the distribution of body weight and the tendency for them to struggle or attempt to climb out of the water. Some infants and children float best in one style of vest, while others will float better in another. If one does not work well, try another style. Remember: Never leave an infant or child unattended on a dock, on a boat or in-the-water, even if they have a PFD on.

Question: What are the recommendations/requirements for seating of infants in a recreational craft?

USCG response: If an infant is onboard a recreational boat, there must be an infant Type II personal flotation device (PFD) available for that individual. We recommend that the infant wear the PFD at all times while onboard the boat. There are no USCG requirements for infant seating on any recreational boats.

Question: Are there break away infant seats available?

USCG response: There are no USCG approved infant seats currently approved, and there are

no such devices being tested to meet our PFD requirements. We are not aware of any such device being sold.

Question: Does the USCG endorse any infant seats?

USCG response: At this time we do not, because none have been submitted for testing. If a manufacturer designs one and submits it for testing, we will consider it for USCG approval. Recently, there have been interest from inventors who are developing such a device. But to date, none have submitted their devices for testing.

Question: What PFD does the Coast Guard recommend for infants.

USCG response: For any newborn up to 18 pounds, we do not recommend taking onboard a recreational boat, because current devices are not adequate for all newborns. Unless the parent is able to test their newborns out in a PFD, sized for infants, in a swimming pool, they will not know if that device will float their child with his/her head out of the water. Unless you know the PFD you have works for your infant, why put the child at any risk?

For more information on Life Jackets see the Coast Guard website www.uscg.mil/hq/g-m/mse4/pfd.htm. For more information on the federal rules see the Coast Guard website at www.uscgboating.org/news/boatingview.aspx?id=26 for the complete interim rule and as always, contact your marine inspector if you have questions.

K. FIRE PROTECTION (46CFR181 for T & 46CFR118 for K)

The general construction, arrangement and furnishings of a vessel shall be such as to minimize fire hazards insofar as reasonable and practical.

Waste Receptacles: (46CFR177.405 for T and 46CFR116.405 for K)

All waste containers must be constructed of metal or equivalent non-combustible material with covers and no openings in the sides or bottom and stowed at least 3 feet away from heat producing equipment.

Mattresses: All mattresses must meet specific testing standards for flammability (46CFR177.405 and 46CFR116.405).

Interior Furnishings:

Carpeting should be 100% wool or equivalent and may not extend up a bulkhead more than 4 inches.

Curtains and Drapes should be kept to a minimum and be fire resistant, without rubber linings. Regulations in Subchapter K (when carrying more than 150 passengers), require in 46 CFR 116.423, that all drapes, carpets and other coverings be labeled and in compliance with NFPA 701.

Bulkheads - fabric or other highly combustible material is not permitted on bulkheads. Glued wall paper is permitted. (46 CFR 116.405 for K and 415, and 46 CFR 177.405 for T).

Insulation must be non-combustible if required for structural fire protection and meet the standards of 46 CFR 164.009. Limited combustible insulation for pipe insulation, etc., may be used in a machinery space. Insulation around accommodation or control spaces must be noncombustible for vessels carrying more than 150 passengers (Subchapter K, see 46 CFR 116.400 and 430) and have very limited flammability/smoke/toxicity for vessels with under 150 passengers (Subchapter T, see 46 CFR 177.405, 410 and 970). Polyurethane

foam is not permitted. Contact this office for specific information regarding structural fire protection on Bay boats.

Paint (46 CFR 116.405 for K, and 46 CFR 177.405 for T)

Paint and/or other flammable liquids must be stowed in steel or equivalent containers. Only "ready maintenance" quantities are permitted aboard.

Structural Fire Protection

Large passenger vessels subject to Subchapter K requirements (carrying more than 150 passengers) must comply with the structural fire protection requirements in 46 CFR 116.400. Small passenger vessels subject to the requirements or Subchapter T must meet the structural fire protection requirements of 46 CFR 177.410

Portable Fire Extinguishers - Annual Inspection / 5 or 12 Year Hydro Requirements

The approval specification for portable fire extinguishers, 46 CFR 162.028, requires that all fire extinguishers be listed and labeled by a recognized independent laboratory. For CO₂ extinguishers, the laboratory is Underwriters Laboratories (UL). UL tests extinguishers with the assumption that maintenance will be conducted in accordance with a nationally recognized standard, found in NFPA 10, "Portable Fire Extinguishers." NFPA 10 specifies a hydrostatic test interval of 5 years for both dry chemical w/ stainless steel shells and CO₂ extinguishers. The testing interval for all other dry chemical and halogenated extinguishers is 12 years. Commonly, it's more cost effective to simply replace the latter group.

Owners and operators are encouraged to survey their equipment prior to undergoing annual reinspection or an inspection for certification. As CG-835 requirements will be written for fire safety equipment, the vessel may be delayed or additional costs may be incurred by the owner in order to comply with the requirements.

Portable Fire Extinguishers (46 CFR 118.500 for K, and 46 CFR 181.500 for T)

Each portable fire extinguisher must be of an approved marine type, even if it is in excess of the requirements. The minimum number and location of fire extinguishers is spelled out on the vessel's COI. All portable fire extinguishers must be conveniently located to the space protected.

Fire Bucket (on vessels not required to have a power driven fire pump)

Three fire buckets of (at least) a 2.5-gallon capacity is required on each vessel. Each bucket must be labeled "fire bucket," and have a lanyard on the handle long enough to reach the water.

Fixed Fire Extinguishing Systems (46 CFR 118.400 for K and 46 CFR 176.810 for T)

Fixed fire-fighting systems for machinery spaces, galleys, or other high hazard areas are required on all vessels that have wood or FRP machinery space boundaries. All new vessels including steel and aluminum are also required to have a fixed fire-fighting system. In general, the following applies to all fixed fire fighting systems:

- a. Systems approved under Subpart 162.029 are required and the system is adequately sized for the space. Your inspector can help you measure the space if needed.
- b. Halon systems are no longer acceptable for new installations.
- c. An automatic and a manual release are required
- d. Systems approved under 162.029 are permitted in unmanned spaces only.
- e. Only one system approved under subpart 162.029 is permitted in each protected space; i.e., 2 smaller systems may not be used in lieu of 1 larger system.
- f. Each fixed firefighting system approved under subpart 162.029 must be installed and

- maintained in accordance with the instructions in its manual.
- g. Automatic shutdown switches for the engine and any power ventilation are required. These switches are normally available with approved systems as an option.
 - h. There must be an indicator light provided for the pilothouse or conning station.
 - i. A system description and specification plan must be submitted to the OCMI Baltimore and possibly Commandant for approval.
 - j. A fire detector (heat or smoke) system and indicating light with audio alarm is required. (46 CFR 118.400 for K and 46 CFR 177.410 for T).

L. MACHINERY AND EQUIPMENT

Bilge Pumps (46 CFR 119.500 for K and at 46 CFR 182.500 for T)

All vessels are required to have at least one 10 gallons per minute U.L. listed pump in each watertight space, excluding the space forward of the collision bulkhead. Each submersible pump discharge pipe must have a shut off valve located at the hull penetration. Bilge pumps must have an indicator light at the operating station to show when it is running. Note: the only RULE pumps that are U.L. approved are the 14A-6UL (61.6 GPM, 3700GPH) and 10A-6UL (33.3 GPM, 2000GPH).

Bilge High Level Alarms

All watertight compartments of a wood vessel must have alarms installed. All vessels with compartments containing thru-hull fittings and/or seawater piping are required to have bilge high water level alarms. Each alarm must have an audible and visual indication at the operating station.

Low Pressure Hot Water Heating Boilers (46 CFR 119.320 for K and 46 CFR 182.320 for T)

Low pressure hot water heating boilers (temperatures less than 250 degrees F and pressure less than 100 psig) in the OCMI Baltimore zone are inspected as follows:

- Visual examination for the boiler and associated piping to the satisfaction of the attending inspector, checking general condition, housekeeping and maintenance.
- Hydrostatically testing to dock pressure or 125% of MAWP, whichever is less, but in no case less than the operating pressure.
- Pressure relief valves should be popped at operating pressure.
- Boiler mountings may be opened and/or removed if deemed necessary by the inspector.

Machinery Exhaust Systems (46 CFR 119.430 for K and 46 CFR 182.430 for T)

Exhaust systems are a common source of vessel fires. If exhaust piping wastes through, hot gasses may penetrate the insulation and provide an ignition source to combustible materials. Owners and operators are encouraged to periodically examine the main propulsion and auxiliary exhaust systems. Exhausts should be installed to provide adequate clearance and protection from combustibles and to properly support exhaust system weight and vibration (refer to the American Boat and Yacht Council Standards, Project P-1, ABYC P-1-86).

Keel / Grid Coolers (46 CFR 119.430 K and 46 CFR 182.422 for T)

Most keel coolers are not considered integral parts of the hull and must be fitted with shut off valves located inboard at the skin of the vessel. A shut-off valve may be omitted if the requirements of 46 CFR 182.422(e) are met. (Generally, extra heavy pipe halves or structural angles welded to the bottom of the vessel.)

Electrical (46 CFR 120 for K and at 46 CFR 183 for T)

All wire must have stranded copper conductors. For power and lighting circuits, a minimum of 14

AWG size conductors must be used. For systems greater than 50 volts, if individual wires rather than cable are used, the wires must be in conduit. Lesser size conductors are allowed on control and indicator circuits.

Acceptable Electrical Wire

- Cable which meets section 310-13 of the National Electrical Code, except cable with asbestos insulation or for use in a dry environment/location.
- Cable listed as "UL Boat Cable" or "UL Marine."
- Cable which meets 46 CFR Subchapter J (Electrical Engineering Regulations) section 111.60. This includes IEEE-45 and Military Specification shipboard cables

Electrical Connections:

All wire connections are to be made in an enclosure such as a junction box or connection box. There are no exceptions to this regulation. Twist on (wire nut) type connectors are not allowed.

Protection from Wet Environment:

Electrical equipment in the following locations must be drip proof:

- Machinery.
- Any location exposed to splashing water, such as galley, laundry, and toilet with shower.
- Any space with high moisture level.

Electrical equipment in areas exposed to the weather must be waterproof. All electrical equipment exposed to saltwater is to be corrosion resistant.

The use of double pole or single pole circuit breakers in 110 volt systems:

Single pole breakers are acceptable for use in an 110 volt system provided that a polarity indicator is installed. This assures that the current carrying conductor will be properly protected by the single pole breaker. Without the polarity indicator installed, a double pole breaker must be used in case the polarity is inadvertently reversed. Good examples for acceptable electrical systems can be found in American Boat and Yacht Council standards and recommended practices for small craft.

Light Fixtures:

Light fixtures for systems of 50 volts or more must meet the requirements of UL 595 for marine fixtures. Each of these fixtures will have an approval sticker affixed to it. Should anyone wish to install a non-UL listed fixture, they must provide the OCMI Baltimore with a line-by-line comparison to the UL standards showing equivalence. Fixtures for systems of less than 50 volts shall be a suitable marine type, acceptable to the attending Coast Guard inspector.

M. COMMUNICATIONS

Radio Requirements: All small passenger vessels must be equipped with the following communication equipment:

- VHF radio per 46 CFR 121.502 for K or 46 CFR 184.502 for T, as applicable;
- Single side band radio is required when operating more than 20 miles offshore.

Inspection of Radio Stations:

Any Small Passenger Vessel operating in the open sea or tidewaters of the U.S. is required to have a FCC Ship Radio Station License (unless the vessel is less than 50 gross tons and operates no more

than 1000' from shore), Communications Act Radiotelephony Safety Certificate (unless operating no more than 1000 feet from shore) and Marine Radio Operators Permit. As per FCC rules, the Radiotelephony Safety Certificate for small passenger vessels is valid for 5 years. A FCC inspection is required for the renewal of the certificate. An operational test of the required radiotelephone installation will be conducted by the attending Coast Guard inspector at the time of inspection for certification. For more information, contact the FCC at (301) 725-1996.

No Radio Checks on Channel on Channel 16 VHF

The FCC prohibits routine radio checks with the Coast Guard on Channel 16 (156.6 MHz). This rule was necessary to reduce the number of radio checks being answered by the Coast Guard and to also relieve the talk on the Distress Frequency. Radio checks may still be conducted by FCC representatives or qualified radio technicians installing equipment or correcting deficiencies in the stations radiotelephone

PA System: (46 CFR 121.610 for K and 46 CFR 184.610 for T)

A reliable public address system or intercom system is highly recommended on all boats and is now required on many vessels. It is an effective means of providing crowd and passenger control in emergency situations and as a way of passing vital passenger safety information. All vessels with more than one passenger deck, or with overnight accommodations are required to have a P.A. system.

N. NAVIGATION RULES/EQUIPMENT

Inland - International

All vessels must be equipped with navigation lights and sound producing devices as prescribed in the International and/or Inland Rules of the Road. Vessels operating seaward of the demarcation line (described in 33 CFR 80) must comply with the International Rules of the Road. Vessels inland of the demarcation line must comply with the Inland Rules of the Road. Vessels operating on the Chesapeake Bay and its tributaries are subject to the Inland Rules of the Road.

Navigation Lights (Rule 22, USCG Navigation Rules)

Annex I of these rules gives technical requirements in terms of color, arcs, and positioning. As a rule, the typical Bay charter fishing boats must have a separation of 3.3 feet between the sidelights and the masthead light. The masthead light must be not less than 8.25 feet above the main or recess deck. Contact your inspector to determine the exact placement if you are in doubt.

Sound Devices

Requirements for sound devices are contained in Annex III of the rules. These requirements are aimed at increasing the mariner's ability to identify targets audibly through the use of different sound characteristics for vessels of different length.

Electronic Sound Devices

Annex III.2.(b) specifies that a bell be made of corrosion resistant material and further specifies bell mouth diameter, etc. However, electronic devices that meet the sound requirements may be substituted for the mechanical equivalent if a manual back up is provided.

Vessels Less than 12 meters in Length

These vessels are not required to carry whistles and bells that meet the technical standards in Annex III. However, if no such equipment is carried, the vessel shall be provided with some other means of making an efficient sound signal. Whistles and other sound producing mechanical devices (i.e., freon horn) may be accepted for use aboard vessels less than 12 meters in length, provided they are

in proper working condition and produce an effective sound signal.

Sidelight Screens

Sidelight screens must not be in front of the forward mast [Annex I, 2(g), 3(b)]. This rule also applies to single masted vessels and requires sidelight repositioning on many vessels in the 20-50 meter range.

Radar (46 CFR 121.404 for K and 184.404 for T)

The recent revision to the small passenger vessel regulations now state that a vessel must be fitted with a FCC marine radar if:

- Is self propelled;
- Operates on an Oceans, Coastwise, Limited Coastwise, or Great Lakes route; and
- Carries more than 49 passengers.

All ‘K’ boats must carry an FCC Marine Radar. Exemptions for “short restricted routes” may be considered. A ‘T’ boat with a Limited Coastwise or greater route is also required to have a radar. No exceptions will be granted for T boats. However, radar is highly recommended for all vessels in the Baltimore zone due to the quickly changing weather conditions. The masters of vessels required to have a radar are also required to have a radar operator’s endorsement on their license.

Fathometer

Fathometers are highly recommended for all vessels in the Baltimore zone.

Compasses (46 CFR 121.402 for K and 184.402 for T)

Compasses are now required on all vessels except those on river routes and limited voyages. A vessel must have a lighted compass if it is to operate at night.

Charts and Publications (46 CFR 121.420 for K and 184.420 for T)

All vessels must carry adequate, up-to-date charts and necessary nautical publications for the voyage intended. Local OCMI policy is as follows:

Oceans, Coastwise* & Limited Coastwise*	Charts, suitable publication or applicable abstract
	Sailing directions
	Coast Pilot (USCP 3) from National Oceanic and Atmospheric Administration (NOAA).
	Light lists Vol. I, II and III
	Notices to mariners
	Tide tables
	Current tables
	Rules of the Road (Navigation Rules, COMDTINST M16672.2B
Lakes, Bays, And Sounds	Charts for the area of operation, which are less than 3 years old. ADC charts less than 3 years old are also acceptable. Electronic charts are acceptable as long as they can be properly used for navigation, are updated at least every 3 years, manufactured by a reputable company, and have a means to capture last known position in case unit malfunctions, i.e., hourly log or print out. Place mat charts are <u>not</u> acceptable
	Coast Pilot (USCP 3) published by NOAA, which is less than 3 years old

	Tide tables for the current year
	Rules of the Road (Navigation Rules, COMDTINST M16672.2.B).
Rivers	Charts for the area of operation, which are less than 3 years old. (See Above)
	Tide tables for the current year.
	Rules of the Road (Navigation Rules, COMDTINST M16672.2.B).

*Vessels operating on routes in other OCMI zones may prove that they meet the local policy of that local OCMI in lieu of the above requirement.

O. POLLUTION – VESSEL OPERATION

Public concern over pollution of coastal waters with trash, sewage, and, in particular, hospital waste has risen sharply. The Coast Guard has clear responsibility to enforce prohibitions against illegal dumping activities. The major obstacle to achieving the goal of eliminating floating wastes is to identify the sources. For this reason, timely reporting of observations is critical to successful surveillance and investigation.

Marine Sanitation Devices (MSDs)

The objectives of the marine sanitation device (MSD) requirements are to prevent the discharge of untreated or inadequately treated sewage into US waters. This objective is pursued through enforcement of Section 312 of the Federal Water Pollution Control Act (FWPCA), as amended (33 USC 1322). Section 312 requires the installation of an approved MSD on every vessel with an installed toilet system.

Definitions

MSD (Marine Sanitation Device): Any equipment for installation on board a vessel which is designed to receive, retain, treat or discharge sewage, and any process to treat such sewage.

NEW VESSEL: Any vessel, the construction of which was initiated on or after 30 January 1975.

EXISTING VESSEL: Any vessel, the construction of which was initiated before 30 January 1975.

Basic Requirements

- As of 30 January 1980, if a vessel has a toilet or head installed, it must be equipped with an operable MSD.
- New vessels built after 30 January 1980 must install a Type II or III MSD.
- Type I MSDs are authorized if installed prior to 30 January 1980 and are still in good operating condition. Also, new Type I MSDs (Lectra-San) are authorized.

MSD Types

TYPE I MSD: These devices treat the sewage with disinfectant chemicals and by other means before it is discharged into the water. The treated discharge must meet certain health standards for bacterial content and must not show any visible floating solids.

TYPE II MSD: Like the Type I, this is also a treatment device but it must meet a higher level of sewage treatment. Because it is larger in size than a Type I and generally has higher power requirements, it is usually installed only in larger vessels.

TYPE III MSD: Type III MSDs are certified to a no-discharge standard. Type III devices include recirculating and incinerating MSDs and holding tanks. Holding tanks are probably the most common kind of Type III MSD found on vessels. Sewage is stored in the holding tank until it

can be pumped out to reception facility on shore. Reception facilities (sometimes called pump out stations) are not required by Coast Guard regulations. Their availability at marinas or other locations is largely a function of local boater demand and state laws. Most cruising guides and boating almanacs list the availability of pump out stations.

Certification Labels

Except as noted in the next paragraph, MSDs must have a certification label affixed. The certification label shows the name of the manufacturer, the name and model number of the device, the month and year of manufacture, the MSD type (i.e. Type I, II or III), a certification number and a certification statement. Type III holding tanks are considered automatically certified under a clause in the Coast Guard MSD regulations if they store sewage and flush water only, at ambient (outside) air temperature and pressure. These MSDs will not have a certification label affixed.

No-Discharge Zones

A boat can be equipped with any type of MSD permitted under the regulations. However, whenever a vessel equipped with a Type I or II MSD (discharges treated sewage) is operating in an area of water that has been declared a no-discharge zone, the MSD cannot be used and must be secured. No-discharge zones are areas of water that require greater environmental protection and where even the discharge of treated sewage could be harmful. When operating in a no-discharge zone, a Type I or II MSD must be secured in some way to prevent discharge. Closing the seacock and padlocking, using a non-releasable wire-tie, or removing the seacock handle is sufficient as is locking the door to the head while in a no-discharge zone.

Generally, all freshwater lakes (and similar freshwater impoundments or reservoirs that have no navigable connections with other bodies of water), and rivers not capable of interstate vessel traffic, are by definition considered no-discharge zones. In the Baltimore zone, Herring Bay has been designated as a No-Discharge Zone.

In addition, states may (with the specific approval of the US Environmental Protection Agency (EPA) establish no-discharge zones in other waters within the state. Boaters should check with their state boating law authority for more specific information on the location and limits of no-discharge zones. If you do not know the address or telephone number of your state boating law administrator, call the Coast Guard's toll-free Boating Safety Hotline at 1-800-368-5647. For more information on EPA designate no discharge zones see:

http://www.epa.gov/owow/oceans/regulatory/vessel_sewage/vsdnozone.html

Discharge of Raw Sewage

Discharge of raw untreated sewage from a vessel is illegal in the territorial waters of the U.S.

MSD Malfunctions

The Coast Guard is interested in all complaints about faulty MSDs. Such complaints should be addressed to: Commandant (G-MOC), US Coast Guard Headquarters, 2100 2nd Street SW, Washington DC 20593. Complaints should be specific in nature, describing in detail the problem encountered, and should also include the name of the device manufacturer and certification number, the type vessel the MSD is installed on, when it was installed and what the maintenance schedule is for the MSD.

Portable Marine Sanitation Devices

Portable systems do not make use of any of the vessel's installed systems (water, electrical, etc.). They are not certified by the Coast Guard because they are not "installable" devices; the regulations apply only to vessels with installed toilet facilities. Vessel owners wishing to avoid the expense of

installing a certified MSD may remove the presently installed system, thus being no longer subject to the regulations. Only when conditions are such that total removal of the system would be impractical or unsafe may the system be rendered "permanently inoperable," meaning that all parts of the toilet system are removed (unless removal of a particular part would be impractical or unsafe).

Regulatory Intent

The intent of these requirements is the removal of all non-certified toilet installations aboard vessels. This policy does not permit installation of a spectacle flange or discharge valves, or the blanking off of discharge lines. These are temporary means of preventing overboard discharge that, by their very nature, do not render the system permanently inoperable. They do not change the inherent character of the system and the reasonable conclusion is that the vessel owner intends to utilize the uncertified, installed system at a later time.

Operating Requirements

Vessels with installed toilet systems that do not comply with 33 CFR 159 must have certified MSDs aboard, unless specifically granted a waiver by Commandant (G-M). Portable systems may then be substituted although they are not required under 33 CFR 159. A portable system, if used, must meet the following criteria:

- The device must be manufactured of a durable material, such as molded plastic, aluminum, etc., that facilitates its removal for sewage disposal ashore. Collapsible units with disposable bags are not acceptable, due to their susceptibility to tearing and the resultant discharge of sewage into the water.
- The system must be operated in accordance with the manufacturers instructions for disposal of waste, use of chemical additives, etc.
- While the vessel is underway, the device must be securely fastened to the vessel with straps, wooden framing or similar materials.

GARBAGE HANDLING RESTRICTIONS

MARPOL 73/78 Annex V - An Overview

ANNEX V of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) went into effect on December 31, 1988. This annex, which prohibits the dumping of plastic refuse and restricts the dumping of other ship-generated garbage at sea, has had a very significant impact on the marine industry and boating community. In addition, ANNEX V requires that adequate facilities for receiving garbage from ships be available at US ports and terminals, including commercial fishing facilities and recreational marinas.

These requirements apply to commercial, recreational and fishing vessels of any size and type and the facilities that serve them. For US vessels these regulations would apply worldwide. A matrix indicating garbage type and vessel type follows:

GARBAGE TYPE

Plastics
Dunnage, lining and packing materials
Paper rags, glass, metal
bottles, crockery and similar
refuse

ALL VESSELS

Disposal prohibited (DP)
DP less than 25 NM from nearest land
DP less than 12 NM from nearest land

Paper, rags, glass, etc. comminuted or ground**	DP less than 3 NM from nearest land
Food waste NOT comminuted or Ground	DP less than 12 NM from nearest land
Food waste ground or ground**	DP less than 3 NM from nearest land

Mixed refuse: When mixed with other harmful substances having different disposal requirements the more stringent disposal restrictions shall apply.

** Ground-up or pulverized garbage must be able to pass through a screen with a mesh size no larger than 25 mm (1 inch).

Definitions Associated With Annex V

DISCHARGE: Any release however caused from a ship including any escape, disposal, spilling, leaking, pumping, emitting or emptying.

GRAYWATER: Drainage from dishwater, shower, laundry, bath and wash basin drains. Does not include drainage from toilets, urinals, hospitals and cargo spaces.

DISHWATER: The liquid residue from the manual or automatic washing of dishes and cooking utensils which have been precleaned to the extent that any food particles adhering to them would not normally interfere with the operation of automatic dishwashers.

GARBAGE: All kinds of victual, domestic and operational waste excluding fresh fish and parts thereof, generated during the normal operation of the ship and liable to be disposed of continuously or periodically, except dishwasher, graywater and those substances that are defined or listed in other Annexes to MARPOL 73/78. Key point: must be ship-generated waste.

VICTUAL WASTE: Spoiled or unspoiled food waste.

COMMUNUTE: Reduce to minute particles; pulverize.

Placarding

Each manned US vessel that is 26 feet or more in length shall display one or more of the placards meeting the requirements specified below. These placards shall be displayed in prominent locations and in sufficient numbers so that they can be read by the crew and passengers of the vessel. The placards must be readily accessible to the intended reader (suggested sites include embarkation points, food service facilities, garbage handling spaces and common spaces on deck). The master or person in charge of the vessel is responsible for implementing this requirement.

Each placard must:

- Be at least nine inches wide by four inches high, made of durable material and lettered with letters at least 1/8 inch high; and;
- Notify the reader of the following:
 - a. The discharge of plastic or garbage mixed with plastic into any water is prohibited.
 - b. The discharge of all garbage is prohibited in the navigable waters of the United States and, in all other waters, within three nautical miles of the nearest land.
 - c. The discharge of dunnage, lining and packing materials that float is prohibited within 25 nautical miles of the nearest land.
 - d. Other unground garbage may be discharged beyond 12 nautical miles from the nearest land.

- e. Other garbage ground to less than one inch may be discarded beyond three nautical miles of the nearest land.
- f. Any person who violates the above requirements is liable for a civil penalty of up to \$25,000, a fine of up to \$50,000 and imprisonment for up to five years for each violation.
- g. Regional, state and local restrictions on garbage discharges may also apply.

Waste Management Plans

Each manned, oceangoing* ship of 40 or more feet in length, either engaged in commerce or equipped with a galley and berthing is required to have a waste management plan meeting the requirements specified below on the ship. Each person handling garbage on the ship must adhere to the plan.

Each waste management plan must be in writing and:

- provide for the discharge of garbage by means that meet the requirements of ANNEX V
- describe the procedures for collecting, processing, storing and discharging garbage; and
- designate the person who is in charge of carrying out the plan.

Practically speaking, the required plan can be as simple as this:

"All garbage generated aboard this vessel is stored onboard for discharge to an appropriate shore facility. Capt. _____ is in charge of implementing this plan."

It is important to note that the master or person in charge of the vessel is responsible for the existence of a waste management plan onboard the vessel; he/she may or may not be the person in charge of implementing the plan.

*** Oceangoing means:**

- A U.S. vessel certificated for ocean service;
- A U.S. vessel certificated for coast-wise service beyond three miles from land;
- A U.S. vessel operating seaward of the territorial sea (outside of three miles); and
- A foreign vessel.

P. EMERGENCY PREPAREDNESS

Emergency Position Indicating Radio Beacon (EPIRB) (46 CFR 117.64 for K and 46 CFR 180.64 for T)

Each vessel operating on the high-seas, or that operates beyond three (3) miles of the coastline, must have on board a FCC Type Accepted Category 1, 406 MHz EPIRB. An EPIRB shall be: operative, stowed where it is readily accessible for testing and use, and stowed in a manner so that it will float free if the vessel sinks. In addition, the EPIRB must be registered with NOAA.

Recommended Emergency Check Off List (46 CFR 122.512 & 185.512)

Rough weather at sea, crossing hazardous bars or flooding

1. Close all watertight and weather-tight doors, hatches and air vents to prevent taking water aboard or further flooding the vessel.
2. Keep bilges dry to prevent loss of stability due to water in bilges. Use power driven bilge pump, hand pump and buckets to dewater.
3. Align fire pumps to use as bilge pump if possible.
4. Check all intake and discharge lines that penetrate the hull for leakage.

5. Keep passengers seated and evenly distributed.
6. Have passengers put on life preservers if the going becomes very rough or you are about to cross a hazardous bar.
7. Never abandon a vessel (particularly a wooden boat) unless actually forced to do so.
8. If assistance is needed use the International "Mayday" Distress Call.
9. Prepare survival craft (life rafts, life floats) for launching.

Man Overboard

1. Throw a ring buoy overboard as close to the person as possible.
2. Post a lookout to keep the person overboard in sight.
3. Maneuver the vessel to pick up the person in the water.
4. Have a crew member put on life jacket, attach a safety line to him and have him stand by to jump into the water to assist the person overboard if necessary.
5. If person is not immediately located notify Coast Guard and other vessels in the vicinity by radiotelephone.
6. Continue search until released by the Coast Guard.

Fire at Sea

1. Cut off air supply to fire - close hatches, ports, doors and ventilators, etc. and shut off ventilation system.
2. Cut off electrical system supplying affected compartment, if possible.
3. Immediately use portable fire extinguishers at base of flames for flammable liquid or grease fires or water for fires in ordinary combustible materials. Do not use water on electrical fires.
4. If fire is in machinery spaces shut off fuel supply and ventilation and discharge fixed extinguishing system if installed.
5. Maneuver vessel to minimize effect of wind on fire.
6. If unable to control fire, immediately notify Coast Guard and other boats in the vicinity by radiotelephone, etc.
7. Move passengers away from fire, have them put on life preservers, and if necessary, prepare to abandon the vessel.

Required Markings

Life Floats and Buoyant Apparatus

- Vessel's name shall be marked on life floats or buoyant apparatus, as well as on oars/paddles.
- Number of persons allowed shall be marked in letters and numbers at least 1-1/2 inches high.

Inflatable Life Rafts

Shall be marked by the manufacturer or service facility.

Life Boat or Rescue Boat (in lieu of other primary lifesaving)

Shall be marked with vessel's name and number of persons allowed in letters and numbers at least 2 inches high.

Ring Buoy

Shall be marked with vessel's name.

Life Preservers

Shall be marked with vessel's name.

Life Preserver Storage (if life preservers are not readily visible to passengers)

- Containers shall be marked "LIFE PRESERVERS."
- Separate containers for children's life preservers shall be so marked.
- Containers shall be marked with the number of life preservers contained therein.
- All letters and numbers shall be at least 1 inch high.

Fuel Shut Off Valves

Remote fuel shut off stations shall be marked in at least 1 inch high letters indicating the purpose of the valve and the direction of operation.

Watertight Doors and Watertight Hatches

Shall be marked on both sides in at least 1 inch lettering:

WATERTIGHT DOOR - CLOSE IN EMERGENCY or
WATERTIGHT HATCH - CLOSE IN EMERGENCY

Emergency Position Indicating Radio Beacon (EPIRB)

Shall be marked with vessel's name.

Crew and Passenger Lists (46 CFR 185.502 for T and 122.502 for K)

Any vessel on an Oceans or Coastwise route, or that disembarks passengers to another vessel or port other than where they embarked, or carries passengers on an overnight trip is required to leave a written or verbal crew and passenger count where the vessel is normally berthed or to a representative of the vessel.

Passenger Count (46 CFR 185.504 for T and 122.504 for K)

The law requires that the master (operator) of a small passenger vessel keep a correct count of all passengers received and delivered. These regulations require a vessel making an trip to deliver a written or verbal crew and passenger count to where the vessel is normally berthed or to a representative of the vessel.

Passenger Safety Orientation (46 CFR 122.506 for K & 185.506 for T)

It is the duty of the operator in charge of any vessel subject to the laws governing the operation of small passenger vessels to prepare and post emergency check off lists in a conspicuous place accessible to the crew and passengers and to ensure that suitable public announcements, instructive placards or both are provided in a manner which affords all passengers the opportunity to become acquainted with:

- Stowage location of life preservers
- Proper method of donning and adjusting life preservers of the types carried on the vessel
- The type and location of all lifesaving devices carried on the vessel
- The location and contents of the "Emergency Check off Lists"

First Aid Kit

First aid kits are required on each vessel. The only Coast Guard approved First Aid Kits are those approved under 46 CFR 160.041. However Coast Guard approved kits are not required if the vessel carries a kit containing the following:

- (5) 4-inch bandage compresses
- (2) 2-inch bandage compresses
- (2) 1-inch waterproof adhesive compresses
- (3) 40-inch triangular bandages
- (3) eye dressing packets, containing 1/8 ounce ophthalmic ointment adhesive strips
- (1) bandage, gauze, compressed; 2 inches by 6 yards
- (1) tourniquet, forceps, scissors, 12 safety pins
- (1) wire splint
- (1) ammonia inhalant
- (1) iodine applicators (1/2 ml. swab type)
- (1) aspirin, phenacetin and caffeine compound, 6 1/2 gram tablets, vials of 20
- (3) sterile petroleum gauze, 3"x18"

Instructions for the use of the contents of the First Aid Kit shall be printed in legible type on a durable surface and shall be securely attached to the inside of the cover.

Q. INVESTIGATIONS / DRUGS AND ALCOHOL

Purpose

The primary purpose of an investigation is to ascertain the cause of an accident, casualty or alleged misbehavior, to determine what remedial measure, if any, should be taken, and to determine whether any violations of federal laws or regulations have occurred. Investigations are a means to promote safety of life and property and to protect the marine environment. The Coast Guard does not investigate to fix civil liability in disputes between private litigants.

Marine Casualty Investigations

An important purpose of marine casualty investigations is to obtain information for the prevention of similar casualties. It is necessary for the causes of casualties to be determined as precisely as possible so that factual information will be available for program review and statistical studies and appropriate recommendations made to prevent future occurrences.

Procedures Against Licenses and Documents

Under 46 USC Chapter 77, the Coast Guard is authorized to conduct personnel investigations and to initiate suspension and revocation (S&R) proceedings. This authorizes action against a mariner's license or document for acts of incompetence, misconduct, negligence or violation of laws or regulations, and illegal drug use. Personnel investigations are conducted to promote safety on the high seas and the navigable waters of the United States and to prevent or mitigate personnel-related hazards to life, property and the marine environment.

Notice of Marine Casualty

The owner, agent, master or person in charge of a vessel involved in a marine casualty shall give notice as soon as possible to the nearest Coast Guard Marine Safety or Marine Inspection Office whenever the casualty involves any of the following:

- All accidental grounding and any intentional grounding which also meets any of the other reporting criteria or creates a hazard to navigation, the environment or the safety of the vessel.
- Loss of main propulsion or primary steering, or any associated component or control system, the loss of which causes a reduction of the maneuvering capabilities of the vessel. Loss means that systems, component parts, subsystems, or control systems do not perform the specified or required function.
- Any occurrence adversely affecting the vessel's seaworthiness or fitness for service or route, including but not limited to fire, flooding, and failure or damage to fixed fire extinguishing systems, lifesaving equipment, auxiliary power generating equipment or bilge pumping system.
- Loss of life or injury requiring professional medical treatment beyond first aid and if the person is engaged or employed on board a vessel in commercial service that renders the individual unfit to perform his/her routine duties.
- An occurrence not meeting any of the above criteria but resulting in damage to property in excess of \$25,000. Damage costs include the cost of labor and material to restore the property to the service condition that existed prior to the casualty, but does not include the cost of salvage, cleaning, gas freeing, drydocking and demurrage

Substance of a Marine Casualty Notice

The notice required above must include the name and official number of the vessel involved, the name of the vessel's owner or agent, the nature and circumstances of the casualty, the locality in which it occurred, the nature and extent of injury to persons and the damage to property.

Report by Person in Charge of Vessel

In addition to the described notice, the person in charge of the vessel shall, as soon as possible, report in writing to the Officer in Charge, Marine Inspection, at the port in which the casualty occurred or nearest the port of first arrival. The written report required for vessel or personnel accidents shall be made on form CG-2692. Specific reporting requirements are found in 46 CFR 4.05-10.

Zero Tolerance Drug Enforcement

Illegal drugs have no place in the marine environment. Those who operate vessels on our nation's waterways must be free from operating under the influence of illegal drugs and controlled substances. Boaters, whether recreational or commercial, have a responsibility to themselves, to others on board and to other vessels to ensure that nothing interferes with the safe operation of their vessels. The Coast Guard Zero Tolerance approach complements the Secretary of Transportation's desire for a drug-free transportation system and also complements our nation's total war against drug abuse.

Federal Rules against Operating a Vessel While Intoxicated

In 1988, the Coast Guard issued rules setting standards applicable to not operating recreational and commercial vessels while intoxicated. These regulations set a federal standard for behavioral signs of intoxication and an independent blood alcohol concentration (BAC) standard. The regulations are incorporated in part 95 of Title 33, Code of Federal Regulations. The following is a brief summary of those regulations:

Applicability

These regulations apply to all vessels (except a public vessel) operating on U.S. waters and to a vessel owned in the US operating on the high seas. This includes a foreign vessel operating in US waters. These regulations are also applicable at all times to Coast Guard inspected vessels.

Operating a Vessel

An individual is considered to be operating a vessel when:

- The individual has an essential role in the operation of a vessel underway, including but not limited to navigating or controlling the vessel's propulsion system; or,
- The individual is a crewmember, pilot or a watch stander not a regular member of the crew of a vessel other than a recreational vessel.

Standard of Intoxication

The federal blood alcohol concentration (BAC) standard is .10 (standard is reduced to .08 in Maryland) percent for operators of recreational vessels and .04 percent for operators of all other vessels, including commercial vessels. Additionally, a person operating any vessel is deemed intoxicated if the effects of the intoxicant(s) consumed by the individual on the person's manner, disposition, speech, muscular movement, general appearance or behavior is apparent by observation.

It should be noted that these regulations also provide that the federal standards will conform to any enacted state intoxication (BAC) standard, higher or lower than .10 percent, on waters within the geographic boundaries of that state. For instance, if the state standard is .08 percent, the federal standard is lowered to that rate for recreational vessels operating within the geographic boundaries of that state.

Acceptable evidence of intoxication includes, but is not limited to:

- personal observation of an individual's manner, disposition, speech, muscular movement, general appearance or behavior; or,
- a chemical test.

Reasonable Cause for Directing a Chemical Test

Only a law enforcement officer or a marine employer may direct an individual operating a vessel to undergo a chemical test when reasonable cause exists. Reasonable cause exists when:

- the individual was directly involved in a marine casualty.
- the individual is suspected of being in violation of the intoxication standards defined in the regulations.

Refusal to Submit to Testing

If an individual refuses to submit to a timely chemical test when directed by a **law enforcement officer** based on reasonable cause, evidence of refusal is admissible in any administrative proceeding and the individual **will be presumed to be intoxicated**. This includes administrative proceedings looking toward suspension or revocation of an individual's Coast Guard license or document.

If an individual refuses to submit to a timely chemical test when directed by a **marine employer** based on reasonable cause, evidence of the refusal is admissible in any administrative proceeding. The term "marine employer" is defined as the owner, managing operator, charter, agent, master or

person in charge of a vessel other than a recreational vessel.

General Operating Rules for Vessels Subject to Coast Guard Inspection Under Chapter 33 of Title 46, United States Code

While onboard a vessel subject to inspection, a crewmember (including a licensed individual), pilot or watchstander not a regular member of the crew:

- shall not perform or attempt to perform any scheduled duties within four hours of consuming any alcohol;
- shall not be intoxicated at any time;
- shall not consume any intoxicant while on watch or duty; and,
- may consume a legal non-prescription or prescription drug provided the drug does not cause the individual to be intoxicated.

Responsibility for Compliance

The marine employer shall exercise due diligence to assure compliance with the applicable provisions of this part. If the marine employer has reason to believe that an individual is intoxicated, the marine employer shall not allow that individual to stand watch or perform other duties.

Penalties

An individual who is intoxicated when operating a vessel shall be:

- liable for a civil penalty of not more than \$1000.
- fined not more than \$5000, imprisoned for not more than one year, or both.

An individual holding a Coast Guard license or document who is found to be in violation of these regulations may also be subject to suspension and revocation proceedings.

Conclusion

Operation of vessels by intoxicated individuals poses unacceptable risks to the lives and safety of the public; however, the problem will not disappear due solely to these regulations. It is incumbent upon individuals who operate vessels to recognize the risks posed by drunk and drugged vessel operators and to take appropriate action to ensure compliance with the rules. Through a cooperative effort by the Coast Guard, other federal agencies, state and local law enforcement officials, marine employers and the public, we can significantly reduce the incidence of alcohol and drug related marine casualties.

CHEMICAL TESTING REGULATIONS

In 1988, the Coast Guard published regulations in 46 Code of Federal Regulations (CFR) Part 16 to prescribe the minimum standards, procedures and means to be used to test for the use of dangerous drugs and alcohol in the marine industry. Those regulations prescribe which commercial vessel crewmembers are required to be chemically tested and under what circumstances the testing must be done. The Department of Transportation regulations contained in 49 Code of Federal Regulations (CFR) Part 40 describe in detail how the Coast Guard required chemical tests are to be conducted by marine employers.

In 1995, a Coast Guard Drug and Alcohol Program Inspector (DAPI) position was established in each Coast Guard District to enforce these regulations. DAPI's will conduct vessel inspections and visit marine employers to ensure compliance with the chemical testing regulations. This will include required record keeping and reporting, specimen collection, Medical Review Officer

activities, employee assistance programs, proper designation of crewmembers to be tested, and proper conduct of required tests.

The Coast Guard chemical testing regulations are applicable to commercial vessel crewmembers working on both inspected and uninspected vessels. The intent of the regulations is to minimize the use of intoxicants by merchant marine personnel and to promote a drug free and safe work environment.

Although there are no provisions for civil penalties for noncompliance, possible enforcement actions for noncompliance may include: suspension or revocation of the COI or possible Suspension and Revocation proceedings against licensed mariners. Pending legislation being reviewed by Congress would allow the Coast Guard to issue a civil penalty to any person who fails to implement, conduct, or otherwise fails to comply with the requirements for chemical testing for dangerous drugs or for evidence of alcohol use.

Any questions or comments on the Coast Guard Drug and Alcohol Program (DAPI) should be directed to the Coast Guard Fifth District's DAPI representative at (757) 398-6581.

R. INSPECTION CHECKLIST AND QUICK REFERENCE GUIDE

“TOPSIDE” INSPECTION or ANNUAL RE-INSPECTION

PAPERWORK

- User fee paid up to date (Call 1-800-941-3337 for payment status)
- Owner or designated (in writing) knowledgeable person to act on his/her behalf, present during inspection
- Application for inspection (CG-3752) filed with OCMI for initial or renewal COI
- Valid Certificate of Inspection (COI) on board
- Valid Certificate of Documentation (COD) on board
- Valid Stability Letter on board
- Valid FCC Safety Radio License, and a valid FCC Ship Radio Station License
- Pending Coast Guard 835s/ Work Lists of outstanding items from previous inspections
- Garbage Log on board
- Crew training and drill log on board
- Waste Management Plan on board
- Proof of chemical testing program - shown by consortium membership card or company manual for in-house program
- Evidence that annual drug and alcohol testing program data has been submitted to Commandant (Consortium should provide you with a copy.)
- Employee Assistance Program (EAP) - emergency numbers posted
- Current copy of 46 Code of Federal Regulations (CFR) Subchapter T or K as applicable, and 1995 or earlier edition for existing T-boats (Not required, but recommended)

LIFESAVING EQUIPMENT

Lifejackets

- Removed from storage areas, cleaned, dry, straps unbuckled
- Straps, buckles, snaps in good condition, stitching tight, no rips in covering
- Sufficient reflective tape on both sides, no cracks, not deteriorating
- Vessel name on each jacket
- Light works (Battery not expired or changed in front of CG inspector), if required

Lifefloats/Buoyant Apparatus/Ring Buoy

- Able to float free
- No cracks in covering, no chunks missing, and reflective tape O.K.
- Grablines, netting, painters, and lanyards in good condition
- Paddles in good condition and marked with vessel name
- Lights work (Batteries not expired or changed in front of CG inspector)
- Waterlight attached to Ring Buoy lanyard with a non-corrosive clip
- Vessel name on each Lifefloat/Buoyant Apparatus/Ring Buoy

406 MHz EPIRB

- Tested and operating properly
- Battery not expired
- Hydrostatic release not expired

- ❑ Registered with NOAA

Signal Flares

- ❑ Not expired
- ❑ Required quantity and type onboard
- ❑ Stored in bright, watertight container, properly labeled

Approved First Aid Kit or equivalent

- ❑ Stored in proper container and marked
- ❑ Contains required supplies and instructions, medicine not expired

HULL/STRUCTURE

- ❑ Provide inspector unobstructed access to all compartments
- ❑ Bilges clean, dry, and free of debris
- ❑ Watertight doors and hatches tight - good gaskets, knife edges, keepers/retainers on hatches
- ❑ Bulkhead penetrations watertight
- ❑ Shaft and rudder packing tight – properly adjusted

MACHINERY AND ELECTRICAL

- ❑ Adequate protection from obvious safety hazards from rotating machinery, heat, electrical shock, etc.
- ❑ Bilge pumps work - able to take suction from all compartments.
- ❑ Bilge manifold labeled correctly
- ❑ Bilge high level audio & visual alarms work
- ❑ Engine controls operational – gauges read accurately
- ❑ Exhaust – no leaks, insulation intact. Cooling system hoses in good condition, double clamped
- ❑ Flexible fuel hoses CG approved, no leaks in fuel lines
- ❑ “RACOR” type fuel filters have flame impingement bowls
- ❑ Remote fuel shut off valve labeled and working
- ❑ Flame screens intact and in place
- ❑ No dead end cables, proper size fuses where required
- ❑ Generator handles load, meters read accurately
- ❑ Distribution panels properly labeled, circuit directories accurate, no missing blanks
- ❑ Batteries securely stored in lined containers
- ❑ Steering gear free from excessive vibration, binding, or obstructions
- ❑ No hydraulic leaks, loose or missing bolts
- ❑ Approved working MSD, overboard discharge secured if holding tank

FIREFIGHTING EQUIPMENT

- ❑ Firepumps tested, provide good pressure and waterstream at all stations
- ❑ Hoses not leaking, nozzles work
- ❑ Gauges work, read accurately
- ❑ Portable extinguishers serviced annually, sufficient number
- ❑ Portable CO2 is hydrostatically tested every 5 years
- ❑ Stored pressure type dry chemical hydrostatically tested every 12 years
- ❑ Record of monthly checks of extinguishers (tag, sticker, or log book)

- Extinguishers properly mounted with approved brackets
- Fixed system CG approved, serviced annually
- Heat detection unit tested
- Engine Shutdowns tested

OPERATIONS

- Licensed master and crew prepared to get boat underway and conduct fire and man overboard drill
- Electronic navigation and communications gear operating properly
- Charts and publications up to date for operating area
- Emergency radio procedures posted
- Passenger safety briefing conducted
- Emergency lighting tested and operational
- Master has valid CG and FCC licenses on board

DRYDOCK EXAMINATION

ADMINISTRATIVE MATTERS AND GENERAL SAFETY CONCERNS

- Inspection Department timely notified of date, time, location of exam
- Copy of pending 835s or outstanding items from previous inspections
- Owner present for exam, or a designated knowledgeable person present to act on his/her behalf
- Vessel safely supported by blocking, jack stands, cradles, etc. (lift slings alone not acceptable)
- Vessel elevated enough to permit access underneath entire hull
- Ladders and scaffolds safe, properly secured from slippage
- Weather OK for thorough external exam (no ice, snow, heavy rain, etc.)
- Interior compartments/confined spaces ventilated, no hazardous atmosphere.

HULL EXTERIOR -- GENERAL ITEMS FOR ALL TYPE VESSELS

NOTE: NO FRESH PAINTING UNTIL INSPECTOR EXAMINES HULL

- Clean marine growth
- Gates and scoops removed to allow exam of hull penetrations
- Hull penetrations not obscured by blocks, jacks, lift straps
- Draft marks legible (vessels over 65 ft. or with one deck above the main deck)
- Rudders straight, no excessive play in stock bearing, blade/stock weld good.
- Propeller shafts free of excessive play
- Shaft struts not bent, foundation bolts secure
- Cutless bearing lands not worn down beyond 50% of original dimension
- Propellers free from cracks, deformation, excessive pitting
- Propeller lock nuts secured by cotter pins or similar device
- Engine exhaust outlets protected from water intrusion

INTERNAL STRUCTURAL EXAM GENERAL ITEMS FOR ALL TYPE VESSELS

- Ensure inspector has unobstructed access to all compartments.
- Bilges, clean, dry, free from oil/debris
- Watertight bulkheads structurally sound and penetrations watertight
- Watertight doors/hatches operate properly: good dogs, gaskets, and knife edges
- All sea valves opened and cleaned: gates, guides, stems, and handles in good condition (ball valves can be tested in place by static pressure)
- Sea strainers cleaned and through hull penetrations leak free.
- Engine beds not fractured, engine/transmission securely mounted
- Flexible hose is approved marine type: not cracked, connections double clamped
- Fuel tanks not leaking, emer. shut down valves work, ground straps on fill neck
- Support structure for independent tanks (fuel, water, MSD) in good condition
- Piping systems properly secured from vibration, chafing, no leaks
- Dead end valves capped with pipe plugs

ADDITIONAL ITEMS FOR FRP/COMPOSITE VESSELS

- Hull examined for fractures, delamination, blistering, water saturation, cracking/crazing.
- No separation at deck, sideshell, or bulkheads
- FRP repairs done under suitable conditions of temperature and humidity to allow for proper curing

ADDITIONAL ITEMS FOR STEEL OR ALUMINUM VESSELS

- Welds free of fractures. No washed out hull plating welds.
- Frames, brackets, and other structural members free of fractures
- No excessive deformation of structural members
- No excessive pitting, wastage, fractures or sharp indentations on hull plating.
- No metal deterioration due to stray current corrosion.
- Dissimilar metals protected from corrosion by stainless steel fittings

ADDITIONAL ITEMS PARTICULAR TO WOOD HULL VESSELS

- Fasteners (nails, screws, bolts, etc.) pulled for examination in presence of Coast Guard Inspector:
 - Every 5 years for salt water boats 15 years or older, and every 10 years for freshwater boats 15 years or older. The Marine inspector may ALSO require at any time for due cause (e.g. loose planks, visible damage, stray current corrosion suspected, excessive use of dissimilar metals, etc.)
 - Minimum of 8 fasteners per side below the waterline in way of stem, garboard strake, under engine beds, transom, plank ends, shaft logs, or other location determined by inspector
- Keel bolts, engine mount bolts, mounts for winches, and mooring gear proven tight by hammer test/wrench test
- Hull and deck planking free of loose fastenings, excessive rot, cupping, deformation, cracks, marine borers (worms)
- Internal spaces carefully examined for evidence of rainwater leaks through deck, hatches, pilothouse, etc.

- ❑ Planking located under keel coolers carefully checked for rot and marine borers
- ❑ Major structural members (e.g. frames, beams, clamps, stringers, carlins, butt blocks, keel, and keelson) free of loose fastenings, excessive rot, angel hair, etc.
- ❑ Caulking tight (internal caulking is not allowed), no caulk or cotton forced through to inside of planking

S. Electronically Accessing Government Information

USCG Marine Safety Regulatory Home Page <http://www.uscg.mil/hq/g-m/regs/reghome.html>

References for Economic Analysis of Standards/Regulations	CFR Title 33 - Navigation & Navigable Waters CFR Title 46 - Shipping
Marine Safety Regs - What's New!	What's in Tomorrow's Federal Register?
Upcoming Public Meetings	Licensing information
How to Comment on a Proposed Rule	USCG Semi-Annual Regulatory Agenda
Code of Federal Regulations (CFR)	Marine Safety HQ Phone Book

PLAN REVIEW: U.S.C.G. Marine Safety Center

<http://www.uscg.mil/hq/msc/PRGuidance.htm>

Navigational Vessel Inspection Circulars (NVIC's) provide much of the guidance marine inspectors use in determining satisfactory completion of repairs, upgrades, and requirements.

Internet: <http://www.uscg.mil/hq/g-m/nvic/index.htm>

NVIC 7-95 Guidance on Inspection, Repair and Maintenance of Wooden Hulls	NVIC 11-80 Structural Plan review Guidelines for Aluminum Small Passenger Vessels
NVIC 7-68 Notes on Inspection and Repair of Steel hulls	NVIC 8-87 & 8-87 Change 1 Notes on Design, Construction, Inspection and Repair of Fiber Reinforced Plastic (FRP) Vessels

****The complete listing should be consulted for NVIC's pertaining to the individual vessel.**

The Marine Safety Manual <http://www.uscg.mil/hq/g-m/nmc/pubs/msm/>

- Volume II

U.S.C.G. Navigation Rules <http://www.uscg.mil/vtm/navrules/navrules.pdf>

U.S.C.G. Port State Information Exchange <http://cgmix.uscg.mil/psix/psix2/>

Sector Baltimore Web Page <http://www.uscg.mil/d5/sector/sectbalt/index.htm>

Licensing & Z Cards	Commercial Fishing Vessel Exams
Marine Inspection	Marine Environmental Response
Small Passenger Vessel Inspection	Port Safety & Security
Port State Control	Marine Investigation

NOAA Tide Predictions <http://www1.pactide.noaa.gov/predictions.htm>

USCG Commercial Fishing Industry Vessel Advisory Committee
<http://www.uscg.mil/hq/g-m/cfvs/cfivac.htm>

MD Dept. of Natural Resources <http://www.dnr.state.md.us/>

Federal Communications Commission <http://www.fcc.gov/>

T. RECOMMENDED READING LIST

1. Ship Structure Committee. Use of Fiber Reinforced Plastics in the Marine Industry. SSC-360 (1990)
2. Gibbs & Cox, Inc. Marine Design Manual for Fiberglass Reinforced Plastics New York:
3. American Bureau of Shipping. Rules for Building and Classing Reinforced Plastic Vessels. New York (1978)
4. U. S. Coast Guard. "Notes on Design, Construction, Inspection and Repair of Fiber Reinforced Plastic (FRP) Vessels," NVIC 8-87 (6 Nov 1987)
5. U. S. Coast Guard. "Notes on Inspection and Repair of Steel Hulls" NVIC 7-68 (28 Oct 1968)
6. Lloyds. Rules & Regulations for the Classification of Yachts & Small Craft.
7. National Fire Protection Association. Portable Fire Extinguishers. NFPA No. 10 (1988)
8. American Boat & Yacht Council. Standards & Recommended Practices for Small Craft.
9. U. S. Coast Guard. Navigation Rules International - Inland.
10. American Welding Society. Guide for Steel Hull Welding. ANSI/AWS D3.5-85.
11. U.S. Navy Bureau of Ships. Wood: A Manual for Use as a Shipbuilding Material.
12. Ian Nicolson. Surveying Small Craft. Sheridan House, 1984.
13. Miller & Maloney. Your Boat's Electrical System. Hearst Corp., 1988
14. Gougeon Brothers. The Gougeon Brothers on Boat Construction. And - Wooden Boat Restoration and Repair.
15. Robert M. Steward. Boatbuilding Manual. International Marine/Ragged Mountain Press
16. Howard I. Chapelle. Boatbuilding. A Complete Handbook of Wooden Boat Construction. W W Norton & Company.
17. Staton-Bevan. Osmosis & the Care and Repair of Glass fiber Yachts. Sheridan House, 1989.
18. Richard A. Block. The T-Boat Handbook. Marine Education Textbooks, 1986

