person is primarily engaged in leasing or other financing transactions.

(b) In addition to the events in §67.167(c)(1) through (c)(9) of this chapter, a Certificate of Documentation together with a coastwise endorsement in effect on or after February 4, 2004, and before August 9, 2004, becomes invalid when—

(1) The demise charter expires or is transferred to another charterer;

(2) The citizenship of the charterer or sub-charterer changes to the extent that they are no longer qualified for a coastwise endorsement;

(3) Neither the person that owns the vessel, nor the parent of that person, nor any subsidiary of the parent of that person is primarily engaged in leasing or other financing transactions;

(4) The majority of the aggregate revenues of at least one of the following is derived from the operation or management of vessels:

(i) The person that owns the vessel.

(ii) The parent of the person that owns the vessel.

(iii) The group of which the person that owns the vessel is a member; or

(5) At least one of the following is primarily engaged in the operation or management of commercial, foreign-flag vessels used for the carriage of cargo for parties unrelated to the vessel's owner or charterer:

(i) The person that owns the vessel.

(ii) The parent of the person that owns the vessel.

(iii) The group of which the person that owns the vessel is a member.

(c) When the coastwise endorsement for a vessel to which this subpart applies becomes invalid under paragraph (a)(1) or (b)(1) of this section, the vessel remains eligible for documentation under this subpart provided it is a vessel to which §68.100(b) or (c) applies.

PART 69—MEASUREMENT OF VESSELS

Subpart A—General

Sec.

Subpart B—Convention Measurement System

Subpart C—Standard Measurement System

Subpart D—Dual Measurement System

Subpart E—Simplified Measurement System

AUTHORITY: 46 U.S.C. 2301, 14103; Department of Homeland Security Delegation No. 0170.1.

SOURCE: CGD 87–015b, 54 FR 37657, Sept. 12, 1989, unless otherwise noted.

Subpart A—General

§ 69.1 Purpose.

This part implements legislation concerning the measurement of vessels to determine their tonnage (part J of 46 U.S.C. subtitle II). Tonnages are required before a vessel may be documented as a vessel of the United States. Also, tonnages are used to apply commercial vessel safety regulations based on tonnage, to meet the requirements of the International Convention on Tonnage Measurement of Ships, 1969, and to determine Federal and State regulatory fees and private operational charges based on tonnage. Tonnages are determined by the physical measurement of a vessel (Convention, Standard, and Dual Measurement Systems) or by application of a formula based on the vessel's dimensions provided by the owner (Simplified Measurement System). This part indicates the particular measurement system or systems under which the vessel is required or eligible to be measured, describes the application and measurement procedures for each system, identifies the organizations authorized to measure vessels under this part, and provides for the appeal of measurement organizations' decisions.

§ 69.3 Applicability.

This part applies to vessels of the United States over five net tons (as that tonnage is determined under this part) which are required or eligible to be measured under this part, a Federal law, or an international agreement or which are subject to a Federal law or international agreement based on the vessel's tonnage.

§ 69.5 Vessels required or eligible to be measured.

(a) The following vessels (including public vessels) are required to be measured under this part:

(1) Vessels that are to be documented as a vessel of the United States.

(2) Vessels of 79 feet or more in overall length that engage on a foreign voyage.

(3) Vessels subject to a Federal law or regulation based on vessel tonnage.

(4) Vessels determined by the Commandant to require measurement under this part.

(b) The following vessels are not required to be measured under this part but are eligible to be measured, if the owner requests:

(1) Public vessels that are not to be documented and will not engage on a foreign voyage.

(2) Vessels of war.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by CGD 92–058, 57 FR 59938, Dec. 17, 1992]

§ 69.7 Vessels transiting the Panama and Suez Canals.

(a) All vessels intending to transit the Panama Canal, other than vessels of war, must be measured and certificated under the system prescribed in 35 CFR part 135.

(b) All vessels intending to transit the Suez Canal must be measured and certificated under the Arab Republic of Egypt Suez Canal Authority Rules of Navigation, part IV.

(c) Panama Canal and Suez Canal tonnage certificates are in addition to tonnage certificates issued under this part.

(d) Tonnage measurement services for Panama Canal and Suez Canal certificates are provided by measurement organizations authorized by the respective canal authority.

§ 69.9 Definitions.

As used in this part—

Commandant means Commandant of the Coast Guard at the following addresses: Commanding Officer, Marine Safety Center, U.S. Coast Guard, 4200 Wilson Boulevard Suite 400, Arlington, VA 22203 for visitors. Send all mail to Commanding Officer (MSC), Attn: Marine Safety Center, U.S. Coast Guard Stop 7410, 4200 Wilson Boulevard Suite 400, Arlington, VA 20598–7410, in a written or electronic format. Information for submitting the VSP electronically can be found at *http://www.uscg.mil/HQ/MSC*.

Convention means the International Convention on Tonnage Measurement of Ships, 1969.

Convention Measurement System means the system under subpart B of this part.

Dual Measurement System means the system under subpart D of this part.

Great Lakes means the Great Lakes of North America and the St. Lawrence River west of a rhumb line drawn from Cap des Rosiers to West Point, Anticosti Island, and, on the north side of Anticosti Island, the meridian of longitude 63 degrees west.

Gross tonnage means a vessel's approximate volume. Under the Convention Measurement System, it means the total volume of all enclosed spaces modified by a coefficient. Under the Standard and Dual Measurement Systems, it means the total volume of all enclosed spaces less certain exempt spaces. Under the Simplified Measurement Systems, it means the product of a vessel's length, depth, and breadth modified by a coefficient.

National Vessel Documentation Center means the organizational unit designated by the Commandant to process vessel documentation transactions and maintain vessel documentation records. The address can be found in § 67.3 of this subchapter.

Net tonnage means a measure of a vessel's earning capacity. Under the Convention Measurement System, it means the volume of the actual cargo and passenger spaces modified by a formula based on the vessel's volume. Under the Standard and Dual Measurement Systems, it means the gross tonnage less certain deducted spaces. Under the Simplified Measurement System, it means the gross tonnage modified by a coefficient.

Overall length means the horizontal distance between the foremost part of a vessel's stem to the aftermost part of its stern, excluding fittings and attachments.

Simplified Measurement System means the system under subpart E of this part.

Standard Measurement System means the system under subpart C of this part.

Tonnage means the volume of a vessel's enclosed spaces as calculated under a measurement system in this part. Tonnage calculated under the Standard, Dual, or Simplified Measurement System is based on tons of 100 cubic feet each. Tonnage calculated under the Convention Measurement System is based on tons of 100 cubic feet modified by a logarithmic function.

Vessel engaged on a foreign voyage means a vessel—

(a) Arriving at a place under the jurisdiction of the United States from a place in a foreign country;

(b) Making a voyage between places outside of the United States;

(c) Departing from a place under the jurisdiction of the United States for a place in a foreign country; or

(d) Making a voyage between a place within a territory or possession of the United States and another place under the jurisdiction of the United States not within that territory or possession.

Vessel of war means ''vessel of war'' as defined in 46 U.S.C. 2101.

[GCD 89–007; GCD 89–007a, 58 FR 60266, Nov. 15, 1993, 58 FR 65131, Dec. 13, 1993, as amended by CGD 95–014, 60 FR 31606, June 15, 1995; CGD 95–072, 60 FR 50463, Sept. 29, 1995; 60 FR 54106, Oct. 19, 1995; CGD 96–041, 61 FR 50728, Sept. 27, 1996; USCG–2007–29018, 72 FR 53965, Sept. 21, 2007; USCG–2009–0702, 74 FR 49230, Sept. 25, 2009; USCG 2013–0671, 78 FR 60149, Sept. 30, 2013]

§ 69.11 Determining the measurement system or systems for a particular vessel.

(a) *Convention Measurement System (subpart B).* (1) Except as otherwise provided in this section, this system applies to a vessel documented or to be

documented under part 67 of this chapter and to a vessel engaged on a foreign voyage.

(2) This system does not apply to the following vessels:

(i) A vessel of less than 79 feet in overall length.

(ii) A vessel operating only on the Great Lakes, unless the owner requests measurement under this system.

(iii) A vessel that is not engaged on a foreign voyage and that had its keel laid or was at a similar stage of construction before January 1, 1986, unless the owner requests measurement under the Convention Measurement System or unless, on or after January 1, 1986, the vessel undergoes a change that the Commandant finds substantially affects the vessel's gross tonnage.

(iv) A vessel of war.

(v) A non-self-propelled vessel not engaged on a foreign voyage, unless the owner requests measurement under this system.

(3) A vessel made subject to this system at the request of the owner may be remeasured only under this system.

(4) For the purpose of vessel documentation, a vessel measured under this system is not required to be measured under another system.

(5) A vessel the keel of which was laid or that was at a similar stage of construction before July 18, 1982, (except a vessel measured under this system at the request of the owner or because of a change that substantially affects the vessel's gross tonnage) may retain its tonnage in effect on July 18, 1994, for the application of relevant requirements under an international agreement (except the Convention) or other laws of the United States. However, if the vessel undergoes a change after July 18, 1994, that the Commandant finds substantially affects the vessel's gross tonnage, the vessel must be remeasured only under this system.

(6) A tonnage assignment under this system does not affect the applicability to the vessel of international agreements to which the United States Government is a party that are not in conflict with the Convention or with the application of International Maritime Organization (IMO) Resolutions A.494(XII) of November 19, 1981, A.540(XIII) of November 17, 1983, and A.541(XIII) of November 17, 1983. When applicable to the vessel, these Resolutions provide interim schemes for using the vessel's existing gross tonnage, instead of the gross tonnage under the Convention Measurement System, for applying the International Convention for the Safety of Life at Sea (SOLAS), the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers, 1978, (STCW), and the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL), respectively.

(b) *Standard Measurement System (subpart C).* This system applies to a vessel not required to be measured under the Convention Measurement System if the vessel is to be documented or if the application of a law of the United States to the vessel depends on the vessel's tonnage. Upon request of the owner, this system also applies to a documented vessel measured under the Convention Measurement System when Standard Measurement System tonnages are to be used in applying the provisions of a law under 46 U.S.C. 14305.

(c) *Dual Measurement System (subpart D).* This system may be applied, at the owner's option, instead of the Standard Measurement System, to a vessel eligible or required to be measured under the Standard Measurement System.

(d) *Simplified Measurement System (subpart E).* This system may be applied, at the owner's option, instead of the Standard Measurement System to the following vessels:

(1) A vessel that is under 79 feet in overall length.

(2) A vessel of any length that is non-self-propelled and not engaged on a foreign voyage.

(3) A vessel of any length that is operated only for pleasure and operated only on the Great Lakes.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by CGD 92–058, 57 FR 59938, Dec. 17, 1992; CGD 95–028, 62 FR 51203, Sept. 30, 1997]

§ 69.13 Deviating from the provisions of a measurement system.

(a) In measuring a vessel under a measurement system in this part, all provisions of that system applicable to the vessel must be observed.

(b) The provisions of more than one measurement system may not be applied interchangeably or combined.

§ 69.15 Authorized measurement organizations.

(a) Except as provided under paragraphs (c) and (d) of this section, all U.S. vessels to be measured or remeasured under the Convention, Standard, or Dual Measurement Systems must be measured by an authorized measurement organization meeting the requirements of § 69.27 of this subpart. A current listing of authorized measurement organizations can be obtained by visitors from the Commanding Officer, Marine Safety Center, U.S. Coast Guard, 4200 Wilson Boulevard Suite 400, Arlington, VA 22203 or by writing to Commanding Officer (MSC), Attn: Marine Safety Center, U.S. Coast Guard Stop 7410, 4200 Wilson Boulevard Suite 400, Arlington, VA 20598–7410.

(b) All vessels to be measured or remeasured under the Simplified Measurement System must be measured by the Coast Guard. Applications for measurement under the Simplified Measurement System are obtainable from the National Vessel Documentation Center.

(c) All U.S. Coast Guard vessels and all U.S. Navy vessels of war to be measured or remeasured under any measurement system must be measured by the Coast Guard.

(d) At the option of the Commandant, the Coast Guard may measure any vessel to determine its tonnage.

(e) The appropriate certificate of measurement is issued by the measuring organization as evidence of the vessel's measurement under this part.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by CGD 92–058, 57 FR 59938, Dec. 17, 1992; CGD 92–053, 59 FR 50508, Oct. 4, 1994; CGD 95–014, 60 FR 31606, June 15, 1995; CGD 97–057, 62 FR 51045, Sept. 30, 1997; USCG–2007–29018, 72 FR 53965, Sept. 21, 2007; USCG–2009–0702, 74 FR 49230, Sept. 25, 2009; USCG 2013–0671, 78 FR 60149, Sept. 30, 2013]

§ 69.17 Application for measurement services.

(a) Applications for measurement are available from and, once completed, are submitted to the authorized measurement organization that will perform the services. The contents of the application are described in this part under the requirement for each system.

(b) Applications for measurement under more than one system may be combined.

(c) For vessels under construction, the application must be submitted before the vessel is advanced in construction. Usually, this means as soon as the decks are laid, holds cleared of encumbrances, engine and boilers installed, and accommodations partitioned.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by CGD 97–057, 62 FR 51045, Sept. 30, 1997]

§ 69.19 Remeasurement and adjustment of tonnage.

(a) If a vessel that is already measured is to undergo a structural alteration or if the use of a space within that vessel is to be changed, a remeasurement may be required. Vessel owners shall report immediately to an authorized measurement organization any intent to structurally alter the vessel or to change the use of a space within the vessel. The organization advises the owner if remeasurement is necessary. Spaces not affected by the alteration or change need not be remeasured.

(b) When there is a perceived error in the application of a regulation or in the tonnage calculations, the vessel owner should contact the responsible measurement organization. If the error is verified, the tonnage is adjusted as necessary.

(c) If a remeasurement or adjustment of tonnage is required, the organization will issue a new tonnage certificate. If the vessel is documented, the vessel's owner must surrender the Certificate of Documentation as required under part 67, subpart 67.25, of this chapter.

(d) A vessel of less than 79 feet in overall length measured under the Standard or Dual Measurement Systems may be remeasured at the owner's request under the Simplified Measurement System.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by CGD 97–057, 62 FR 51045, Sept. 30, 1997]

§ 69.21 Right of appeal.

Any person directly affected by a decision or action taken under this part,

by or on behalf of the Coast Guard, may appeal therefrom in accordance with subpart 1.03 of this chapter.

[CGD 88–033, 54 FR 50380, Dec. 6, 1989]

§ 69.23 Fees.

Measurement organizations are authorized to charge a fee for measurement services. Information on fees is available directly from the organizations.

[CGD 97–057, 62 FR 51045, Sept. 30, 1997]

§ 69.25 Penalties.

(a) *General violation.* The owner, charterer, managing operator, agent, master, and individual in charge of a vessel in violation of a regulation in this part are each liable to the United States Government for a civil penalty of not more than $20,000. Each day of a continuing violation is a separate violation. The vessel also is liable in rem for the penalty.

(b) *False Statements.* A person knowingly making a false statement or representation in a matter in which a statement or representation is required by this part is liable to the United States Government for a civil penalty of not more than $20,000 for each false statement or representation. The vessel also is liable in rem for the penalty.

§ 69.27 Delegation of authority to measure vessels.

(a) Under 46 U.S.C. 14103 and 49 CFR 1.46, the Coast Guard is authorized to delegate to a ''qualified person'' the authority to measure vessels and to issue appropriate certificates of measurement for U.S. vessels that are required or eligible to be measured as vessels of the United States.

(b) Authority to measure and certify U.S. vessels under the Convention, Standard, and Dual Measurement Systems may be delegated to an organization that—

(1) Is a full member of the International Association of Classification Societies (IACS);

(2) Is incorporated under the laws of the United States, a State of the United States, or the District of Columbia;

(3) In lieu of the requirements in paragraphs (b)(1) and (2) of this section, is a recognized classification society under the requirements of 46 CFR part 8.

(4) Is capable of providing all measurement services under the Convention, Standard, and Dual Measurement Systems for vessels domestically and internationally;

(5) Maintains a tonnage measurement staff that has practical experience in measuring U.S. vessels under the Convention, Standard, and Dual Measurement Systems; and

(6) Enters into a written agreement, as described in paragraph (d) of this section.

(c) Applications for delegation of authority under this section must be forwarded to the Commandant and include the following information on the organization:

(1) Its name and address.

(2) Its organizational rules and structure.

(3) The location of its offices that are available to provide measurement services under the Convention, Standard, and Dual Measurement Systems.

(4) The name, qualifications, experience, and job title of each full-time or part-time employee or independent contractor specifically designated by the organization to provide measurement services under the Convention, Standard, or Dual Measurement Systems.

(5) Its tonnage measurement training procedures.

(d) If, after reviewing the application, the Coast Guard determines that the organization is qualified to measure and certify U.S. vessels on behalf of the Coast Guard, the organization must enter into a written agreement with the Coast Guard which—

(1) Defines the procedures for administering and implementing the tonnage measurement and certification processes, including the roles and responsibilities of each party;

(2) Outlines the Coast Guard's oversight role;

(3) Prohibits the organization from using an employee or contractor of the organization to measure and certify the tonnage of a vessel if that employee or contractor is acting or has acted as a tonnage consultant for that same vessel; and

(4) Requires the organization to—

(i) Accept all requests to perform delegated services without discrimination and without regard to the vessel's location, unless prohibited from doing so under the laws of the United States or under the laws of the jurisdiction in which the vessel is located;

(ii) Physically inspect each vessel before issuing a tonnage certificate;

(iii) Provide the Coast Guard with current schedules of measurement fees and related charges;

(iv) Maintain a tonnage measurement file for each U.S. vessel that the organization measures and permit access to the file by any person authorized by the Commandant;

(v) Permit observer status representation by the Coast Guard at all formal discussions that may take place between the organization and other vessel tonnage measurement organizations pertaining to tonnage measurement of U.S. vessels or to the systems under which U.S. vessels are measured;

(vi) Comply with and apply all laws and regulations relating to tonnage measurement of U.S. vessels within the scope of authority delegated; and

(vii) Comply with all other provisions, if any, of the written agreement.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by CGD 97–057, 62 FR 51045, Sept. 30, 1997; CGD 95–010, 62 FR 67536, Dec. 24, 1997]

§ 69.29 OMB control numbers assigned under the Paperwork Reduction Act.

(a) *Purpose.* This section collects and displays the control numbers assigned to information collection and record keeping requirements in this part by the Office of Management and Budget (OMB) pursuant to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). The Coast Guard intends that this part comply with 44 U.S.C. 3507(f), which requires that agencies display the current control number assigned by the Director of OMB for each approved agency information collection requirement.

(b) *Display*—

Section of 46 CFR part 69	Currently assigned OMB control No.
69.17	1625–0022
69.19	1625–0022
69.21	1625–0022
69.27	1625–0022
69.55	1625–0022
69.105	1625–0022
69.121(d)	1625–0022
69.159	1625–0022
69.179	1625–0022
69.205	1625–0022

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by USCG–2004–18884, 69 FR 58346, Sept. 30, 2004]

Subpart B—Convention Measurement System

§ 69.51 Purpose.

This subpart prescribes the requirements for measuring a vessel in order to comply with the International Convention on Tonnage Measurement of Ships, 1969 (Convention), and 46 U.S.C. chapter 143.

§ 69.53 Definitions.

As used in this subpart—

Amidships means the midpoint of the registered length, as ''registered length'' is defined in this section.

Cargo space means an enclosed space appropriated for the transport of cargo which is to be discharged from the vessel. The term does not include a space which qualifies as an excluded space under § 69.61.

Enclosed space is defined in § 69.59.

Excluded space is defined in § 69.61.

Gross tonnage or *GT* means the tonnage determined under § 69.57.

Line of the upper deck means a longitudinal line at the underside of the upper deck or, if that deck is stepped, the longitudinal line of the underside of the lowest portion of that deck parallel with the upper portions of that deck.

Molded depth means the vertical distance amidships between the following points:

(a) From the line of the upper deck at the vessel's side or, if the vessel has rounded gunwales, from the intersection of the line of the upper deck extended to the molded line of the shell plating as though the gunwales were of angular design.

(b) To the top of the flat keel, to the lower edge of the keel rabbet if the vessel is of wood or composite structure, or to the point where the line of the flat of the bottom extended inward cuts the side of the keel if the vessel's lower part is hollow or has thick garboards.

Molded draft means—

(a) For vessels assigned a load line under parts 42, 44, 45, or 47 of this chapter, the draft corresponding to the Summer Load Line (other than a timber load line);

(b) For passenger vessels assigned a load line under part 46 of this chapter, the draft corresponding to the deepest subdivision load line assigned;

(c) For vessels to which parts 42, 44, 45, 46, or 47 of this chapter do not apply but which otherwise have been assigned a load line, the draft corresponding to the Summer Load Line so assigned;

(d) For vessels to which no load line has been assigned but the draft of which is restricted under any Coast Guard requirement, the maximum draft permitted under the restriction; and

(e) For other vessels, 75 per cent of the molded depth.

Net tonnage or *NT* means tonnage determined under § 69.63.

Passenger means a person on board a vessel other than—

(a) The master, a member of the crew, or other person employed or engaged in any capacity in the business of the vessel; and

(b) A child under one year of age.

Registered breadth means the maximum breadth of a vessel measured amidships to the molded line of the frame in a vessel with a metal shell and to the outer surface of the hull in all other vessels.

Registered length means either 96 percent of the length on a waterline at 85 percent of the least molded depth measured from the top of the flat keel or the length from the fore side of the stem to the axis of the rudder stock on that waterline, whichever is greater. In vessels designed with a rake of keel, this length is measured on a waterline parallel to the design waterline.

Upper deck means the uppermost complete deck exposed to weather and sea, which has permanent means of weathertight closing of all openings in the weather part of the deck, and below which all openings in the sides of the vessel are fitted with permanent means of watertight closing.

Weathertight means secure against penetration of water into the vessel in any sea condition.

§ 69.55 Application for measurement services.

Applications for measurement under this subpart must include the following information and plans:

(a) Type of vessel.

(b) Vessel's name and official number (if assigned).

(c) Builder's name and the vessel hull number assigned by builder.

(d) Place and year built.

(e) Date keel was laid.

(f) Overall length, breadth, and depth of vessel.

(g) Lines plan.

(h) Booklet of offsets at stations.

(i) Capacity plans for tanks and cargo compartments.

(j) Hydrostatic curves.

(k) Construction plans showing measurements and scantlings of deck structures, hatches, appendages, recesses, and other enclosed spaces.

(l) Arrangement plans.

[GCD 89–007; GCD 89–007a, 58 FR 60266, Nov. 15, 1993, 58 FR 65131, Dec. 13, 1993, as amended by CGD 95–014, 60 FR 31606, June 15, 1995]

§ 69.57 Gross tonnage.

Gross tonnage (GT) is determined by the following formula $GT=K_1\ V$, in which V=total volume of all enclosed spaces in cubic meters and $K_1=0.2+0.02\ \log_{10} V$.

§ 69.59 Enclosed spaces.

Enclosed space means a space which is bounded by the vessel's hull, by fixed or portable partitions or bulkheads, or by decks or coverings other than permanent or movable awnings. No break in a deck, nor any opening in the vessel's hull, in a deck or in a covering of a space, or in the partitions or bulkheads of a space, nor the absence of a partition or bulkhead precludes the space from being included in the enclosed space.

§ 69.61 Excluded spaces.

(a) *Excluded space* means an enclosed space which is excluded from volume (V) in calculating gross tonnage. Except as under paragraph (g) of this section, this section lists the excluded spaces.

(b) A space that is within a structure and that is opposite an end opening extending from deck to deck (except for a curtain plate of a height not exceeding by more than one inch the depth of the adjoining deck beams) and having a breadth equal to or greater than 90 percent of the breadth of the deck at the line of the opening is an excluded space, subject to the following:

(1) Only the space between the actual end opening and a line drawn parallel to the line or face of the opening at a distance from the opening equal to one-half of the breadth of the deck at the line of the opening is excluded. (See § 69.75, figure 1.)

(2) If, because of any arrangement (except convergence of the outside plating as shown in § 69.75, figure 3), the breadth of the space is less than 90 percent of the breadth of the deck, only the space between the line of the opening and a parallel line drawn through the point where the athwartship breadth of the space is equal to 90 percent or less of the breadth of the deck is excluded. (See § 69.75, figures 2 and 4.)

(3) When any two spaces, either of which is excluded under paragraphs (b)(1) or (b)(2) of this section, are separated by an area that is completely open except for bulwarks or open rails, these two spaces must not be excluded if the separation between the two spaces is less than the least half breadth of the deck in way of the separation. (See § 69.75, figures 5 and 6.)

(4) When the deck at the line of an opening has rounded gunwales, the breadth of the deck is the distance between the tangent points indicated in § 69.75, figure 11.

(c) A space that is open to the weather and that is under an overhead deck covering with no connection on the space's exposed sides between the covering and the deck other than the stanchions necessary for the covering's support is an excluded space. An open rail or bulwark fitted at the vessel's side does not disqualify the space from being an excluded space if the height between the top of the rail or bulwark and the overhead structure or curtain plate (if fitted) is not less than 2.5 feet or one-third of the height of the space, whichever is greater. (See § 69.75, figure 7.)

(d) A space in a side-to-side structure directly in way of opposite side openings not less than 2.5 feet in height or one-third of the height of the structure, whichever is greater, is an excluded space. If the opening is only on one side of the structure, the space to be excluded is limited inboard from the opening to a maximum of one-half of the breadth of the deck in way of the opening. (See § 69.75, figure 8.)

(e) A space in a structure immediately below an uncovered opening in the deck overhead is an excluded space, if the opening is exposed to the weather and the space to be excluded is limited to the area of the opening. (See § 69.75, figure 9.)

(f) A recess in the boundary bulkhead of a structure which is exposed to the weather and which has an opening that extends from deck to deck without a means of closing is an excluded space, if the interior width of the space is not greater than the width of the opening and extension of the space into the structure is not greater than twice the width of the opening. (See § 69.75, figure 10.)

(g) Any space described in paragraphs (b) through (f) of this section which fulfills at least one of the following conditions is not an excluded space:

(1) The space is fitted with shelves or other means designed for securing cargo or stores.

(2) The opening that would otherwise permit the space to be excluded space is fitted with a means of closure.

(3) Other features of the space make it possible for the space to be closed.

§ 69.63 Net tonnage.

Net tonnage (NT) is determined by the formula:

$$NT = K_2 V_C \left(\frac{4d}{3D}\right)^2 + K_3 \left(N_1 + \frac{N_2}{10}\right),$$

in which:

V_c = total volume of cargo spaces in cubic meters.

$K_2 = 0.2 + 0.02 \log_{10} V_c$.

$$K3 = 1.25\left(\frac{GT + 10{,}000}{10{,}000}\right)$$

D = molded depth amidships in meters, as ''molded depth'' is defined in § 69.53.

d = molded draft amidships in meters, as ''molded draft'' is defined in § 69.53.

N_1 = number of passengers in cabins with not more than eight berths, as ''passenger'' is defined in § 69.53.

N_2 = number of other passengers, as ''passenger'' is defined in § 69.53.

GT = gross tonnage as determined under § 69.57.

N_1 plus N_2 must equal the total number of passengers the vessel is permitted to carry as indicated on the ship's Passenger Certificate. If N_1 plus N_2 is less than 13, both N_1 and N_2 are zero.

$\left(\frac{4d}{3D}\right)^2$ must not be greater than unity.

$K_2 V_c \left(\frac{4d}{3D}\right)^2$ must not be less than 0.25 GT.

NT must not be less than 0.30 GT.

[CGD 97–057, 62 FR 51045, Sept. 30, 1997]

§ 69.65 Calculation of volumes.

(a) Volumes V and V_c used in calculating gross and net tonnages, respectively, must be measured and calculated according to accepted naval architectural practices for the spaces concerned.

(b) The volume of the hull below the upper deck is determined as follows:

(1) If the number and location of sections originally used in making other calculations which relate to the form of the vessel (such as displacement volumes and center of buoyancy) are reasonably available, Simpson's first rule may be applied using those sections.

(2) If the number and location of stations originally used are not reasonably available or do not exist and the hull is of conventional design with faired lines, Simpson's first rule may be applied using a number and location of stations not less than those indicated in § 69.109(g)(1).

(3) If the hull is of standard geometric shape, a simple geometric formula that yields a more accurate volume may be used.

(4) If the lines of the hull are not fair, the volume may be measured by using a combination of methods under this section.

(c) The volume of structures above the upper deck may be measured by applying the superstructure provisions in § 69.113 or by any accepted method or combinations of methods.

(d) Measurements must be taken, regardless of the fitting of insulation or the like—

(1) To the inner side of the shell or structural boundary plating, in vessels constructed of metal; and

(2) To the outer surface of the shell or to the inner side of structural boundary surfaces, in all other vessels.

(e) When determining the volume of a cargo space, measurements must be taken without consideration for insulation, sparring, or ceiling fitted within the space.

(f) Measurements must be to the nearest one-twentieth of a foot.

(g) Calculations must be made on a worksheet and must be sufficiently detailed to permit easy review. The measurement procedures used must be identified on the worksheet.

§ 69.67 Marking of cargo spaces.

Cargo spaces used in determining volume (Vc) for calculating net tonnage must be permanently marked with the letters ''CC'' (cargo compartment) which are at least four inches in height and positioned so as to be visible at all times.

§ 69.69 Issuance of an International Tonnage Certificate (1969).

On request of the vessel owner, an International Tonnage Certificate (1969) is issued for a vessel measured under this subpart that is 79 feet or more in registered length and that will engage on a foreign voyage. The Certificate is issued to the vessel owner or master and must be maintained on board the vessel when it is engaged on a foreign voyage.

§ 69.71 Change of net tonnage.

(a) When a vessel is altered so that the net tonnage is increased, the new net tonnage must be applied immediately.

(b) A vessel concurrently assigned load lines under both the International Convention on Load Lines and either the International Convention for the Safety of Life at Sea (SOLAS) or other international agreement must be assigned only one net tonnage. The net tonnage assigned must be the net tonnage applicable to the load line assigned under the International Convention on Load Lines, SOLAS or other international agreement for the trade in which the vessel in engaged.

(c) When a vessel is altered so that the net tonnage is decreased or the vessel's trade is changed so that the load line assigned for that trade under paragraph (b) of this section is no longer appropriate and results in a decrease in its net tonnage, a new International Tonnage Certificate (1969) incorporating that net tonnage may not be issued until twelve months after the date on which the current Certificate was issued. However, if one of the following apply, a new Certificate may be issued immediately:

(1) The vessel is transferred to the flag of another nation.

(2) The vessel undergoes alterations or modifications which the Coast Guard deems to be of a major character, such as the removal of a superstructure which requires an alteration of the assigned load line.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by USCG–1999–6216, 64 FR 53225, Oct. 1, 1999]

§ 69.73 Variance from the prescribed method of measurement.

(a) When application of this subpart to a novel type vessel produces unreasonable or impractical results, the Commandant may determine a more suitable method of measurement.

(b) Requests for a determination must be submitted to the Commandant, explaining the problem, and including plans and sketches of the spaces in question.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by CGD 97–057, 62 FR 51045, Sept. 30, 1997; USCG–1999–6216, 64 FR 53225, Oct. 1, 1999]

§ 69.75 Figures.

0=excluded space.
C=enclosed space.
I=space to be considered as an enclosed space.
B=breadth of deck in way of the opening.

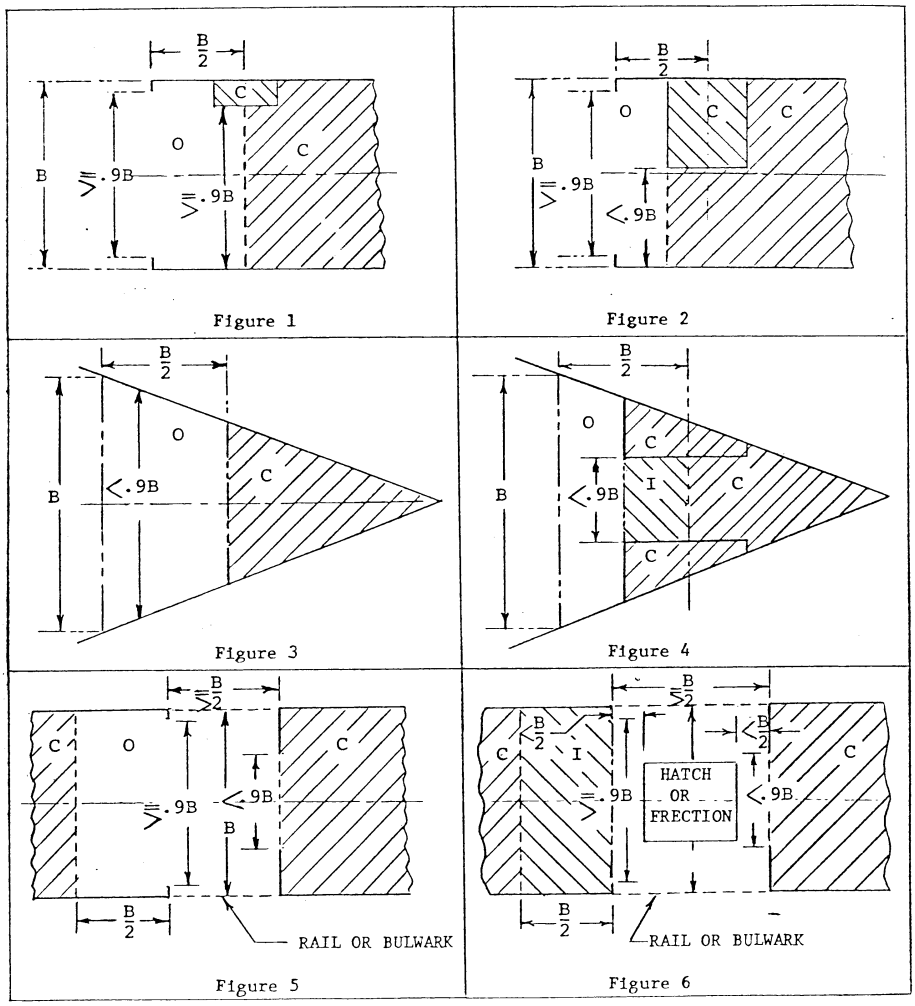
B/2
C
O
C
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Figure 1
B/2
O
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Figure 2
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Figure 3
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C
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Figure 4
B/2
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B
≥ .9B
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B
B/2
RAIL OR BULWARK
Figure 5
B/2
B/2
C
I
C
B/2
HATCH
OR
FRECTION
≥ .9B
< .9B
B/2
RAIL OR BULWARK
Figure 6

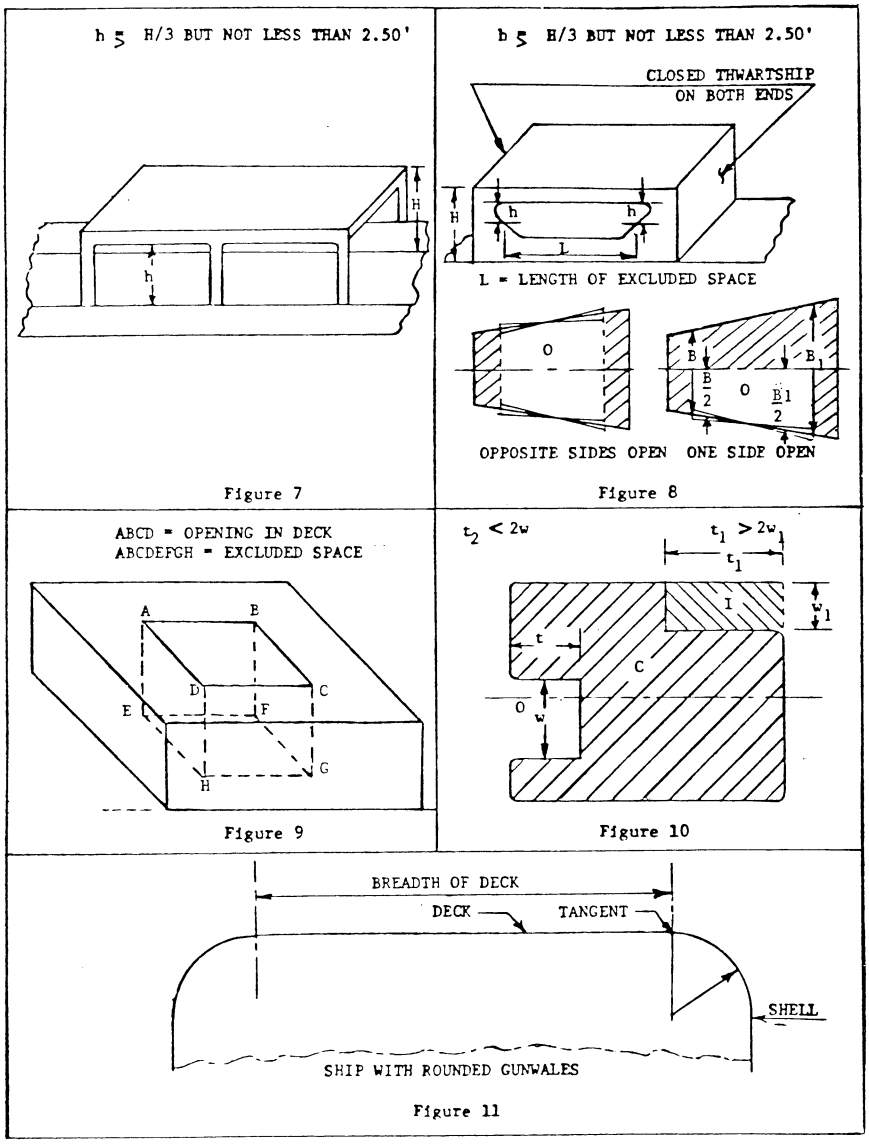


Figure 7

Figure 8

Figure 9

Figure 10

Figure 11

Subpart C—Standard Measurement System

§ 69.101 Purpose.

This subpart prescribes the procedures for measuring a vessel under the Standard Measurement System described in 46 U.S.C. 14512.

§ 69.103 Definitions.

As used in this subpart—

Between-deck means the space above the line of the tonnage deck and below the line of the deck next above.

Break means the space between the line of a deck and the upper portion of that deck, in cases where that deck is stepped and continued at a higher elevation.

Camber means the perpendicular rise or crown of a deck at the centerline of the vessel measured above the skin of the vessel at the vessel's sides.

Ceiling means the permanent planking or plating fitted directly on the inboard side of frames, floors, or double bottom and includes cargo battens and refrigeration insulation but does not include false ceiling which stands off from the framing.

Coaming means both the vertical plating around a hatch or skylight and the sill below an opening in a bulkhead.

Deckhouse means a structure that is on or above the uppermost complete deck and that does not extend from side to side of the vessel. The term includes cabin trunks and closed-in spaces over the holds of vessels.

Depth of frame means the perpendicular depth of a bottom frame and the athwart distance between the inboard and outboard faces of a side frame.

Double bottom means a space at the bottom of a vessel between the inner and outer bottom plating and used solely for water ballast.

Floor means a vertical plate or timber extending from bilge to bilge in the bottom of a vessel. In a wooden vessel, ''floor'' means the lowermost timber connecting the main frames at the keel when that timber extends the full depth of the frames to which it is fastened. In a double bottom, floors usually extend from the outer to the inner bottom.

Gross tonnage is defined in § 69.107(a).

Hatch means an opening in a deck through which cargo is laden or discharged.

Line of tonnage deck means the line determined under § 69.109(e).

Line of uppermost complete deck means the line determined under § 69.111(b).

Net tonnage is defined in § 69.107(b).

Registered breadth is defined in § 69.53.

Registered depth means ''molded depth'' as defined in § 69.53.

Registered length is defined in § 69.53.

Shelter deck means the uppermost deck that would have qualified as the uppermost complete deck had it not been fitted with a middle line opening.

Step means a cutoff in a deck or in the bottom, top, or sides of a space resulting in varying heights of a deck or varying heights or widths of a space.

Superstructure means all permanent structures (such as forecastle, bridge, poop, deckhouse, and break) on or above the line of the uppermost complete deck or, if the vessel has a shelter deck, on or above the line of the shelter deck.

Tonnage deck is defined in § 69.109(c).

Tonnage length is defined in § 69.109(f).

Uppermost complete deck means the uppermost deck—

(a) Which extends from stem to stern and from side to side at all points of its length;

(b) The space below which is enclosed by the sides of the vessel;

(c) Through which there is no opening that would exempt the space below from being included in gross tonnage; and

(d) Below which there is no opening through the hull that would exempt the space below from being included in gross tonnage.

§ 69.105 Application for measurement services.

Applications for measurement services under this subpart must include the following information and plans:

(a) Type of vessel.

(b) Vessel's name and official number (if assigned).

(c) Builder's name and the vessel hull number assigned by the builder.

(d) Place and year built.

(e) Date keel was laid.

(f) Overall length, breadth, and depth of vessel.

(g) Lines plan.

(h) Booklet of offsets.

(i) Capacity plans for tanks

(j) Construction plans showing measurements and scantlings of hull and superstructure.

(k) Tonnage drawing showing tonnage length in profile and tonnage sections.

(l) Arrangement plans.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by CGD 95–014, 60 FR 31606, June 15, 1995]

§ 69.107 Gross and net tonnages.

(a) Gross tonnage is the sum of the following tonnages, less certain spaces exempt under § 69.117:

(1) Under-deck tonnage (§ 69.109).

(2) Between-deck tonnage (§ 69.111).

(3) Superstructure tonnage (§ 69.113).

(4) Excess hatchway tonnage (§ 69.115(c)).

(5) Tonnage of framed-in propelling machinery spaces included in calculating gross tonnage (§ 69.121(d)(1)).

(b) Net tonnage is gross tonnage less deductions under §§ 69.119 and 69.121.

§ 69.109 Under-deck tonnage.

(a) *Defined.* ''Under-deck tonnage'' means the tonnage of the space below the line of the tonnage deck, as that volume is calculated under this section.

(b) *Method of calculating tonnage.* Under-deck tonnage is calculated by applying Simpson's first rule using the tonnage length and the areas of the transverse sections prescribed by this section.

(c) *Identifying the tonnage deck.* In vessels with two or less decks, the tonnage deck is the uppermost complete deck. In vessels with more than two decks, the tonnage deck is the second deck from the keel as determined in paragraph (d) of this section.

(d) *Enumerating the decks to identify the second deck from the keel.* Only decks without openings that permit space below to be exempt from inclusion in under-deck tonnage are enumerated. Partial decks are not considered decks for the purpose of enumerating decks. However, the presence of engine and boiler casings, peak tanks, or cofferdams that penetrate a deck do not disqualify the deck from being enumerated.

(e) *Identifying the line of the tonnage deck.* (1) If the tonnage deck runs in a continuous line from stem to stern, the line of the tonnage deck is the longitudinal line at the underside of the tonnage deck.

(2) If the tonnage deck runs at different levels from stem to stern, the line of the tonnage deck is the longitudinal line of the underside of the lowest portion of that deck parallel with the upper portions of that deck. (See § 69.123, figures 1 and 2.) Spaces between the line of the tonnage deck and the higher portions of that deck are not included in under-deck tonnage.

(f) *Tonnage length.* (1) ''Tonnage length'' means the length of a horizontal straight line measured at the centerline of the vessel from the point forward where the line of the tonnage deck intersects the line of the inboard faces of the ordinary side frames to the point aft where the line of the tonnage deck intersects the inboard face of the transom frames or cant frames. (See § 69.123, figure 3.)

(2) For a vessel having a headblock or square end with framing which extends from the tonnage deck to the bottom of the vessel, the tonnage length terminates on the inboard face of the head block or end framing. When a headblock extends inboard past the face of the end side frames or when the headblock plates are excessive in length, the tonnage length terminates at the extreme end of the vessel less a distance equal to the thickness of an ordinary side frame and shell plating. (See § 69.123, figure 4.)

(3) For a vessel having a square bow or stern and tonnage deck with camber, the effect of the camber on the tonnage length must be considered. The tonnage length must be measured below the tonnage deck at a distance equal to one-third of round camber and one-half of straight pitch camber.

(g) *Division of vessel into transverse sections.* (1) Except as under paragraph (m)(1)(iii) of this section, the tonnage length is divided into an even number of equal parts as indicated in the following table:

Class	Tonnage length	Divisions
1	50 ft. or less	6
2	Over 50 ft. but not exceeding 100 ft	8
3	Over 100 ft. but not exceeding 150 ft.	10
4	Over 150 ft. but not exceeding 200 ft.	12
5	Over 200 ft. but not exceeding 250 ft.	14
6	Over 250 ft.	16

(2) Transverse sections are cut at each end of the tonnage length and at each point of division of the tonnage length. Intervals and one-third intervals between the points of division are measured to the nearest thousandth of a foot. (See § 69.123 figures 5 and 6.)

(h) *Depths of transverse sections.* (1) Transverse section depths are measured at each point of division of the tonnage length at the centerline of the vessel from a point below the line of the tonnage deck equal to one-third of the camber or to one-half of the pitch of the beam down to the upper side of the ordinary frames, floors, longitudinals, or tank top of a cellular double bottom, as the case may be.

(2) When a depth falls at a point where the tank top of a double bottom has a straight fall from centerline to the wings, the depth terminates at one-half of the height of fall. (See § 69.123 figure 8.)

(3) When a depth falls at a point where the tank top of a double bottom rises from the centerline to the wings, the depth terminates at one-half the dead rise. (See § 69.123, figure 9.)

(4) The depth at the midpoint of the tonnage length or, when a vessel is measured in parts, the depth at the midpoint of each part determines the number of equal parts into which each depth is divided, as follows:

(i) If the midpoint depth is 16 feet or less, each depth is divided into four equal parts. If the midpoint depth exceeds 16 feet, each depth is divided into six equal parts. (See § 69.123, figure 7.)

(ii) The interval between the points of division of a depth and one-third intervals are carried to the nearest hundredth of a foot.

(i) *Breadths of transverse sections.* (1) Transverse section breadths are measured horizontally at each point of division of each depth and also at the upper and lower points of each depth. Breadths are measured to the inboard face of the ordinary frames or to the line of the ordinary frames. Breadths are measured parallel to each other and at right angle to the vessel's centerline. (See § 69.123, figure 7.)

(2) Upper breadths are not reduced by measuring to deck-beam brackets. In cases of camber when an upper breadth passes through the deck (see § 69.123, figure 7), the breadth is measured to the line of the side frames at the under side of the deck projected vertically up to the height of the upper breadth.

(3) Bottom breadths are measured only as far as the flat of the floor extends. (See § 69.123, figures 7 and 10.) When bottom frames rise immediately from the flat keel, bottom breadths are equal to the breadth of the flat keel. Where there is no double bottom and where there is dead rise of the bottom out to the sides of the vessel, bottom breadths are equal to the part of the bottom plating not affected by dead rise.

(4) Bottom breadths falling in way of a double bottom, the top of which rises or falls from certerline to the wings, are measured between the inboard faces of the frame brackets which connect the double bottom with the frames. (See § 69.123, figures 8 and 9.)

(j) *Measuring spaces having ceiling.* The maximum allowance for terminating measurements on ceiling is three inches on the bottom frames or tank top and three inches on each side frame. When ceiling is less than three inches thick, only the actual thickness is allowed. When ceiling is fitted on a platform directly above the bottom frames, depths are measured down through the platform to the upper side of the frames and the allowable ceiling on the platform is then deducted.

(k) *Area of transverse sections.* (1) A transverse section at an end of the tonnage length may not yield area, except in vessels (such as barges) with an upright bow or stern.

(2) The breadths of each transverse section are numbered from above, the upper being ''1'', the second down being ''2'', and so on to the lowest.

(3) Multiply the even numbered breadths by four and the odd numbered breadths by two, except for the first and last breadths, which are multiplied by one.

(4) Add together the products from paragraph (k)(3) of this section.

(5) Multiply the sum from paragraph (k)(4) of this section by one-third of the interval between the breadths. The product is the area of the transverse section.

(l) *Tonnage.* (1) Number the transverse sections successively ''1'', ''2'', and so forth, beginning at the bow.

(2) Multiply the area of the even numbered sections by four and the area of the odd numbered sections by two, except the first and last sections, which are multiplied by one.

(3) Add together the products from paragraph (l)(2) of this section and multiply the sum by one-third of the interval between the sections. The product is the volume under-deck.

(4) The volume under-deck is divided by 100 and is, subject to exemptions, the under-deck tonnage.

(m) *Steps in double bottom.* (1) The tonnage length of a vessel having a step exceeding six inches in height in its double bottom is divided into longitudinal parts at the step. Each part is subdivided as follows to determine the number of transverse sections:

(i) Parts 20 feet or under in length are divided into two equal parts.

(ii) Parts over 20 feet and under 40 feet in length are divided into four equal parts.

(iii) Parts 40 feet or over are divided as provided in paragraph (g)(1) of this section.

(2) The tonnage of each part is calculated separately. The sum of the tonnages of the parts is the under-deck tonnage.

(n) *Outside shaft tunnel exclusion.* Any portion of an outside shaft tunnel included in tonnage through the process of measurement is subtracted from the under-deck tonnage.

(o) *Open vessels.* (1) An open vessel is one of any length without a deck or with one or more partial decks, the total length of which is less than one-half the tonnage length.

(2) The line of the tonnage deck for an open vessel is the upper edge of the upper strake. Depths of transverse sections are taken from this line.

(3) Any vessel, other than one having a mechanically refrigerated hold, that is not an open vessel and that has a tonnage length of less than 50 feet is measured as an open vessel, if the distance between the line of its tonnage deck and the upper edge of the upper strake is more than one-sixth of the midship depth. ''Midship depth'' means the depth measured from the line of the upper edge of the upper strake to the point in the bottom used for measuring tonnage depths.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989; 54 FR 40240, Sept. 29, 1989]

§ 69.111 Between-deck tonnage.

(a) *Defined.* ''Between-deck tonnage'' means the tonnage of the space above the line of the tonnage deck and below the line of the uppermost complete deck.

(b) *Identifying the line of the uppermost complete deck.* (1) If the uppermost complete deck runs in a continuous line from stem to stern, the line of the uppermost complete deck is the longitudinal line of the underside of the uppermost complete deck.

(2) If the uppermost complete deck runs at different levels from stem to stern, the line of the uppermost complete deck is the longitudinal line of the underside of the lowest portion of that deck parallel with the upper portions of that deck. Spaces between the line of the uppermost complete deck and the higher portions of the deck are included in superstructure tonnage.

(c) *Method for calculating tonnage.* The tonnage of each level of the between-deck space is calculated separately, as follows:

(1) The length of each level is measured at the mid-height between the line of the deck above and the line of the deck below. Measure from the point forward where the continuation of the line of the inboard face of the normal side frames intersects the center line of the vessel aft to the forward face of the normal transom framing.

(2) Divide the length under paragraph (c)(1) of this section into the same number of equal parts into which the tonnage length is divided under § 69.109(g)(1).

(3) Measure at mid-height between the faces of the normal side frames the inside breadth of the space at each end and at each point of division of the length. Number the breadths successively ''1'', ''2'', and so forth beginning at the bow.

(4) Multiply the even numbered breadths by four and the odd numbered breadths by two, except the first and last, which are multiplied by one.

(5) Add together the products under paragraph (c)(4) of this section and multiply the sum by one-third of the interval between the points at which the breadths are taken. The product is the square foot area of the space at mid-height.

(6) Multiply the area of the space at mid-height by the average of the heights taken each point of division of the space. The product divided by 100 is the tonnage of that space.

(7) The between-deck tonnage is the sum of the tonnage of each level within the between-deck space.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by CGD 97–057, 62 FR 51045, Sept. 30, 1997]

§ 69.113 Superstructure tonnage.

(a) *Defined.* ''Superstructure tonnage'' means the tonnage of all permanent structures, such as forecastle, bridge, poop, deckhouse, and break, on or above the line of the uppermost complete deck (or line of shelter deck, if applicable).

(b) *Method of calculating tonnage.* The tonnage of all structures on each level on or above the uppermost complete deck (or shelter deck, if applicable) is calculated separately as follows:

(1) The length of each structure is measured along its centerline at mid-height between the line of the inboard face of the framing on one end to the line of the inboard face of the framing on the other end. (See § 69.123, figure 11.)

(2) Divide the length under paragaph (b)(1) of this section into an even number of equal parts most nearly equal to those into which the tonnage length is divided under § 69.109.

(3) Measure at mid-height the inside breadth at each end and at each point of division of the length. Number the breadths successively ''1'', ''2'', and so forth, beginning at the extreme forward end of the structure. If an end of the structure is in the form of a continuous arc or curve, the breadth at that end is one-half the nearest breadth. If an end is in the form of an arc or curve having a decided flat, the breadth at the end is two-thirds of the nearest breadth.

(4) Multiply the even numbered breadths by four and the odd numbered by two, except the first and last breadth, which are multiplied by one.

(5) Add together the products under paragraph (b)(4) of this section and multiply the sum by one-third of the interval between the points at which the breadths are taken. The product is the square foot area of the structure at mid-height.

(6) Multiply this area by the average of the heights taken at each point of division of the structure between its decks or the line of its decks. The product divided by 100 is the tonnage of that structure.

(c) A structure having steps in its deck or side must be measured in parts.

(d) The superstructure tonnage is the sum of tonnages of each level above the line of the uppermost complete deck (or shelter deck, if applicable).

(e) When a structure is located over a cut-away portion of the tonnage deck, the structure's height is measured from the under side of its overhead deck to the line of the tonnage deck. If the tonnage deck has no camber, allow for camber in the overhead deck.

(f) For structures of a standard geometric shape, a simple geometric formula that yields an accurate volume may be used.

§ 69.115 Excess hatchway tonnage.

(a) Hatchways that are above the tonnage deck and are either open to the weather or within open structures are measured to determine excess hatchway tonnage. Hatchways that are in between-deck spaces, on decks within closed-in structures, or on open structures are not measured.

(b) The tonnage of a hatchway is its length times breadth times mean depth divided by 100. Mean depth is measured from the under side of the hatch cover to the top of the deck beam.

(c) From the sum of the tonnage of the hatchways under this section, subtract one-half of one percent of the vessel's gross tonnage exclusive of the hatchway tonnage. The remainder is added as excess hatchway tonnage in calculating gross tonnage.

§ 69.117 Spaces exempt from inclusion in gross tonnage.

(a) *Purpose.* This section lists spaces which are exempt from inclusion in gross tonnage.

(b) *Spaces on or above the line of the uppermost complete deck.* The following spaces or portions of spaces on or above the line of the uppermost complete deck are exempt if the spaces or portions are reasonable in extent and adapted and used exclusively for the purpose indicated:

(1) Spaces for anchor gear, including capstan, windlass, and chain locker, are exempt.

(2) Companions and booby-hatches protecting stairways or ladderways leading to spaces below are exempt, whether or not the spaces below are exempt.

(3) Galley or other spaces fitted with a range or oven for cooking food to be consumed on board the vessel are exempt.

(4) Spaces designed to provide light or air to propelling machinery are exempt, as follows:

(i) When propelling machinery is located entirely on or above the line of the uppermost complete deck, the entire propelling machinery space and all fuel bunker spaces that are also located above that line are exempt as light or air spaces. (See exception in § 69.121(d)(1) for framed-in spaces.)

(ii) When part of the propelling machinery projects above the line of the uppermost complete deck into a space used exclusively to provide light or air to the propelling machinery, the entire space is exempt as light or air space. When any portion of this space is used for purposes other than providing light or air, only the portion of the space used for light or air, the space occupied by the propelling machinery itself, and a propelling machinery working space allowance under § 69.121 limited to two feet, if available, on each side of the propelling machinery are exempt.

(iii) Any part of an escape shaft, or a companion sheltering an escape shaft, above the line of the uppermost complete deck is exempt as light or air space.

(iv) Space that would otherwise be exempt as a light or air space is not exempt when propelling machinery is boxed-in and does not extend above the line of the uppermost complete deck. Any portion of the boxed-in space above the line of the uppermost complete deck is exempt.

(5) Skylights affording light or air to a space below, other than to propelling machinery spaces. Space immediately below the line of the deck on which a skylight is located is exempt only when there is an opening in the next lower deck directly below the skylight to permit light or air to an even lower deck.

(6) Machinery spaces, other than for propelling machinery under § 169.121.

(7) Spaces for steering gear.

(8) Water closet spaces that are fitted with at least a toilet and are intended for use by more than one person.

(9) The space in a wheelhouse necessary for controlling the vessel.

(c) *Passenger spaces.* (1) As used in this section, the term ''passenger'' includes officers and enlisted men on military vessels who are not assigned ship's duties and not entered on the ship's articles.

(2) As used in this section, ''passenger space'' means a space reserved exclusively for the use of passengers and includes, but is not limited to, berthing areas, staterooms, bathrooms, toilets, libraries, writing rooms, lounges, dining rooms, saloons, smoking rooms, and recreational rooms. The space need not be part of or adjacent to a berthing area to be considered a passenger space.

(3) A passenger space located on or above the first deck above the uppermost complete deck is exempt from gross tonnage.

(4) A passenger space located on the uppermost complete deck is exempt from gross tonnage only when it has no berthing accommodations and is an open structure under paragraph (d) of this section.

(d) *Open structures.* (1) Structures that are located on or above the line of the uppermost complete deck that are under cover (sheltered) but open to the weather are exempt from gross tonnage.

(2) A structure is considered ''open to the weather'' under paragraph (d)(1) of

this section when an exterior end bulkhead of the structure is open and, except as provided in paragraphs (d)(4), (d)(5), and (d)(6) of this section, is not fitted with any means of closing. To be considered ''open to the weather'', the end bulkhead must not have a coaming height of more than two feet in way of any required opening and have one of the following:

(i) Two openings, each at least three feet wide and at least four feet high in the clear, one on each side of the centerline of the structure.

(ii) One opening at least four feet wide and at least five feet high in the clear.

(iii) One opening at least 20 square feet in the clear with a breadth in excess of four feet and a height of not less than three feet.

(3) A compartment within an open structure is considered open to the weather only when an interior bulkhead of that compartment has an opening or openings that meet the requirements for end bulkheads under paragraphs (d)(2)(i) through (d)(2)(iii) of this section. Other compartments within the structure are not considered open to the weather.

(4) An interior or exterior opening that is temporarily closed by shifting boards dropped into channel sections at the sides of the opening is considered open to the weather if battening, caulking, or gaskets of any material are not used.

(5) An interior or exterior opening that is temporarily closed by cover plates or boards held in place only by hook bolts (see §69.123, Figure 12) is considered open to the weather—

(i) If hook bolts used to secure cover plates or boards are spaced at least one foot apart and hook over a stiffener installed around the perimeter of the opening;

(ii) If the cover plates or boards fit tightly against the bulkhead; and

(iii) If battening, caulking, or gaskets of any material are not used.

(6) An interior or exterior opening that is temporarily closed by cover plates or boards held in place only by bolts and crosspieces is considered open to the weather—

(i) If the bolts are not installed through the bulkhead;

(ii) If the bolts and crosspieces are not held in place by cleats or other attachments to or through the bulkhead;

(iii) If the cover plates or boards fit tightly against the bulkhead; and

(iv) If battening, caulking, or gaskets of any material are not used.

(7) A structure with its aft end entirely open from the under side of its overhead stiffeners down to the deck, to the line of the deck, or to a coaming not exceeding three inches in height and open athwartship between the inboard faces of the side stiffeners is considered open to the weather. The opening may be covered by a wire mesh screen or temporarily closed by canvas secured at the top and lashed or buttoned in place.

(e) *Open space between the shelter deck and the next lower deck.* (1) Space that is between the shelter deck and the next lower deck and that is under cover (sheltered) but open to the weather is exempt from gross tonnage when all openings in the uppermost complete deck are provided with a watertight means of closing.

(2) A space is considered ''open to the weather'' under paragraph (e)(1) of this section when the shelter deck above the space has a middle line opening which conforms to the following:

(i) The middle line opening must be at least four feet long in the clear and at least as wide as the after cargo hatch on the shelter deck, but not less than one-half the width of the vessel at the midpoint of the length of the opening. The opening may have rounded corners not exceeding a nine inch radius. When a greater radius is required by the Coast Guard or a Coast Guard recognized classification society under §42.05–60 of this chapter, notification of that requirement must be submitted to the Commandant.

(ii) The middle line opening must be located so that the distance between the aft edge of the middle line opening and the vessel's stern is not less than one-twentieth of the tonnage length of the vessel and the distance between the fore edge of the opening and the vessel's stem is not less than one-fifth of the tonnage length of the vessel.

(iii) The middle line opening must not be within a structure of any type.

(iv) If the middle line opening is guarded by rails or stanchions, the rails and stanchions must not be used to secure or assist in securing a cover over the opening.

(v) The coaming of the middle line opening must not exceed one foot mean height above the shelter deck. Bolts must not pass through the stiffeners or flanges on the coaming, nor may there be any other attachments on the coaming for fastening a cover. Portable wood covers may be fitted over the middle line opening if held in place only by lashings fitted to the under side of the covers. Metal covers may be fitted if held in place only by hook bolts spaced not less than 18 inches apart that pass through the cover and hook over angle stiffeners or flanges fitted to the outside of the coaming.

(vi) The space below the middle line opening must have a minimum length of four feet throughout its entire breadth and height and be in the clear at all times.

(vii) A scupper having a five inch minimum inside diameter and fitted with a screw down non-return valve geared to and operated from the shelter deck must be fitted on each side of the upper deck in way of the middle line opening.

(3) When the shelter deck space forward or aft of the middle line opening is divided by interior bulkheads, only those compartments with at least two openings that progress to the middle line opening are considered ''open to the weather'' under paragraph (e)(1) of this section. Each required opening must be at least three feet wide and at least four feet high in the clear, must not have a coaming height of more than two feet, and must not be fitted (except as provided in paragraphs (d)(4), (d)(5), and (d)(6) of this section) with any means of closing. Other compartments within the shelter deck space are not considered ''open to the weather'' under paragraph (e)(1) of this section.

(f) *Water ballast spaces.* A space, regardless of location, adapted only for water ballast and not available for stores, supplies, fuel, or cargo (other than water to be used for underwater drilling, mining, and related purposes, including production), upon request, may be exempt from gross tonnage if the following are met:

(1) The space must be available at all times only for water ballast that is piped through a system independent of other systems (except fire fighting and bilge suction systems). Pumps, pipes, and other equipment for loading and unloading water ballast must be of a size suitable for the efficient handling of the water ballast within a reasonable time frame. All manholes providing access to a water ballast space must be oval or circular and not greater than 34 inches in diameter. Except for those on a deck exposed to the weather, the manholes may have a coaming not exceeding six inches in height. Existing hatches over spaces being converted to water ballast spaces must have a watertight cover plate welded to the hatch and a manhole, as described in this paragraph, fitted in the plating.

(2) The primary purpose of the water ballast must be to afford a means of maintaining the vessel's stability, immersion, trim, pre-loading conditions, or seakeeping capabilities.

(3) If the space is in a vessel that is subject to inspection under 46 U.S.C. 3301, the space must be considered when determining the adequacy of the vessel's stability under 46 CFR chapter I.

(4) If the total of all water ballast spaces to be exempted from gross tonnage exceeds 30 percent of the vessel's gross tonnage (as calculated under this subpart without any allowance for water ballast), a justification of the operating conditions that require the water ballast must be submitted to the measuring organization for approval. Although a single condition may justify all water ballast spaces, several conditions may be necessary in other cases. However, a particular tank is not justified by a condition if another tank already justified by another condition could be used as effectively. The justification must—

(i) Designate the vessel's service;

(ii) Explain for what purpose under paragraph (f)(2) of this section the water ballast is being used;

(iii) Provide the calculations required in paragraphs (f)(4)(vi) through (f)(4)(ix) of this section for those uses

on a form similar to Coast Guard Stability Test Form CG–993–9;

(iv) Include the capacity, tank arrangement, and piping plans for the vessel;

(v) Include a statement certifying that the space will be used exclusively for water ballast as prescribed by this section;

(vi) If water ballast is used for stability, describe each loading condition and the resultant metacentric height (GM) and include calculations;

(vii) If water ballast is used for immersion or trim, describe those conditions and include loading and trim calculations;

(viii) If water ballast is used for preloading, describe how it is used and include strength and weight calculations; and

(ix) If water ballast is used for seakeeping, describe each loading condition, GM, period of roll, and, if speed is involved, speed versus trim and draft and include calculations.

(5) If the water ballast space or its use, purpose, or piping are changed, the vessel owner or operator must report the change promptly to a measurement organization listed in § 69.15 for a determination as to whether a tonnage remeasurement is required.

(g) *Methods for measuring exempt spaces.* (1) If the exempt space is located within the superstructure, the exempt space is measured using the same procedures used to measure superstructure tonnage under § 69.113.

(2) If the exempt space is located between-deck, the space is measured using the same procedures used for between-deck tonnage under § 69.111(c), except that the length of the exempt space is divided into the even number of spaces most equal to the number of spaces into which the between-deck was divided.

(3) If the exempt space is located under-deck, the space is measured using the same procedures used for under-deck tonnage under § 69.109, except that the length of the exempt space is divided into the even number of spaces most equal to the number of spaces into which the under-deck was divided.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989; 54 FR 40240, Sept. 29, 1989; CGD 97–057, 62 FR 51045, Sept. 30, 1997; CGD 95–028, 62 FR 51203, Sept. 30, 1997; USCG–1999–5118, 64 FR 47404, Aug. 31, 1999]

§ 69.119 Spaces deducted from gross tonnage.

(a) *Purpose.* This section lists the requirements for spaces (other than propelling machinery spaces under § 69.121) which, though included in calculating gross tonnage (i.e., are not exempt under § 69.117), are deducted from gross tonnage in deriving net tonnage.

(b) *General.* (1) A deductible space must be used exclusively for, and be reasonable in size for, its intended purpose.

(2) When a space is larger than necessary for the safe and efficient operation of deductible equipment, only the space occupied by the equipment plus a two foot maximum working space on each side of the equipment, if available, is deductible.

(3) Space specified in this section may be located anywhere within the vessel, unless otherwise specified.

(c) *Anchor gear.* A space below the line of the uppermost complete deck occupied by the anchor gear, capstan, windlass, and chain locker is deductible. A fore peak used exclusively as chain locker is measured by the method prescribed under § 69.117(g)(3).

(d) *Boatswain's stores.* A space containing oils, blocks, hawsers, rigging, deck gear, or other boatswain's stores for daily use is deductible. The maximum deduction allowed for vessels less than 100 gross tons is one ton and, for vessels 100 gross tons or over, is one percent of the gross tonnage, not to exceed 100 tons.

(e) *Chart room.* A space for keeping charts and nautical instruments and for plotting the vessel's course is deductible. For a combined wheelhouse and chart room, that part not exempted as wheelhouse under § 69.117(b)(9) is deductible. For small vessels in which the only space for a chart room is in a cabin or saloon, one half the space not to exceed 1.5 tons is deductible as chart room.

(f) *Donkey engine and boiler.* Donkey engine and boiler space is deductible when connected with the main (non-cargo) pumps of the vessel, except as follows:

(1) If the space is within the engine room or within the casing above the engine room and if the donkey engine is an auxiliary to the main propelling machinery, the space is an engine room deduction under § 69.121(b).

(2) If the space is above the line of the uppermost complete deck and if the donkey engine is not an auxiliary to the main propelling machinery, the space is exempt under § 69.117(b).

(g) *Spaces for the exclusive use of officers or crew.* (1) The following spaces, regardless of their location (unless otherwise noted), are deductible if not used by passengers:

(i) Sleeping rooms.

(ii) Bathrooms with a bath tub or shower but without a water closet.

(iii) Water closets below the line of the uppermost complete deck serving more than one person, with or without a bath tub or shower. Water closets, regardless of location, that serve only one person or that are accessible only through a stateroom or bedroom serving one person are considered as part of the space they serve and are deductible only if that space is deductible.

(iv) Clothes drying rooms.

(v) Drinking water filtration or distilling plant below the line of the uppermost complete deck.

(vi) Hospitals.

(vii) Mess rooms.

(viii) Office of the chief engineer.

(ix) Oil skin lockers.

(x) Pantries.

(xi) Recreation rooms.

(xii) Smoking rooms.

(xiii) Galleys below the line of the uppermost complete deck.

(2) Shops for engineers, carpenters, plumbers, or butchers and offices for clerks, pursers, or postmasters are not deductible, wherever located.

(h) *Master's cabin.* The master's sleeping room, dressing room, bathroom, observation room, reception room, sitting room, water closet, and office are deductible.

(i) *Radio room.* Spaces in which radio apparatus is installed and messages are sent and received and which may provide off-duty operator accommodations are deductible.

(j) *Steering gear.* Spaces for steering gear below the line of the uppermost complete deck are deductible.

(k) *Generators.* Spaces for generators below the line of the uppermost complete deck are deductible regardless of what space the generators serve. These spaces may include other equipment necessary for the generator's operation.

(l) *Pump room.* Spaces below the line of the uppermost complete deck containing pumps that are not capable of handling cargo and that are not fuel oil transfer pumps considered part of the propelling machinery under § 69.121(b)(2)(v) are deductible.

(m) *Sail stowage.* A space for stowing sails on a vessel propelled only by sails is deductible up to two and one-half percent of the vessel's gross tonnage.

(n) *Waste material space.* (1) A tank or collection space, regardless of location, used for the carriage or collection of sewage, garbage, galley waste, trash, slop-oil mixture, tank cleaning residue, bilge residue, or other waste material generated aboard the vessel is deductible.

(2) Space below the line of the uppermost complete deck used exclusively to separate, clarify, purify, or otherwise process waste material generated aboard the vessel is deductible.

(o) *Passageways.* A passageway or companionway is deductible—

(1) If it serves deductible spaces only; or

(2) If it serves deductible spaces and is also the sole means of access to one of the following non-deductible spaces:

(i) Lockers of less than two tons each, containing medicine, linen, mops, or other items for the free use of the crew.

(ii) A ship's office.

(iii) Spare rooms (not exceeding two) used by a pilot, customs officer, reserve engineer, or employee or agent of the vessel's owner or operator.

(p) *Markings for deductible spaces.* (1) Each space deducted under this section

must be marked with the words ''Certified _____'' (inserting the space designation, such as ''Seaman'', ''Generator'', Office of Chief Engineer'', ''Hospital'', or ''Anchor Gear''). If a deductible space berths more than one crew member, the marking must indicate the number of crew members berthed, such as ''Certified _____ Seamen'' (inserting the number of crew).

(2) The abbreviations ''Cert.'' for ''certified'' and ''W.C.'' for ''water closet'' may be used.

(3) The markings must be in Roman letters and Arabic numerals at least ½ inch in height, must be painted in a light color on a dark background, must be embossed, center-punched, carved, or permanently cut in a bulkhead or metal plate, and must be placed in a legible location over a doorway on the inside of the space. A metal plate, if used, must be permanently fastened in place by welding, riveting, lock screws, or a Coast Guard-approved bonding agent.

(q) *Method for measuring deductible spaces.* (1) A rectangular space must be measured by taking the product of its length, breadth, and height.

(2) A space with curved sides on or above the tonnage deck is measured according to § 69.109.

(3) Space less than 15 feet in length may be measured by any practical method.

(4) Spaces below the tonnage deck exceeding 15 feet in length and bounded by a curved surface conforming to the side of the vessel must be measured by the formula used for measuring the superstructure under § 69.113.

(5) The height of a space located on a platform in the hull must be measured from the top of the bottom hull frames, if the platform is used only to form a flat surface at the bottom of the space, if the platform is not more than one foot above the top of the bottom frames, and if the space below the platform is not usable.

(6) The height of a space is measured through any ceiling, paneling, false overhead, or other covering, to the space's structural boundary, unless the space enclosed by the covering is available for a non-deductible use.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989; 54 FR 40240, Sept. 29, 1989; CGD 92–058, 57 FR 59938, Dec. 17, 1992]

§ 69.121 Engine room deduction.

(a) *General.* The engine room deduction is either a percentage of the vessel's total propelling machinery spaces or a percentage of the vessel's gross tonnage.

(b) *Propelling machinery spaces.* (1) Propelling machinery spaces are the spaces occupied by the main propelling machinery and auxiliary machinery and spaces reasonably necessary for the operation and maintenance of the machinery. Propelling machinery spaces do not include spaces for fuel tanks, spaces exempt from gross tonnage under § 69.117, and spaces not used or not available for use in connection with the propelling machinery.

(2) Propelling machinery spaces are—

(i) Space below the crown. The crown is the top of the main space of the engine room to which the heights of the main space are taken. The crown is either the underside of a deck or, if the side bulkheads are sloping, the uppermost point at which the slope terminates. (See § 69.123, figures 13 and 14.)

(ii) Framed-in space located between the crown and the uppermost complete deck and used for propelling machinery or for the admission of light or air to propelling machinery spaces. (See § 69.123, figures 13 and 14.)

(iii) Shaft tunnel space and thrust block recess space.

(iv) Space below the uppermost complete deck used for escape shafts or trunked ladderways leading from the aft end of the shaft tunnel to the deck above.

(v) Space containing a fuel oil transfer pump located in a separate space and not used for bunkering the vessel. When the pump serves both ballast and fuel oil, only one-half of the pump's space is considered a propelling machinery space.

(vi) Spaces containing fuel oil settling tanks used solely for the main boilers. The space must not exceed one percent of the vessel's gross tonnage.

(vii) Spaces for engineers' stores and workshops located below the uppermost complete deck and either open to a propelling machinery space or separated from a propelling machinery space only by a screen bulkhead. The space must not exceed three-quarters of one percent of the vessel's gross tonnage.

(viii) Framed-in space located above the line of the uppermost complete deck and used for propelling machinery or for the admission of light or air to a propelling machinery space, when requested under paragraph (d) of this section.

(ix) If the propelling machinery is boxed-in below the tonnage deck, the boxed-in space plus the spaces outside of the boxing for the shaft, auxiliary engines, and related propelling machinery. If a portion of the boxed-in space extends above a platform or partial deck that is below the uppermost complete deck, that portion is also considered part of the propelling machinery space.

(c) *Methods for measuring propelling machinery spaces.* (1) If the propelling machinery space is bulkheaded off or is not larger than necessary for the safe operation and maintenance of the propelling machinery, the entire space, or, if bulkheaded off, the portion bulkheaded off, is measured for the engine room deduction.

(2) If the propelling machinery space is not bulkheaded off or is larger than necessary for the safe operation and maintenance of the propelling machinery, only the space occupied by the propelling machinery itself plus a working space of two feet, if available, on each side of the propelling machinery is measured for the engine room deduction. If the working space overlaps another working space not related to the propelling machinery, only one-half of the overlapping working space is included in the propelling machinery space. The height of the working space is measured as provided in paragraph (c) of this section.

(3) If the propelling machinery is located in more than one space, each space must be measured separately.

(4) If the propelling machinery is located in a space with a step in the bottom or side lines, each stepped portion of the space must be measured separately.

(5) The length of a space under paragraph (c)(1) of this section is measured from the bulkhead just forward of the propelling machinery to the bulkhead just aft of the propelling machinery. The length of a space under paragraph (c)(2) of this section is measured from the forward edge of the working space to the aft edge of the working space.

(6) If the boundaries of the propelling machinery space form a rectangle, the product of the length, breadth, and height, divided by 100, is the tonnage of the space.

(7) If the boundaries of the propelling machinery space are continuous fair lines, heights are measured at the fore and aft ends and at the center of the space from the bottom frames, floors, or tank top of a double bottom up to the line of the crown. A breadth is measured at half-height of each height. The product of the length, mean breadth, and mean height, divided by 100, is the tonnage of the space.

(8) If the propelling machinery space is in the aft end of the hull, extends from side to side of the hull, and has a continuous bottom line, the length of the space is divided into the even number of equal parts most nearly equal to the number of parts that the tonnage length under § 69.109(g) was divided. The tonnage is then calculated by the same method used for calculating the under-deck tonnage in § 69.109(l).

(9) The tonnage of a framed-in space located between the crown and the uppermost complete deck and used for propelling machinery or for the admission of light or air to the propelling machinery space, is the product of its length, breadth, and height, divided by 100.

(10) The tonnage of a shaft tunnel, or a thrust block recess, having a flat top is the product of its length, breadth, and height, divided by 100. If the shaft tunnel or thrust block recess top is not flat, the space above must be calculated by using the appropriate geometrical formula. If the space aft of the shaft tunnel extends from side to side of the vessel, the tonnage of the space is found by the formula for measuring peak tanks in § 69.109(l).

(11) The length and breadth of the space for a shaft tunnel, or a thrust block recess, when not cased is that which is necessary for maintenance of the shaft. The height allowed for thrust block recess space must not exceed seven feet. The mean height allowed for the shaft tunnel space must not exceed six feet. In a multi-screw vessel where the shaft tunnel or thrust block recess space is open from side to side, measure only the space used for purposes of propelling the vessel.

(12) When the propelling machinery is on a bed at the vessel's bottom, the height of the propelling machinery space is measured from the top of the bottom frames or floors.

(d) *Request to treat certain framed-in engine room spaces as part of a propelling machinery space.* (1) Under §69.117(b)(4), framed-in spaces located above the line of the uppermost complete deck and used for propelling machinery or for admitting light or air to a propelling machinery space are exempt from inclusion in gross tonnage. However, upon written request to a measurement organization listed in §69.15, the vessel owner may elect to have these spaces included in calculating gross tonnage, then deducted from gross tonnage as propelling machinery spaces under paragraph (b)(2)(viii) of this section.

(2) The framed-in space must be safe, seaworthy, and used only for propelling machinery or for the admission of light or air to the propelling machinery space. The length of the space must not exceed the length of the propelling machinery space and the breadth must not exceed one-half of the extreme inside midship breadth of the vessel. Portions of the framed-in space that are plated over are not included in the propelling machinery space.

(3) To exercise the option in paragraph (d)(1) of this section, all of the framed-in space need not be treated as propelling machinery space, but only that portion required to entitle the vessel to have 32 percent of its gross tonnage deducted as an engine room deduction under paragraph (e) of this section.

(e) *Calculating the engine room deduction.* (1) The engine room deduction is based on a percentage of the vessel's gross tonnage or a percentage of the total propelling machinery space.

(2) For vessels propelled in whole or in part by screw—

(i) If the total propelling machinery space is 13 percent or less of the vessel's gross tonnage, deduct $^{32}/_{13}$ times the total propelling machinery space;

(ii) If the total propelling machinery space is more than 13 but less than 20 percent of the vessel's gross tonnage, deduct 32 percent of the vessel's gross tonnage; or

(iii) If the total propelling machinery space is 20 percent or more of the vessel's gross tonnage, deduct either 32 percent of the vessel's gross tonnage or 1.75 times the total propelling machinery space, whichever the vessel's owner elects.

(3) For vessels propelled in whole or in part by paddle-wheel—

(i) If the total propelling machinery space is 20 percent or less of the vessel's gross tonnage, deduct $^{37}/_{20}$ times the total propelling machinery space;

(ii) If the total propelling machinery space is more than 20 but less than 30 percent of the vessel's gross tonnage, deduct 37 percent of the vessel's gross tonnage; or

(iii) If the total propelling machinery space is 30 percent or more of the vessel's gross tonnage, deduct either 37 percent of the vessel's gross tonnage or 1.5 times the total propelling machinery space, whichever the vessel's owner elects.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989; 54 FR 40240, Sept. 29, 1989]

§ 69.123 Figures.

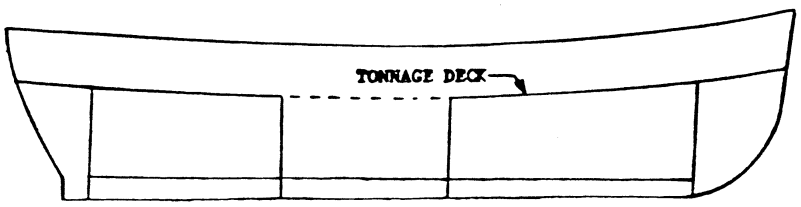
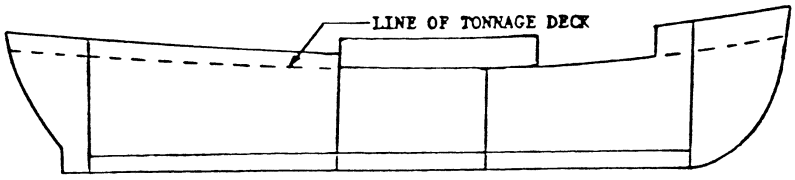


Figure 1



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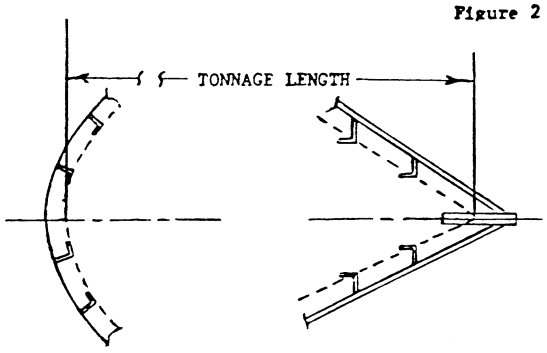

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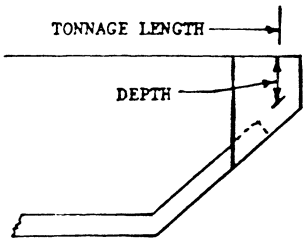

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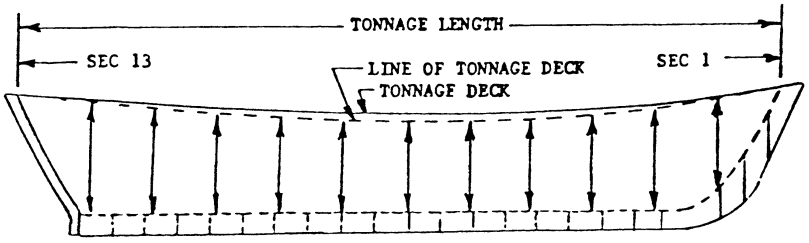

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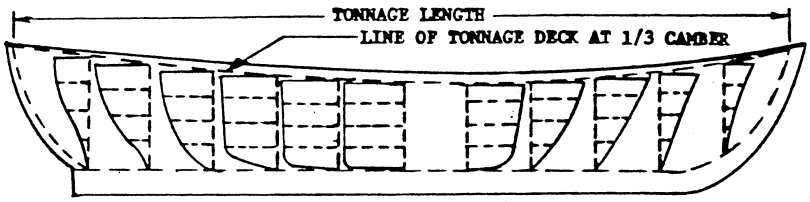

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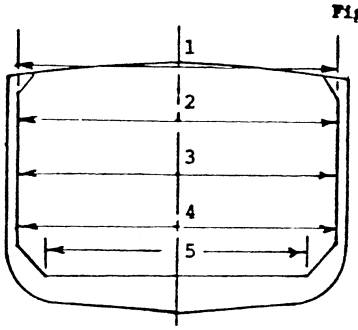

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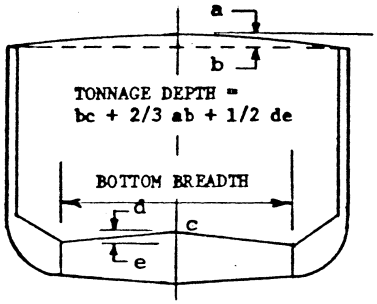

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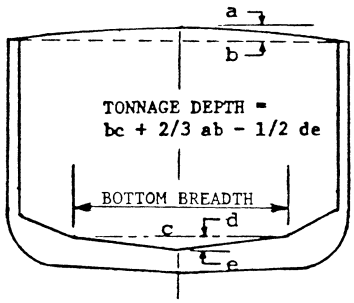

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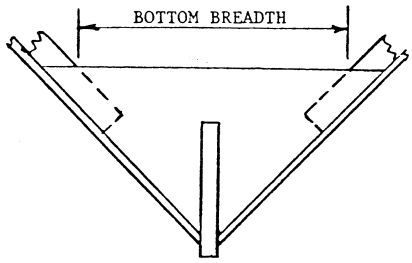

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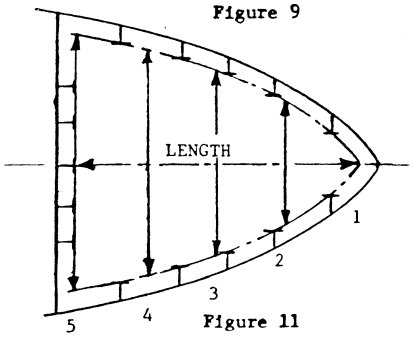

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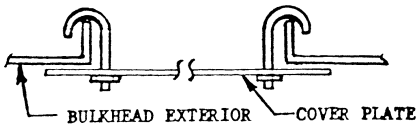


Figure 12

H = Height of main space.
H' = Height between crown and upper deck.
L/A = Light or air space above the upper deck.

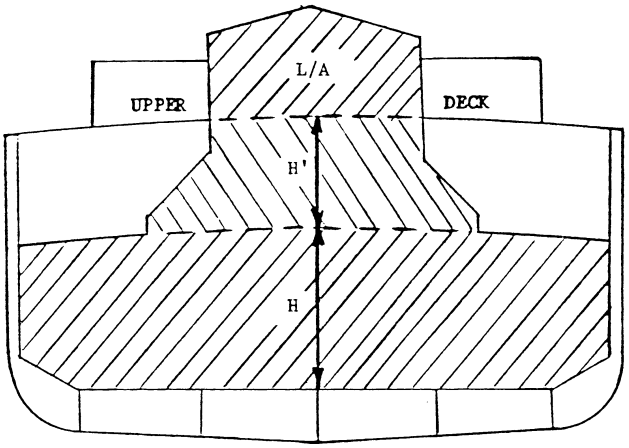


Figure 13

H = Height of main space.
H' = Height between crown and upper deck.
L/A = Light or air space above the upper deck.

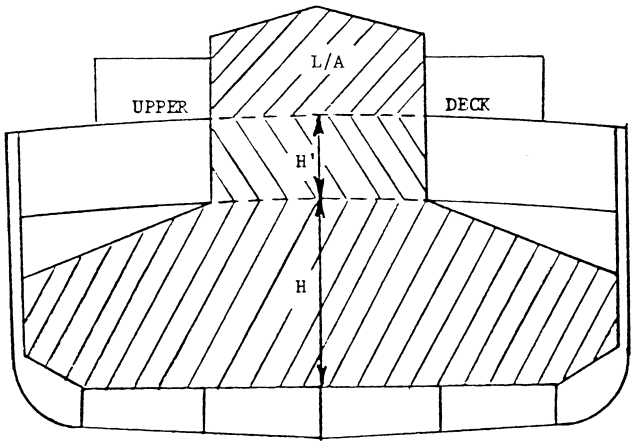


Figure 14

Subpart D—Dual Measurement System

§ 69.151 Purpose.

This subpart prescribes measurement requirements for the assignment of either one gross and one net tonnage or two gross and two net tonnages to vessels under the Dual Measurement System.

§ 69.153 Application of other laws.

(a) If a vessel is assigned two gross tonnages under § 69.175(b), the higher gross tonnage is the tonnage used when applying inspection, manning, and load line laws and regulations to the vessel.

(b) Tonnage marks are not to be construed as additional load line marks. Whether or not a tonnage mark is submerged under § 69.171 has no effect on the applicability of load line laws and regulations.

§ 69.155 Measurement requirements.

Except as otherwise required by this subpart, the measurement requirements under the Standard Measurement System in subpart C of this part apply to the measurement of vessels under the Dual Measurement System.

§ 69.157 Definitions.

Terms used in this subpart that are defined in § 69.103 have the same meaning as in § 69.103, except the terms listed below. As used in this subpart,—

Gross tonnage is defined in § 69.161(a).

Line for fresh and tropical waters means the line described in § 69.177(b)(2).

Line of the second deck means the line described in § 69.181.

Line of the uppermost complete deck means a longitudinal line at the underside of the uppermost complete deck or, if that deck is stepped, the longitudinal line of the underside of the lowest portion of that deck parallel with the upper portions of that deck.

Net tonnage is defined in § 69.161(b).

Second deck means the next deck below the uppermost complete deck that meets the following:

(a) Is continuous athwartships and in a fore-and-aft direction at least between peak bulkheads, even though the deck may have interruptions or openings due to propelling machinery spaces, to hatch and ventilation trunks not extending longitudinally completely between main transverse bulkheads, to ladder and stairway openings, to chain lockers, or to cofferdams.

(b) Is fitted as an integral and permanent part of the vessel.

(c) Has proper covers to all main hatchways.

(d) Does not have steps the total of which exceed 48 inches in height.

Tonnage deck means, for a vessel with only one deck, the uppermost complete deck and, for a vessel with a second deck, the second deck.

Tonnage mark means the line described in § 69.177(a)(2).

§ 69.159 Application for measurement services.

Applications for measurement services under this subpart must include the application information and plans required for the Standard Measurement System under § 69.105. The application must indicate whether a line for fresh and tropical waters is requested under § 69.177(b) and, for vessels with more than one deck, indicate whether one or two sets of tonnages are desired under § 69.175.

§ 69.161 Gross and net tonnages.

(a) *Gross tonnage* means the tonnage of a vessel, less certain spaces exempt under § 69.169, and is the sum of the following:

(1) Under-deck tonnage (§ 69.163).

(2) Between-deck tonnage (§ 69.165)

(3) Superstructure tonnage (§ 69.167)

(4) Excess hatchway tonnage (§ 69.115)

(5) Tonnage of framed-in propelling machinery spaces included in calculating gross tonnage (§ 69.121(d)(1)).

(b) *Net tonnage* means gross tonnage less deductions under § 69.119 and § 69.121.

§ 69.163 Under-deck tonnage.

The under-deck tonnage provisions in § 69.109 apply; except that, under the Dual Measurement System, spaces between the line of the tonnage deck and the tonnage deck itself due to a stepped tonnage deck are included in under-deck tonnage.

§ 69.165 Between-deck tonnage.

The between-deck tonnage provisions in § 69.111 apply, except that, under the Dual Measurement System, between-deck space extends from the tonnage deck to the uppermost complete deck, rather than from the line of the tonnage deck to the line of the uppermost complete deck.

§ 69.167 Superstructure tonnage.

The superstructure tonnage provisions in § 69.113 apply; except that, under the Dual Measurement System, spaces between the line of the uppermost complete deck and the uppermost complete deck itself due to a stepped uppermost complete deck are not included in the superstructure tonnage.

§ 69.169 Spaces exempt from inclusion in gross tonnage.

The tonnage of the following spaces is exempt from inclusion in gross tonnage:

(a) Spaces listed in § 69.117(b) when located within the superstructure.

(b) Spaces listed in § 69.117(c)(1) through (c)(3) when located above, but not on, the uppermost complete deck.

(c) Spaces listed in § 69.117(f), regardless of location.

(d) Spaces available for carrying dry cargo and stores when located on or above the uppermost complete deck.

(e) When a vessel is assigned a tonnage mark and the tonnage mark is not submerged,—

(1) Spaces listed in § 69.117(b) when located between the uppermost complete deck and the second deck;

(2) Spaces listed in § 69.117(c)(1) through (c)(3) when located on the uppermost complete deck; and

(3) Spaces available for carrying dry cargo and stores when located between the uppermost complete deck and the second deck.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by CGD 92–058, 57 FR 59938, Dec. 17, 1992]

§ 69.171 When the tonnage mark is considered submerged.

For the purpose of this subpart, a tonnage mark is considered submerged when—

(a) In salt or brackish water, the upper edge of the tonnage mark is submerged; and

(b) In fresh or tropical water, the upper edge of the line for fresh and tropical waters is submerged.

§ 69.173 Tonnage assignments for vessels with only one deck.

A vessel without a second deck is assigned only one gross and one net tonnage. In calculating the gross tonnage, only the exemptions in § 69.169 (a) through (d) are allowed. Markings under § 69.177 are not permitted on these vessels.

§ 69.175 Tonnage assignments for vessels with a second deck.

(a) At the option of the vessel owner, a vessel having a second deck is assigned either two gross and two net tonnages or one gross and one net tonnage.

(b) If two gross and two net tonnages are assigned, the higher tonnages (i.e. those based only on exemptions under § 69.169 (a) through (d)) are applicable when the upper edge of the tonnage mark is submerged and the lower tonnages (i.e. those based only on all exemptions under § 69.169) are applicable when the upper edge of the tonnage mark is not submerged.

(c) If only the low gross and low net tonnages, as calculated under paragraph (b) of this section, are assigned, these tonnages are applicable at all times. On these vessels, the tonnage mark must be located in accordance with § 69.177(a)(6) at the level of the uppermost part of the load line grid.

§ 69.177 Markings.

(a) *Tonnage mark.* (1) All vessels with a second deck that are measured under the Dual Measurement System must have, on each side of the vessel, a tonnage mark, and an inverted triangle identifying the tonnage mark, as described and located under this section. (See the figure in § 69.183(a).) Vessels with only one deck are not assigned markings under this section.

(2) The tonnage mark is a horizontal line 15 inches long and one inch wide. The tonnage mark must be designated by a welded bead or other permanent

mark 15 inches long placed along the top edge of the tonnage mark.

(3) Above the tonnage mark is placed an inverted equilateral triangle, each side of which is 12 inches long and one inch wide, with its apex touching the upper edge of the center of the tonnage mark.

(4) If the vessel has a load line mark, the longitudinal location of the center of the tonnage mark must be between 21 inches and six feet six inches aft of the vertical centerline of the load line ring. (See the figures in § 69.183 (b) and (c).) If the vessel does not have a load line mark, the center of the tonnage mark must be located amidships.

(5) Except as under paragraph (a)(6) of this section, the upper edge of the tonnage mark must be located below the line of the second deck at the distance indicated in Table 69.177(a)(5). (See the figure in § 69.183(b).)

TABLE 69.177(a)(5)—MINIMUM DISTANCE IN INCHES BETWEEN THE TONNAGE MARK AND THE LINE OF THE SECOND DECK

L (in feet)	L divided by D								
	12	13	14	15	16	17	18	19	20
220 and under	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
230	3.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
240	4.7	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
250	6.3	3.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0
260	8.0	4.8	2.1	2.0	2.0	2.0	2.0	2.0	2.0
270	9.9	6.4	3.5	2.0	2.0	2.0	2.0	2.0	2.0
280	11.8	8.1	4.9	2.1	2.0	2.0	2.0	2.0	2.0
290	13.9	9.9	6.5	3.5	2.0	2.0	2.0	2.0	2.0
300	16.0	11.7	8.1	4.9	2.1	2.0	2.0	2.0	2.0
310	18.3	13.7	9.8	6.4	3.5	2.0	2.0	2.0	2.0
320	20.7	15.8	11.7	8.1	4.9	2.1	2.0	2.0	2.0
330	23.2	18.0	13.6	9.8	6.4	3.5	2.0	2.0	2.0
340	25.9	20.4	15.7	11.6	8.1	4.9	2.1	2.0	2.0
350	28.7	22.9	17.9	13.6	9.8	6.5	3.6	2.0	2.0
360	31.7	25.5	20.2	15.7	11.7	8.2	5.0	2.2	2.0
370	34.7	28.3	22.7	17.9	13.6	9.9	6.6	3.7	2.0
380	38.0	31.1	25.3	20.2	15.7	11.8	8.3	5.2	2.4
390	41.3	34.1	27.9	22.6	17.9	13.8	10.1	6.8	3.8
400	44.8	37.2	30.7	25.0	20.1	15.8	11.9	8.4	5.3
410	48.2	40.3	33.5	27.7	22.6	18.1	14.0	10.4	7.2
420	51.5	43.4	36.4	30.4	25.2	20.6	16.4	12.7	9.7
430	54.8	46.5	39.4	33.3	27.9	23.2	19.0	15.2	11.8
440	58.4	49.9	42.6	36.4	30.9	26.0	21.7	17.8	14.4
450	62.1	53.4	46.0	39.6	33.9	29.0	24.6	20.6	17.1
460	65.9	57.0	49.5	42.9	37.1	32.1	27.6	23.5	19.9
470	69.8	60.7	53.0	46.3	40.4	35.2	30.6	26.5	22.8
480	73.7	64.4	56.5	49.7	43.7	38.4	33.7	29.5	25.7
490	77.5	68.1	60.0	53.0	46.9	41.5	36.7	32.4	28.5
500	81.2	71.6	63.4	56.2	50.0	44.5	39.6	35.2	31.2
510	84.9	75.1	66.7	59.4	53.0	47.4	42.4	37.9	33.9
520	88.4	78.4	69.9	62.4	55.9	50.2	45.1	40.5	36.4
530	91.8	81.6	72.9	65.3	58.7	52.9	47.7	43.0	38.8
540	95.2	84.8	75.9	68.1	61.4	55.5	50.2	45.4	41.2
550	98.4	87.8	78.8	70.9	64.0	58.0	52.6	47.8	43.4
560	101.6	90.8	81.6	73.6	66.6	60.5	55.0	50.1	45.6
570	104.8	93.8	84.4	76.3	69.2	62.9	57.3	52.3	47.8
580	107.9	96.8	87.2	78.9	71.7	65.3	59.6	54.5	49.9
590	111.0	99.7	90.0	81.5	74.2	67.7	61.9	56.7	52.0
600	114.0	102.5	92.6	84.0	76.5	69.9	64.0	58.8	54.0
610	117.0	105.3	95.2	86.5	78.9	72.1	66.2	60.8	56.0
620	120.0	108.0	97.8	88.9	81.2	74.4	68.3	62.8	58.0
630	122.9	110.7	100.4	91.3	83.5	76.6	70.4	64.8	59.9
640	125.7	113.4	102.9	93.7	85.8	78.7	72.4	66.8	61.7
650	128.6	116.1	105.4	96.1	88.0	80.8	74.4	68.7	63.6
660	131.4	118.7	107.8	98.3	90.1	82.8	76.3	70.6	65.3
670	134.2	121.2	110.2	100.6	92.2	84.8	78.3	72.4	67.1
680	136.9	123.8	112.8	102.9	94.3	86.8	80.2	74.2	68.9
690	139.6	126.3	115.0	105.1	96.4	88.8	82.1	76.0	70.6
700	142.3	128.8	117.3	107.3	98.5	90.8	83.9	77.8	72.3
710	144.9	131.3	119.6	109.4	100.5	92.7	85.7	79.5	73.9
720	147.5	133.7	121.8	111.5	102.5	94.6	87.5	81.2	75.5
730	150.1	136.1	124.0	113.6	104.5	96.5	89.3	82.9	77.1
740	152.7	138.5	126.2	115.7	106.5	98.3	91.5	84.5	78.7

TABLE 69.177(a)(5)—MINIMUM DISTANCE IN INCHES BETWEEN THE TONNAGE MARK AND THE LINE OF THE SECOND DECK—Continued

L (in feet)	L divided by D								
	12	13	14	15	16	17	18	19	20
750	155.3	140.8	128.5	117.8	108.4	100.1	92,8	86.1	80.3
760	157.8	143.1	130.6	119.7	110.3	101.9	94.4	87.8	81.7
770	160.2	145.4	132.7	121.7	112.1	103.6	96.0	89.3	83.2
780	162.6	147.6	134.8	123.7	113.9	105.3	97.6	90.8	84.7
790	165.1	149.9	136.9	125.6	115.7	107.0	99.2	92.3	86.1
800	167.5	152.1	138.9	127.4	117.4	108.6	100.8	93.8	87.4

L=the length in feet of the line of the second deck at the centerline of the vessel from the inner surface of the frames at the vessel's stem to the inner surface of the frames at the vessel's stern.

D=The vertical distance in feet from the top of the flat keel of the vessel to the line of the second deck.

EXAMPLE (1) For a vessel in which L=450 feet and L/D=15 feet, read down from the L/D column ''15'' and to the right on the column ''450'' to where the two columns intersect at 39.6. The tonnage mark must be located 39.6 inches below the line of the second deck.

EXAMPLE (2) If L or L/D is an intermediate number, the distance ''a'' between the tonnage mark and the line of the second deck must be obtained by linear interpolation. For a vessel in which L=424.80 feet and L/D=15.17:

L	Table L/D=15	Actual L/D=15.17	Table L/D=16
Table 420	30.4	.....	25.2
Actual 424.80	r	a	s
Table 430	33.3	.....	27.9

Interpolation:
r=30.4+0.48 (33.3 − 30.4)=31.79
s=25.2+0.48 (27.9 − 25.2)=26.50
a=r − 0.17 (r − s)=31.79 − 0.17 (31.79 − 26.50)=30.89 inches

(6) For the following vessels with a load line mark, the upper edge of the tonnage mark must be located at the level of the uppermost part of the load line grid:

(i) Vessels assigned only one gross and one net tonnage under § 69.175(c).

(ii) Vessels for which a load line assigning authority certifies that the vessel's load line mark was located as though the second deck were the freeboard deck.

(b) *Line for fresh and tropical waters.* (1) Except as under paragraph (b)(4) of this section, a horizontal line for fresh and tropical waters may be assigned at the vessel owner's request.

(2) The line must be nine inches long and one inch wide and located above and to the left of the tonnage mark at a distance equal to one forty-eighth of the distance from the top of the flat keel to the tonnage mark. The tonnage mark and the line for fresh and tropical waters must be connected by a vertical line one inch wide. (See the figure in § 69.183(a).)

(3) The line for fresh and tropical waters must be designated by a welded bead or other permanent mark nine inches long placed along the upper edge of the line.

(4) For vessels with a load line mark, if the load line assigning authority certifies that the load line mark was located as though the second deck were the freeboard deck, a line for fresh and tropical waters must not be placed on the vessel.

(c) *Freeboard deck mark.* A vessel assigned two gross and two net tonnages which has more than one deck and no load line mark assigned must have a mark on each side of the vessel with the same dimensions and location as the freeboard deck line mark under § 42.13–20 of this chapter, except that the mark must be located directly above the tonnage mark.

(d) *The line of the second deck.* The line of the second deck must not be marked on the side of the vessel.

(e) *Color of markings.* All markings under this section must be maintained in either a light color on a dark background or a dark color on a light background.

§ 69.179 Certification of markings.

(a) Before a certificate of measurement is issued for a vessel requiring a tonnage mark, a certification by a measurement organization under § 69.15 that all markings meet the requirements of this subpart is required.

(b) The Coast Guard, at any time, may verify markings under this subpart.

§ 69.181 Locating the line of the second deck.

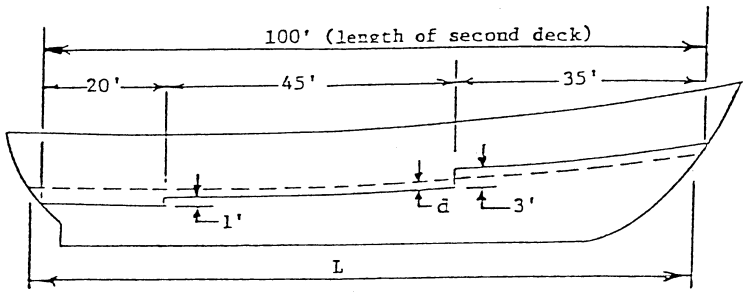
(a) If the second deck is not stepped, the line of the second deck is the longitudinal line of the underside of the second deck at the side of the hull.

(b) If the second deck is stepped (as in the examples following this paragraph), the line of the second deck is a longitudinal line extended parallel to each portion of the second deck and located at the height of the underside of the amidships portion of the second deck at the side of the hull—

(1) Plus, for each stepped portion of the second deck higher than the second deck at amidships, a distance equal to the length of the stepped portion divided by the total length of the second deck times the height that the step is above the height of the amidship portion of the second deck; and

(2) Minus, for each stepped portion of the second deck lower than the second deck at amidships, a distance equal to the length of the stepped portion divided by the total length of the second deck times the height that the amidship portion of the second deck is above the height of the step.

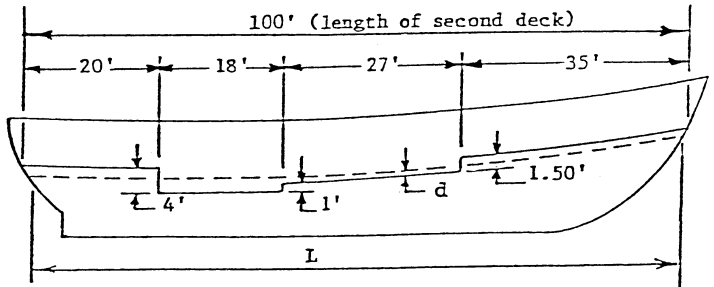
EXAMPLE: (1)



L = Length of the line of the second deck.
d = Distance from amidship portion of second deck to line of second deck.

$$d = \frac{35 \times 3}{100} - \frac{20 \times 1}{100} = +0.85 \text{ feet.}$$

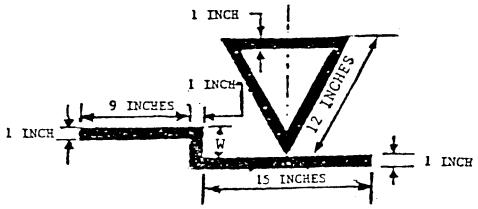
EXAMPLE: (2)



$$d = \frac{20 \times 3}{100} + \frac{35 \times 1.5}{100} - \frac{18 \times 1}{100} = +0.945 \text{ feet.}$$

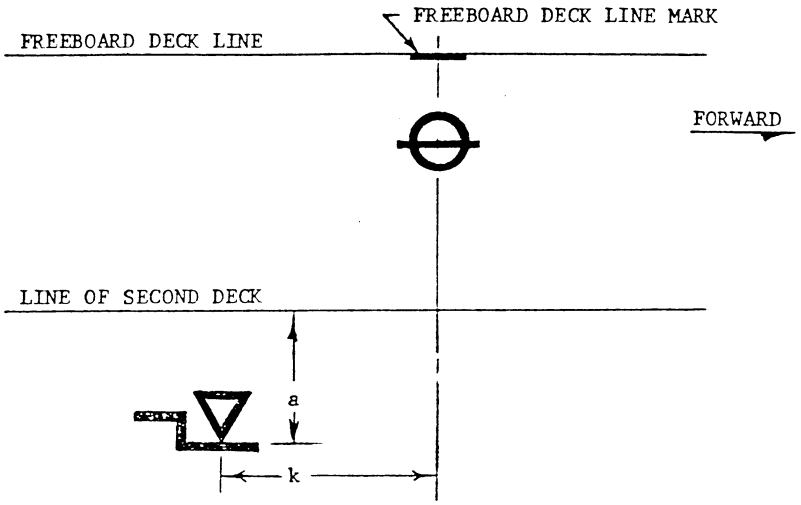
§ 69.183 Figures.

(a) *Tonnage mark with an equilateral triangle and a line for fresh and tropical waters.*



W=1/48 of the distance from the top of the flat keel to the tonnage mark. (See § 69.177(b)(2).)

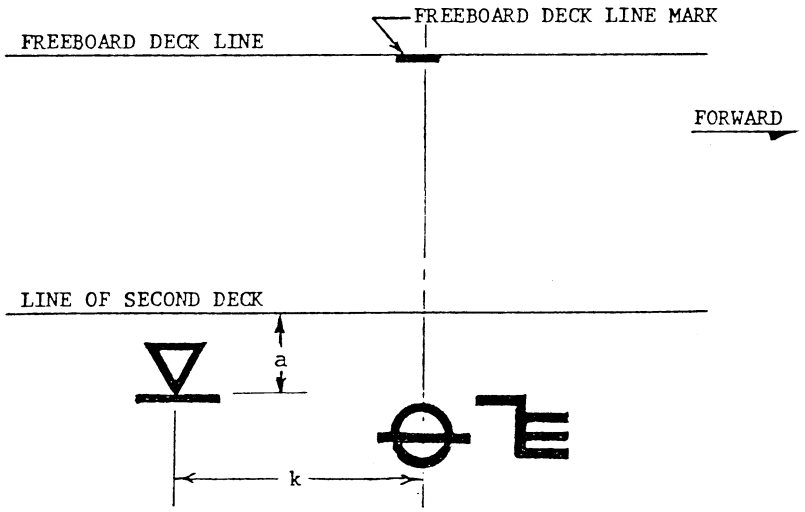
(b) *Tonnage mark location if the load line mark is not placed as though the second deck were the freeboard deck.*



k=a distance between 21 inches and six feet six inches.

a=distance derived from Table 69.177(a)(5).

(c)—*Tonnage mark location if the load line mark is placed as though the second deck were the freeboard deck.*



k=a distance between 21 inches and six feet six inches.

a=the distance between the line of the second deck and the uppermost part of the load line grid.

Subpart E—Simplified Measurement System

§ 69.201 Purpose.

This subpart prescribes the procedures for measuring a vessel under the Simplified Measurement System described in 46 U.S.C. chapter 145, subchapter III.

§ 69.203 Definitions.

As used in this subpart and in Coast Guard Form CG–5397 under § 69.205—

Overall breadth means the horizontal distance taken at the widest part of the hull, excluding rub rails, from the outboard side of the skin (outside planking or plating) on one side of the hull to the outboard side of the skin on the other side of the hull.

Overall depth means the vertical distance taken at or near midships from a line drawn horizontally through the uppermost edges of the skin (outside planking or plating) at the sides of the hull (excluding the cap rail, trunks, cabins, and deckhouses) to the outboard face of the bottom skin of the hull, excluding the keel. For a vessel that is designed for sailing and has a keel faired to the hull, the keel is included in ''overall depth'' if the distance to the bottom skin of the hull cannot be determined reasonably.

Overall length means the horizontal distance between the outboard side of the foremost part of the stem and the outboard side of the aftermost part of the stern, excluding rudders, outboard motor brackets, and other similar fittings and attachments.

Registered breadth means—

(a) For a single-hull vessel, the vessel's overall breadth; and

(b) For a multi-hull vessel, the horizontal distance taken at the widest part of the complete vessel between the outboard side of the skin (outside planking or plating) on the outboardmost side of one of the outboardmost hulls to the outboard side of the skin on the outboardmost side of the other outboardmost hull, excluding rubrails.

Registered depth means—

(a) For a single-hull vessel, the vessel's overall depth; and

(b) For a multi-hull vessel, the overall depth of the deepest hull.

Registered length means—

(a) For a single-hull vessel, the vessel's overall length; and

(b) For a multi-hull vessel, the horizontal distance between the outboard side of the foremost part of the stem of the foremost hull and the outboard side of the aftermost part of the stern of the aftermost hull, excluding fittings or attachments.

Vessel designed for sailing means a vessel which has the fine lines of a sailing craft and is capable of being propelled by sail, whether or not the vessel is equipped with an auxiliary motor, a decorative sail, or a sail designed only to steady the vessel.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989; 54 FR 40240, Sept. 29, 1989; USCG–1999–6216, 64 FR 53225, Oct. 1, 1999]

§ 69.205 Application for measurement services.

To apply for measurement under the Simplified Measurement System, the owner of the vessel must complete either an Application for Simplified Measurement (form CG–5397), or a Builder's Certification and First Transfer of Title (form CG–1261) which has the information in Part III ''Dimensions'' completed, and submit it to the National Vessel Documentation Center.

[CGD 95–014, 60 FR 31606, June 15, 1995]

§ 69.207 Measurements.

(a) All lengths and depths must be measured in a vertical plane at centerline and breadths must be measured in a line at right angles to that plane. All dimensions must be expressed in feet and inches to the nearest half inch or in feet and tenths of a foot to the nearest .05 of a foot.

(b) For a multi-hull vessel, each hull must be measured separately for overall length, breadth, and depth and the vessel as a whole must be measured for registered length, breadth, and depth.

(c) The Coast Guard may verify dimensions of vessels measured under this subpart.

§ 69.209 Calculation of tonnages.

(a) *Gross tonnage.* (1) Except as in paragraphs (a)(2) through (a)(5) of this section, the gross tonnage of a vessel designed for sailing is one-half of the product of its overall length, overall breadth, and overall depth (LBD) divided by one hundred (i.e., 0.50 LBD/100), and the gross tonnage of a vessel not designed for sailing is 0.67 LBD/100.

(2) The gross tonnage of a vessel with a hull that approximates in shape a rectangular geometric solid (barge-shape) is 0.84 LBD/100.

(3) The gross tonnage of a multi-hull vessel is the sum of all the hulls as calculated under this section.

(4) If the volume of the principal deck structure of a vessel is as large as, or larger than, the volume of the vessel's hull, the volume of the principal deck structure in tons of 100 cubic feet is added to the tonnage of the hull to establish the vessel's gross tonnage. The volume of the principal deck structure of a vessel is determined by the product of its average dimensions.

(5) If the overall depth of a vessel designed for sailing includes the keel, only 75 percent of that depth is used for gross tonnage calculations.

(b) *Net tonnage.* (1) For a vessel having propelling machinery in its hull—

(i) The net tonnage is 90 percent of its gross tonnage, if it is a vessel designed for sailing; or

(ii) The net tonnage is 80 percent of its gross tonnage, if it is not a vessel designed for sailing.

(2) For a vessel having no propelling machinery in its hull, the net tonnage is the same as its gross tonnage.

[CGD 87–015b, 54 FR 37657, Sept. 12, 1989, as amended by CGD 97–057, 62 FR 51045, Sept. 30, 1997]