

at the port of departure from the Canal: *Provided, however,* That in cases involving emergency or other special circumstances, the requirement of this paragraph may be waived by the Administrator of the Panama Canal Commission.

[31 FR 12326, Sept. 16, 1966, as amended at 46 FR 63194, Dec. 30, 1981]

**§ 133.72 Same; exception; vessels operated by the United States.**

Section 133.71 shall not apply to vessels operated by the Government of the United States; and bills for tolls, where applicable, and for other charges against such vessels, shall be settled as are other obligations between agencies of the Federal Government.

**§ 133.73 Payment to be in cash.**

All payments for tolls and other charges shall be made in cash, in lawful money of the United States, except as provided in by § 133.74.

**§ 133.74 Same; exception; payment secured by deposit of cash or bonds; credit cards.**

(a) The payment of tolls and vessel charges may be secured by making cash deposits for that purpose with the Treasurer of the Panama Canal Commission or such United States depository as may be designated by the Panama Canal Commission.

(b) In lieu of payment in cash or a cash deposit, the payment of tolls and vessel charges may be secured by making deposits, pursuant to written agreement with the Panama Canal Commission, of negotiable bonds of the United States Treasury Department as collateral security for the deposit of public moneys. Such bonds shall be under the full control of the Panama Canal Commission; shall be deposited with the Treasurer of the Panama Canal Commission or such United States depository as may be designated by the Panama Canal Commission and shall be subject to sale or other disposition by the Panama Canal Commission upon any failure in prompt payment of any bill for tolls or vessel charges for which the said bonds are deposited as security.

(c) Vessels assessed a toll of not more than \$1,500 under § 133.1(d) may pay the

respective toll and any charges for ancillary services by credit card, under such conditions as are established by the Commission.

[46 FR 63194, Dec. 30, 1981, as amended at 63 FR 29614, June 1, 1998]

**§ 133.75 To whom payment is to be made.**

Payment for tolls and vessel charges shall be made to the Treasurer, Panama Canal Commission.

[46 FR 63195, Dec. 30, 1981]

**PART 135—RULES FOR MEASUREMENT OF VESSELS**

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AUTHORITY: 22 U.S.C. 3791-3792, 3794.

SOURCE: 59 FR 43255, Aug. 22, 1994, unless otherwise noted.

### Subpart A—General Provisions

#### § 135.1 Scope.

This part establishes the procedures for determining the Panama Canal Universal Measurement System (hereinafter PC/UMS) Net Tonnage. The tonnage shall be used to assess tolls for use of the Panama Canal. Also, the tonnage may be used, when adequate volume information is not provided, to assess the charge for admeasurement services. Vessels measuring not more than 30.48 meters (100 feet) in length overall are not required to be measured. If the Panama Canal Commission determines the toll provided in § 133.1 (d) will apply, the vessel need not be assigned a PC/UMS Net Tonnage.

[59 FR 43255, Aug. 22, 1994, as amended at 63 FR 23221, Apr. 28, 1998]

#### § 135.2 Vessels generally to present tonnage certificate or be measured.

All vessels except warships, floating drydocks, dredges, and vessels subject to transitional relief measures, applying for passage through the Panama Canal shall present a duly authenticated International Tonnage Certificate (1969) (hereinafter ITC 69), or suitable substitute (i.e., a certificate derived from a system which is substantially similar to that which was provided for in the 1969 International Convention on Tonnage Measurement of Ships, and which contains the total volume or allows for the direct mathematical determination of total volume). Vessels without such total volume information shall be inspected by Canal authorities who shall determine an appropriate volume for use in the calculation of a PC/UMS Net Tonnage of such vessels. In addition, these same vessels shall provide documentation, such as plans and classification certificates, with sufficient information to determine the volume of the maximum capacity of containers that may be carried on or above the upper deck, or VMC as defined in section 135.13(a)(11).

(Approved by the Office of Management and Budget (OMB) control number 3207–0001)

[59 FR 43255, Aug. 22, 1994, as amended at 61 FR 60612, Nov. 29, 1996]

#### § 135.3 Determination of total volume and VMC.

(a) Determination of total volume and VMC used to calculate PC/UMS Net Tonnage shall be carried out by the Panama Canal Commission. In so doing, however, the Commission may rely upon total volume and VMC information provided by such officials as are authorized by national governments to undertake surveys and issue national tonnage certificates. Total volume and VMC information presented to the Commission shall be subject to verification, and if necessary, correction as necessary to ensure accuracy to a degree acceptable to the Commission.

(b) The Commission may, when it is deemed necessary to verify information contained on the ITC 69, require the submission of additional documents. Failure to submit the requested documentation may result in the Commission's developing a figure that accurately reflects the vessel's volume.

(Approved by Office of Management and Budget (OMB) under control number 3207–0001)

[59 FR 43255, Aug. 22, 1994, as amended at 61 FR 60612, Nov. 29, 1996]

#### § 135.4 Administration and interpretation of rules.

The rules of measurement provided in this part shall be administered and interpreted by the Administrator of the Panama Canal Commission.

### Subpart B—PC/UMS Net Tonnage Measurement

#### § 135.11 Tonnage.

(a) The tonnage of a ship shall consist of PC/UMS Net Tonnage.

(b) The net tonnage shall be determined in accordance with the provisions of the regulations in this subpart.

(c) The net tonnage of novel types of craft whose constructional features are such as to render the application of the provisions of the regulations in this subpart unreasonable or impracticable shall be determined in a manner which is acceptable to the Panama Canal Commission.

**§ 135.12 Definitions.**

(a) *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 thereof, and below which all openings in the sides of the ship are fitted with permanent means of watertight closing. In a ship having a stepped upper deck, the lowest line of the exposed deck and the continuation of that line parallel to the upper part of the deck is taken as the upper deck.

(b) *Moulded depth* means the vertical distance measured from the top of the keel to the underside of the upper deck at side.

(1) In wood and composite ships the distance is measured from the lower edge of the keel rabbet. Where the form at the lower part of the midship section is of a hollow character, or where thick garboards are fitted, the distance is measured from the point where the line of the flat of the bottom continued inwards cuts the side of the keel.

(2) In ships having rounded gunwales, the moulded depth shall be measured to the point of intersection of the moulded lines of the deck and side shell plating, the lines extending as though the gunwales were of angular design.

(3) Where the upper deck is stepped and the raised part of the deck extends over the point at which the moulded depth is to be determined, the moulded depth shall be measured to a line of reference extending from the lower part of the deck along a line parallel with the raised part.

(c) *Breadth* or *moulded breadth* means the maximum breadth of the ship, measured amidships to the moulded line of the frame in a ship with a metal shell and to the outer surface of the hull in a ship with a shell of any other material.

(d) *Enclosed spaces* mean all spaces which are bounded by the ship's hull, by fixed or portable partitions or bulkheads, by decks or coverings other than permanent or movable awnings. No

break in a deck, nor any opening in the ship'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, shall preclude a space from being included in the enclosed space.

(e) *Excluded spaces* mean, notwithstanding the provisions of paragraph (d) of this section, the spaces referred to in paragraphs (e)(1) to (e)(5) of this section. Excluded spaces shall not be included in the volume of enclosed spaces, except that any such space which fulfills at least one of the following three conditions shall be treated as an enclosed space:

- The space is fitted with shelves or other means for securing cargo or stores;
- The openings are fitted with any means of closure; or
- The construction provides any possibility of such openings being closed.

(1)(i) A space within an erection opposite an end opening extending from deck to deck except for a curtain plate of a depth not exceeding by more than 25 millimeters (one inch) the depth of the adjoining deck beams, such opening having a breadth equal to or greater than 90 percent of the breadth of the deck at the line of the opening of the space. This provision shall be applied so as to exclude from the enclosed spaces 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 width of the deck at the line of the opening (Figure 1).

In the figure:

O = excluded space

C = enclosed space

I = space to be considered as an enclosed space

Hatched-in parts to be included as enclosed spaces.

B = breadth of the deck in way of the opening.

In ships with rounded gunwales the breadth is measured as indicated in Figure 11 in paragraph (e)(5).

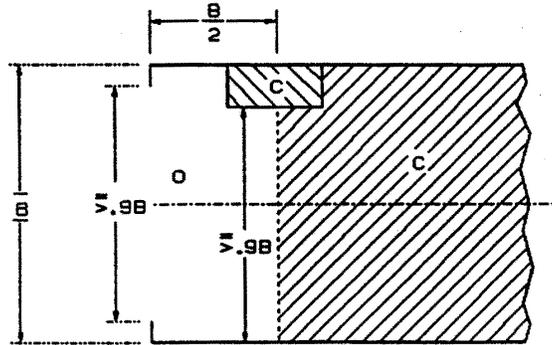


Fig. 1

(ii) Should the width of the space because of any arrangement except by convergence of the outside plating, become 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 athwartships width of the space becomes equal to, or less than, 90 percent of the breadth of the deck shall be excluded from the volume of enclosed spaces. (Figures 2, 3 and 4).

In the figures:  
 O = excluded space  
 C = enclosed space  
 I = space to be considered as an enclosed space  
 Hatched-in parts to be included as enclosed spaces.  
 B = breadth of the deck in way of the opening.

In ships with rounded gunwales the breadth is measured as indicated in Figure 11 in paragraph (e)(5).

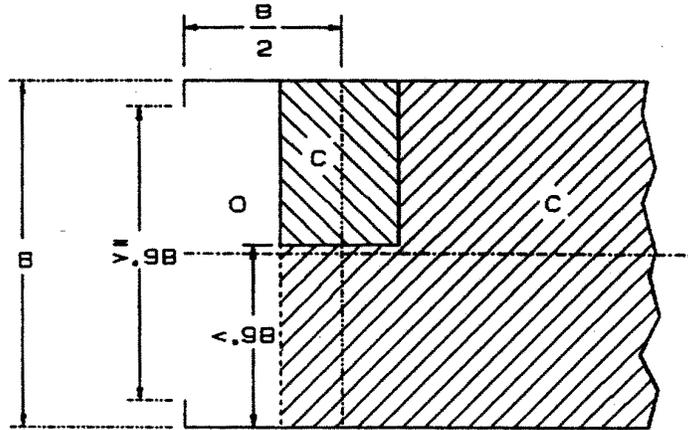


Fig. 2

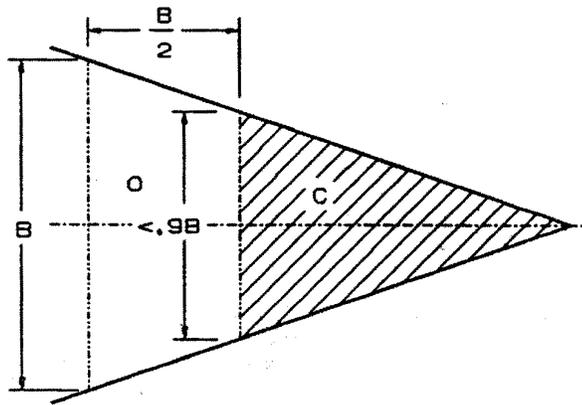


Fig. 3

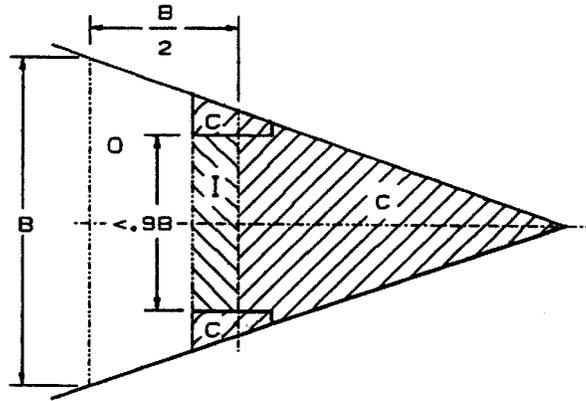


Fig. 4

(iii) Where an interval which is completely open except for bulwarks or open rails separates any two spaces, the exclusion of one or both of which is permitted under paragraphs (e)(1)(i) and/or (e)(1)(ii) of this section, such exclusion shall not apply if the separation between the two spaces is less than the least half breadth of the deck in way of the separation. (Figures 5 and 6).

In the figures:  
 O = excluded space  
 C = enclosed space  
 I = space to be considered as an enclosed space  
 Hatched-in parts to be included as enclosed spaces.  
 B = breadth of the deck in way of the opening.  
 In ships with rounded gunwales the breadth is measured as indicated in Figure 11 in paragraph (e)(5).

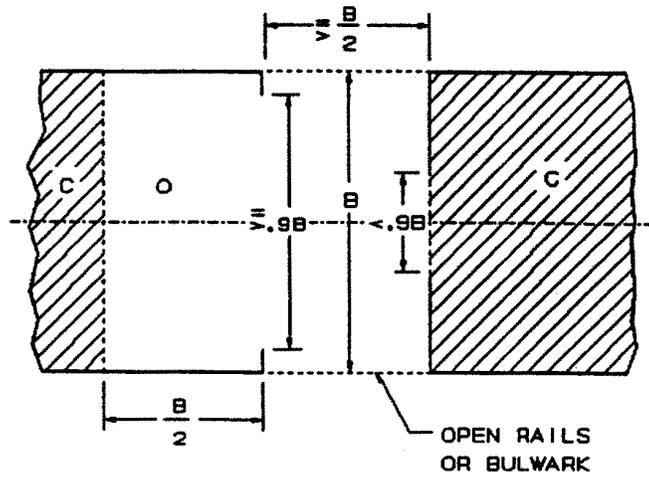


Fig. 5

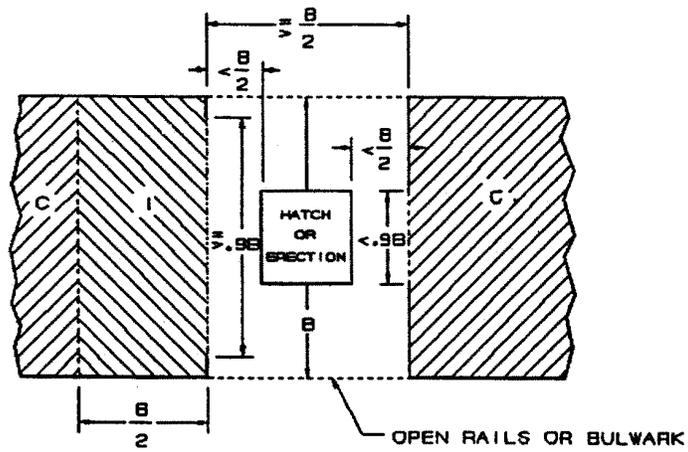


Fig. 6

(2) A space under an overhead deck covering open to the sea and weather, having no other connection on the exposed sides with the body of the ship than the stanchions necessary for its support. In such a space, open rails or a bulwark and curtain plate may be fitted or stanchions fitted at the ship's

side, provided that the distance between the top of the rails or the bulwark and the curtain plate is not less than 0.75 meters (2.5 feet) or one-third of the height of the space, whichever is the greater. (Figure 7).

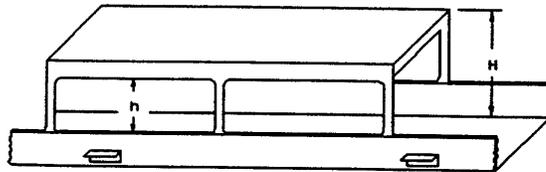


FIG. 7

$h = \text{AT LEAST } \frac{H}{3} \text{ OR } 0.75 \text{ m (2.5 FEET)}$   
**WHICHEVER IS THE GREATER**

(3) A space in a side-to-side erection directly in way of opposite side openings not less in height than 0.75 meters (2.5 feet) or one-third of the height of the erection, whichever is the greater. If the opening in such an erection is provided on one side only, the space to be excluded from the volume of enclosed spaces shall be limited inboard from the opening to a maximum of one-half of the breadth of the deck in way of the opening. (Figure 8).

In the figures:

- O = excluded space
- C = enclosed space
- I = space to be considered as an enclosed space
- Hatched-in parts to be included as enclosed spaces.
- B = breadth of the deck in way of the opening.

In ships with rounded gunwales the breadth is measured as indicated in Figure 11 in paragraph (e)(5).



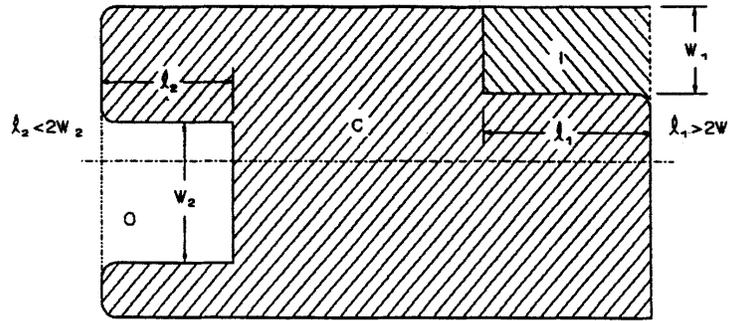


Fig. 10

SHIPS WITH ROUNDED GUNWALES

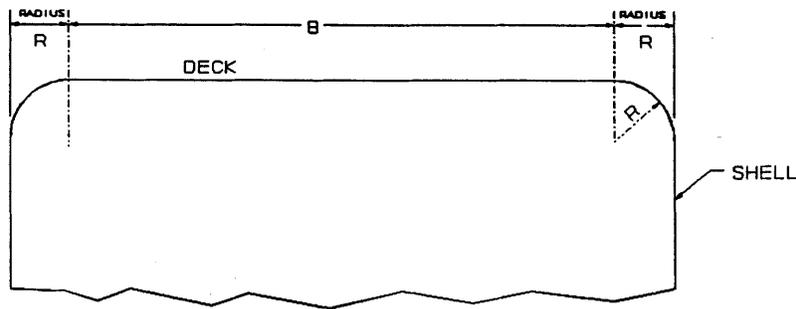


Fig. 11

(f) *Passenger* means every person other than:

- (1) the master and the members of the crew or other persons employed or engaged in any capacity on board a ship on the business of that ship; and
- (2) a child under one year of age.

(g) *Weathertight* means that in any sea conditions water will not penetrate into the ship.

**§ 135.13 Determination of PC/UMS Net Tonnage.**

PC/UMS Net Tonnage shall be determined as follows:

- (a) For all vessels with tolls fixed in accordance with §133.1(a) or (b) of this

chapter, unless subject to the transitional relief measures established in §135.31 of this chapter, the formula for determining PC/UMS Net Tonnage is:

$$PC/UMS \text{ Net Tonnage} = K_4(V) + K_5(V) + CF_1(VMC)$$

in which formula:

(1) "K<sub>4</sub>" =  $(0.25 + [0.01 \times \text{Log}_{10}(V)]) \times 0.830$

(2) "K<sub>5</sub>" =  $[\text{Log}_{10}(DA-19)] / ([\text{Log}_{10}(DA-16)] \times 17)$ . If the number of passengers (N<sub>1</sub> + N<sub>2</sub>) is greater than 100 or DA is equal to or less than 20.0 meters then K<sub>5</sub> is equal to zero.

(3) "V" = Total volume of all enclosed spaces of the ship in cubic meters and is identical to V as specified in the 1969

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International Convention on Tonnage Measurement of Ships.

(4) "DA" (Average depth)=The result of the division of the Total Volume by the product of the length in meters multiplied by the moulded breadth in meters.  $DA=V/(L \times MB)$ .

(5) "L" (Length) is defined as 96 percent of the total length on a waterline at 85 percent of the least moulded depth measured from the top of the keel, or the length from the fore side of the stem to the axis of the rudder stock on that waterline, if that be greater. In ships designed with a rake of keel, the waterline on which this length is measured shall be parallel to the designed waterline.

(6) Moulded breadth is defined in § 135.12(c).

(7)  $N_1$ =number of passengers in cabins with not more than 8 berths.

(8)  $N_2$ =number of other passengers.

(9)  $N_1 + N_2$ =total number of passengers the ship is permitted to carry as indicated in the ship's passenger certificate.

(10) " $CF_1$ "=.031 for ships which the Commission determines are designed to carry containers on or above the upper deck; otherwise " $CF_1$ "=0. In making the foregoing determination, the Commission may consider documentation provided by such officials as are authorized by national governments to undertake surveys and issue national tonnage certificates.

(11) "VMC"=the volume (in cubic meters) of maximum capacity of the containers that can be carried on or above the upper deck. This volume may be calculated by multiplying the maximum number of containers by 29.2 m<sup>3</sup>, or by other generally accepted methods that meet the Commission's accuracy standards. VMC will not include any container capacity that is included in "V".

(b) For vessels subject to transitional relief measures, the existing Panama Canal Net Tonnage as specified on the certificate issued by the Commission plus  $CF_1$  (VMC) shall be the PC/UMS Net Tonnage. In such case, the formula for determining PC/UMS Net Tonnage

is:  $PC/UMS \text{ Net Tonnage} = \text{Panama Canal Net Tonnage} + CF_1(VMC)$ .

[59 FR 43255, Aug. 22, 1994, as amended at 61 FR 60612, Nov. 29, 1996]

### § 135.14 Change of PC/UMS Net Tonnage.

(a) Vessels whose PC/UMS Net Tonnage is determined in accordance with § 135.13(a) shall have a new PC/UMS Net Tonnage issued if "V" changes.

(b) A vessel whose PC/UMS Net Tonnage is determined in accordance with § 135.13(b) shall retain that tonnage until the vessel undergoes a significant structural change as defined in § 135.14(c). In the event of a significant structural change, the vessel's PC/UMS Net Tonnage shall be determined in accordance with § 135.13(a).

(c) For the purposes of paragraph (b) of this section, significant structural change means an actual change of at least 10 percent in the total volume of the vessel. Vessels without comparative ITC 69 total volumes, or other suitable sources of total volume comparison, shall have a fair and equitable volume comparison made by the Commission to determine if a significant structural change has occurred.

(d) If the VMC of a vessel is changed due to any physical modification after the vessel's PC/UMS Net Tonnage has been determined at the Canal, the PC/UMS Net Tonnage may be revised by the Commission.

[59 FR 43255, Aug. 22, 1994, as amended at 61 FR 60612, Nov. 29, 1996]

### § 135.15 Calculation of volumes.

(a) All volumes included in the calculation of PC/UMS Net Tonnage shall be measured, irrespective of the fitting of insulation or the like, to the inner side of the shell or structural boundary plating in ships constructed of metal, and to the outer surface of the shell or to the inner side of structural boundary surfaces in ships constructed of any other material.

(b) Volumes of appendages shall be included in the total volume.

(c) Volumes of spaces open to the sea may be excluded from the total volume.

(d) VMC may be calculated by multiplying the maximum number of containers by 29.2 m<sup>3</sup>, or by other generally accepted methods that meet the Commission's accuracy standards.

(e) For purposes of this part, the outside dimension of a container is 8 ft.×8 ft.×20 ft., or 36.25 m<sup>3</sup>. These parameters will be used for determining the maximum above-deck container capacity.

[59 FR 43255, Aug. 22, 1994, as amended at 61 FR 60612, Nov. 29, 1996]

**§ 135.16 Measurement and calculation.**

(a) All measurements used in the calculation of volumes shall be taken to the nearest centimeter or one-twentieth of a foot.

(b) The volumes shall be calculated by generally accepted methods for the space concerned and with an accuracy acceptable to the Commission.

(c) The calculation shall be sufficiently detailed to permit easy checking.

**Subpart C—Warships, Dredges and Floating Drydocks**

**§ 135.21 Warships, dredges and floating drydocks to present documents stating displacement tonnage.**

All warships, dredges and floating drydocks shall present documents stating accurately the tonnage of displacement at each possible mean draft. The term "warship" means any vessel of government ownership that is being employed by its owners for military or naval purposes and shall include armed coast guard vessels and vessels devoted to naval training purposes, but shall not include naval auxiliary vessels such as tankers, ammunition ships, refrigerator ships, repair ships, tenders or vessels used to transport general military supplies.

(Approved by Office of Management and Budget (OMB) under control number 3207-0001)

**§ 135.22 Tolls on warships, dredges and floating drydocks levied on actual displacement.**

The toll on warships, dredges and floating drydocks shall be based upon

their tonnage of actual displacement at the time of their application for passage through the Canal. The actual displacement of these vessels shall be determined in a manner acceptable to the Commission and shall be expressed in tons of 2240 pounds. Should any of these vessels not have on board documents from which the displacement can be determined, Commission officials may use any practicable method to determine the displacement tonnage for assessment of tolls.

**Subpart D—Transitional Relief Measures**

**§ 135.31 Transitional relief measures.**

Transitional relief measures as specified in § 135.13(b) shall be applied to a vessel which has made a transit of the Panama Canal between March 23, 1976 and September 30, 1994, inclusive, and has not had a significant structural change as defined in § 135.14(c) since the last transit during the above period. Any significant structural change made after the granting of transitional relief measures shall disqualify a vessel for further relief, and the vessel shall be handled in accordance with the provisions of § 135.13(a). Transitional relief measures are applied to the vessel during its entire active service life as long as the vessel does not undergo a significant structural change. Vessels subject to transitional relief measures shall present their existing Panama Canal Tonnage Certificate on their first transit after September 30, 1994. Vessels subject to relief measures shall not be required to present an ITC 69 or any other total volume certification. Vessels subject to relief measures shall provide Canal authorities with sufficient documentation, such as plans and classification certificates, for the Commission to determine the VMC.

(Approved by Office of Management and Budget (OMB) under control number 3207-0001)

[59 FR 43255, Aug. 22, 1994, as amended at 61 FR 60612, Nov. 29, 1996]

**Subpart E—Alternative Method for Measurement of Vessels**

**§ 135.41 Measurement of vessels when volume information is not available.**

When an ITC 69 or suitable substitute and documentation for the calculation of the VMC are not presented, or when the certificate, substitute or VMC documentation presented does not meet accuracy standards acceptable to the Commission, vessels will be measured in a manner that will include the entire cubical contents of V and VMC as defined in this part. The Commission shall endeavor to determine an accurate total volume of the vessel using the best information available at the time of the determination. The total volume shall be calculated by generally accepted methods for the space concerned and with an accuracy acceptable to the Commission.

[59 FR 43255, Aug. 22, 1994, as amended at 61 FR 60612, Nov. 29, 1996]

**§ 135.42 Measurement of vessels when tonnage cannot be otherwise ascertained.**

(a) Vessels without an ITC 69, a suitable substitute or documentation from which to calculate total volume shall be measured as follows:

(1) The volume of structures above the upper deck may be determined by any accepted method or combination of methods. These methods include but are not limited to simple geometric formulas, Simpson's rules, and other standard mathematical formulas. If special procedures are used, they should be identified. In all cases, measurements and calculations should be sufficiently detailed to permit easy review.

(2) The volume of the hull below the upper deck (UDV) shall be determined as follows:

(i) The formula:

$$UDV = (0.91 \times [(LOA \times MB) \times (D - SLD)]) + (SLDISP / 1.025)$$

Where:

UDV=Total volume of all enclosed spaces below the upper deck in cubic meters.

LOA=The Length overall, i.e., the length of the ship in meters from the foremost to the aftermost points, including a bulbous bow if present.

MB=Moulded breadth in meters as defined in § 135.12(c).

D=Moulded depth in meters as defined in § 135.12(b).

SLD=Summer loaded draft (in meters), i.e., the maximum depth to which the vessel's hull may be immersed when in a summer zone.

SLDISP=Summer loaded displacement, i.e., the actual weight in metric tons of the water displaced by the vessel when immersed to her SLD.

(ii) If § 135.42(a)(2)(i) proves unworkable, the total volume of the hull below the upper deck shall be determined by multiplying the product of the LOA, MB and D by the appropriate coefficient listed in the following table:

LOA in meters	Coefficient
0 to 30 .....	.7150
> 30 to 60 .....	.7250
> 60 to 90 .....	.7360
> 90 to 120 .....	.7453
> 120 to 150 .....	.7328
> 150 to 180 .....	.7870
> 180 to 210 .....	.8202
> 210 to 240 .....	.7870
> 240 to 270 .....	.7328
>270 .....	.7453

(3) The total volume of a vessel is the sum of the volume of the structures above the upper deck as determined in accordance with § 135.42(a)(1) and the volume of the hull below the upper deck as determined in accordance with § 135.42(a)(2) (i) or (ii).

(b) Vessels which have had their total volume determined in accordance with § 135.41 or this section may apply for re-admeasurement when they have a new or corrected ITC 69, a suitable substitute or present documentation sufficient to calculate total volume.

(c) VMC may be determined by any accepted method or combination of methods, including but not limited to, simple geometric formulas, multiplication of a container by 29.2 m<sup>3</sup>, or other standard mathematical formula. The on-deck container capacity of a vessel for VMC purposes will be determined by the Commission.

[59 FR 43255, Aug. 22, 1994; 59 FR 52862, Oct. 19, 1994, as amended at 61 FR 60612, Nov. 29, 1996]