



MARITIME SAFETY COMMITTEE  
46th session  
Agenda item 10

IMCO

MATTERS RELATED TO THE 1969 TONNAGE MEASUREMENT CONVENTION

Report of the Working Group

1 The working group on matters related to the 1969 Tonnage Measurement Convention met from 30 to 31 March 1982 under the chairmanship of Mr. F. Harvey (United Kingdom) and was attended by delegates from Egypt, Finland, Japan, Norway, Panama, Portugal, Sweden, the United Kingdom and the United States and observers from the IOPC Fund, ICS and IACS. The group considered questions delegated to it by the Committee as referred to in the following paragraphs.

Measurement of existing ships under the 1969 Tonnage Measurement Convention for the purpose of the Convention on Limitation of Liability for Maritime Claims, 1976

2 The group considered a question originally submitted by India to the Legal Committee (LEG XLVI/6/1) on the treatment of existing ships not measured under the 1969 Tonnage Measurement Convention. It was argued that there could be a problem if such existing ships were required to be measured in accordance with the 1969 Tonnage Measurement Convention if the need arose under Article 6(5) of the 1976 Limitation Convention bearing in mind that such ships could retain their national tonnage for all other purposes.

3 The group noted the outcome of the discussion of the Indian paper in the Legal Committee at its forty-sixth session (MSC 46/10) in particular that Article 6(5) of the 1976 Limitation Convention provides that the tonnage used for determining ship owners' liability shall be the gross tonnage assessed in accordance with the 1969 Tonnage Measurement Convention.

4 The group concurred with the view expressed by the Legal Committee that in the majority of cases tonnage could easily be calculated for existing ships. Although there may be a problem with regard to existing ships which had foundered the group thought that necessary particulars to enable the tonnage to be calculated should be obtainable from the ship's technical records.

Calculation of ship's tonnage for the purpose of the 1969 Civil Liability Convention and the 1971 Fund Convention

5 The group noted the request by the IOPC Fund (MSC 46/10/1) to consider problems which may arise out of the application of Article V.10 of the CLC after the entry into force of the 1969 Tonnage Measurement Convention and agreed on the following answer:

- .1 It should be technically possible in all cases to calculate a ship's tonnage in accordance with the first sentence of Article V.10 of the CLC. Although there may be a problem with regard to ships which had foundered, the group considered that necessary particulars to enable the tonnage to be calculated should be obtainable from the ships' technical records.
- .2 In view of this positive answer to question 1, an answer to questions 2 and 3 is not strictly called for. However, the group noted that, although it should be possible to make a calculation in accordance with the second sentence of Article V.10 of the CLC, such a calculation could result in a significantly different tonnage measurement to that derived in accordance with the first sentence.
- .3 Furthermore, as regards question 3, the group was not aware of any suitable alternative method of calculation, but thought it unlikely that it would ever be needed.

Tonnage for assessment of IMCO contributions

6 In accordance with the Council request (MSC 46/3/1, paragraph 6) the Committee asked the group to prepare a draft MSC circular calling upon governments to provide information regarding the principles of their national tonnage measurement systems with particular reference to spaces not included in the gross tonnage. The draft MSC circular is attached at Annex 1.

7 Having provided the circular, as requested, the group expressed doubts as to the value of such information to the Council in helping it to resolve the difficulties in reconciling the differing national tonnage systems in order to arrive at an equitable basis on which to assess IMCO contributions. Spaces likely to be exempted from the gross tonnage by some countries would include water ballast tanks, passenger public rooms and certain 'tween deck spaces. The tonnage of such spaces expressed as a percentage of the gross tonnage can vary widely for ships of different type and size. The overall percentage for the whole fleet of any country could therefore only be calculated after an extensive exercise on a ship to ship basis. The only internationally agreed standard of gross tonnage is

the tonnage calculated under the 1969 Tonnage Measurement Convention but it would be out of the question to ask governments to remeasure their existing fleets under the rules of this Convention.

Comparison between the 1969 Tonnage Measurement Convention tonnage and Suez and Panama Canal tonnages

8 The group noted the statement by Egypt (the Suez Canal Authority) as set out at MSC 46/WP.3 in which they outline the difficulty in relating the Suez net tonnage, on which their dues were based, with the gross and net tonnages calculated in accordance with the 1969 Tonnage Measurement Convention. At the present time they had only a few samples (about 12 ships) on which to determine conversion factors.

9 The Suez Canal Authority was therefore not able to accept the 1969 tonnages at the present time; much more information is necessary for a variety of ship types to enable them to continue their studies. For this reason they asked that governments might be requested to provide relevant information on the gross and net tonnages calculated in accordance with the 1969 Tonnage Measurement Convention and also in accordance with the Suez Canal rules.

10 The group accepted this request and thought that in order to progress the aim of resolution A.492(XII), a MSC circular should be issued asking governments to co-operate in this exercise. A draft MSC circular is attached at Annex 2.

11 In the course of discussion several delegations mentioned that in their countries gross tonnage was being used to an increasing extent in preference to net tonnage for the assessment of various dues including harbour and pilotage dues.

12 Some members of the group felt that the tonnage figures under current national tonnage systems as well as under the 1969 Tonnage Measurement Convention would be of interest to the Organization, maritime authorities, and the marine community in general. Accordingly, as an alternative, a more general circular could be issued which would include national tonnage as indicated in Annex 3. It is recommended that replies to this MSC circular be submitted to the Secretariat, collated by the Secretariat and circulated as information documents. The Committee is invited to decide whether the draft as in Annex 2 or in Annex 3 should be used.

Unified interpretations of the provisions of the 1969 Tonnage Measurement Convention

13 As requested by the Committee in MSC 46/9 and MSC 46/9/1, the group reviewed the interpretations produced at the twenty-sixth and twenty-seventh sessions of the Sub-Committee on Subdivision, Stability and Load Lines (STAB XXVI/14, Annex 8 and STAB 27/13, Annex 3) and made a number of editorial corrections. These unified interpretations are set out at Annex 4.

14 Japan informed the group that they could not agree to two of the draft unified interpretations in Annex 4 and proposed the following amendments:

.1 the first sentence of paragraph 4.4.3 to read as follows:

"When the weathertight steel pontoon covers are deeper than 1 m at any position, the volume of such weathertight steel pontoon covers on hatchway coamings should be included in the calculations of the total volume of the ship."

.2 Delete paragraph 7.3.

However, the group could not discuss this proposal since this was of a substantial nature.

#### Use of tonnage as a regulatory criterion for the SOLAS and other Conventions

15 The group, in discussing this item was aware that the matter had previously been considered by the Organization, both in committee and in the various sub-committees, and that the general view then expressed was that no alternative parameter to gross tonnage could be found. It was noted however that the other parameters are also used in the new Chapter III of the 1974 SOLAS Convention and in other chapters in the 1966 Load Line Convention, in the 1977 Torremolinos Convention, and in the MARPOL Convention, such as length and deadweight.

16 The group was also aware that resolution A.494(XII) requests a complete and thorough analysis of the continued use of tonnage as a regulatory criterion in the SOLAS and other conventions should be completed not later than 31 December 1986.

17 In order to complete this task, which the group thought was an extremely complex matter, the view was expressed that the only way in which it could be achieved was by the formation of a special working group of the Committee comprising appropriate experts in safety matters rather than in tonnage measurement. The whole matter is of fundamental importance to the safety requirements in the various conventions and urgent consideration is therefore necessary.

18 The group recommends that the Committee invite its members to submit proposals for parameters which may be used to replace tonnage. The group recommends that the Secretariat should be requested to prepare a document containing information on the previous work by the Committee and sub-committees on this subject, such as a summary of documents submitted by Member Governments and the Secretariat, outcome of the discussions in the Committee and sub-committees and references to IMCO documents.

ANNEX 1

## DRAFT MSC CIRCULAR

## QUESTIONNAIRE ON NATIONAL TONNAGE CALCULATIONS

- 1 In accordance with resolution A.76(IV) adopted by the Assembly of the Organization, the tonnage assessment of Members' contribution is determined by its gross register tonnage as shown in the latest Statistical Tables of Lloyd's Register of Shipping. Lloyd's figures in turn are based upon tonnage measured in accordance with the national requirements of the various flag States. Currently national requirements on the measurement of gross tonnage differ quite significantly amongst the different States and the International Convention on Tonnage Measurement of Ships, 1969 will not eliminate this anomaly for a great many years.
- 2 Having considered the report of the Ad Hoc Working Group on the Assessment of IMCO Contributions (C XLVI/15/Add.1) the Council requested the Maritime Safety Committee to consider the anomaly of varying national tonnage measurement systems especially regarding spaces exempted from the gross tonnage.
- 3 It is the view of the Maritime Safety Committee that a unified method of calculating gross registered tonnage on which the Members' contributions to the Organization are based would be desirable.
- 4 Member Governments are requested therefore to submit to the Organization, on or before 1 October 1982, information regarding the principles of their national tonnage measurement system with particular reference to spaces excluded from the gross tonnage; and to indicate any limitations on the amount of such spaces excluded from the gross tonnage. In addition Member Governments are asked to provide information regarding their future intentions in relation to the measurement of gross registered tonnage.
- 6 The information provided by Member Governments will be collated by the Secretariat for submission to the Council.

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ANNEX 2

## DRAFT MSC CIRCULAR

## SUEZ AND PANAMA CANAL TONNAGES

- 1 Member Governments will be aware that resolution A.492(XII) urges them to request the Suez Canal Authority and the Panama Canal Commission to take steps to eliminate the need for special certificates for the purpose of assessing canal dues levied by them and to recognise for that purpose the International Tonnage Certificate (1969) for every ship carrying such a certificate.
- 2 Difficulty is being experienced by the Canal Authorities in relating the gross and net tonnages determined in accordance with the provisions of the 1969 Tonnage Measurement Convention with the net tonnages on which their canal dues are levied. Until sufficient information on a variety of ship types reaches them they will be unable to calculate the relevant conversion factor by means of which they can ensure a fair and equitable treatment for all ships.
- 3 In order to achieve the aims of resolution A.492(XII) as soon as possible Member Governments are accordingly requested to assist the Canal Authorities in their studies by providing them with the information requested on the attached form for every ship whose tonnages are determined in accordance with the provisions of the 1969 Tonnage Measurement Convention and which is also measured for Suez and Panama Canal tonnages.
- 4 The information should be forwarded as soon as possible to the addresses given below with a copy to IMCO.

Director of Transit  
Suez Canal Authority  
Transit Department  
Ismalia  
Egypt

Head of Survey Section  
Suez Canal Authority  
Transit Department  
Ismalia  
Egypt

The Chairman  
Panama Canal Commission  
425 13th St. N.W.  
Room 312  
Washington, D.C. 20004  
U.S.A.

COMPARISON OF 1969 TONNAGE MEASUREMENT CONVENTION, PANAMA AND SUEZ CANAL TONNAGES

Name of ship	Flag state	Type*	1969 TM		Panama		Suez	
			Gross	Net	Gross	Net	Gross	Net

\* For example:  
 Passenger  
 General cargo  
 Ro/ro  
 Container  
 Gas carrier  
 Chemical tanker  
 Tanker  
 Bulk  
 Ore  
 Combination Oil/Bulk  
 Vehicle Carrier  
 Refrigerated ship

ANNEX 3

## DRAFT MSC CIRCULAR

EXISTING NATIONAL, 1969 TONNAGE MEASUREMENT CONVENTION  
TONNAGES AND CANAL TONNAGES

- 1 Member Governments will be aware that resolution A.492(XII) urges them to request the Suez Canal Authority and the Panama Canal Commission to take steps to eliminate the need for special certificates for the purpose of assessing canal dues levied by them and to recognise for that purpose the International Tonnage Certificate (1969) for every ship carrying such a certificate.
- 2 Difficulty is being experienced by the Canal Authorities in relating the gross and net tonnages determined in accordance with the provisions of the 1969 Tonnage Measurement Convention with the net tonnages on which their canal dues are levied. Until sufficient information on a variety of ship types reaches them they will be unable to calculate the relevant conversion factor by means of which they can ensure a fair and equitable treatment for all ships.
- 3 Little information is available on the relationship between the tonnages as obtained from the current national tonnage regulations and the 1969 Tonnage Measurement Convention. Information on this subject would be of interest to the Organization, maritime authorities who assess fees based on tonnage, e.g. the canal, port, harbour, pilotage authorities, etc., and the marine community in general.
- 4 In order to achieve the aims of resolution A.492(XII) and in order to assist the marine community in general, as soon as possible Member Governments are accordingly requested to provide the information requested on the attached form for every ship whose tonnages are determined in accordance with the provisions of the current national system, the 1969 Tonnage Measurement Convention and also in accordance with Suez and Panama Canal rules, if available.
- 5 The information should be forwarded as soon as possible to the Organization. The replies to this circular will be collated by the Secretariat for circulation to Member Governments and Canal Authorities.

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COMPARISON OF NATIONAL, 1969 TONNAGE MEASUREMENT CONVENTION, PANAMA AND SUEZ CANAL TONNAGES

Name of ship <input checked="" type="checkbox"/>	Flag state	Type*	National		1969 TM		Panama		Suez	
			Gross	Net	Gross	Net	Gross	Net	Gross	Net

- \* For example:
- Passenger
  - General cargo
  - Ro/ro
  - Container
  - Gas carrier
  - Chemical tanker
  - Tanker
  - Bulk
  - Ore
  - Combination Oil/Bulk
  - Vehicle Carrier
  - Refrigerated ship

Name of vessel should be indicated when an International Tonnage Certificate (1969) is issued.]

ANNEX 4INTERPRETATION OF THE INTERNATIONAL CONVENTION ON  
TONNAGE MEASUREMENT OF SHIPS, 1969Application (Article 3(2)(b))

1.1 "Alterations or Modifications" are those which change the principal dimensions or involve structural changes. An existing ship may continue to operate under its existing tonnage without re-measurement in either an open or closed condition under resolution A.48(III).

1.2 If structural modifications are necessary to permit an open shelter-deck ship to become a closed shelter-deck ship, the ship should be considered as new under this Convention. The sealing of a tonnage opening should however be considered a structural modification for the purpose of this interpretation.

1.3 Existing ships which regularly alter load line and tonnage marks in order to change from higher to lower tonnage and vice versa, are dealt with in MSC/Circ.253 which is reproduced at Appendix 1.

1.4 In the case of "alterations or modifications" the following applies:

- .1 the Convention requirements apply when the conversion is started on or after 18 July 1982;
- .2 where several sister ships are to be substantially altered and the additional steel work is prefabricated before 18 July 1982 but work on the individual ship started on or after that date, the Administration should consider the application of the Convention bearing in mind the circumstances of each case but resist any misuse of such prefabrication measures which might prevent the application of the Convention to ships converted after 18 July 1982.

1.5 The term "substantial variation" needs no interpretation as the continued use of tonnage values under present measurement systems to determine the applicability of the SOLAS Regulations to an altered existing ship until 1985, or if below 1,600 GRT up to 1994.

1.6

### Cancellation of Certificate (Article 10(2))

2 The term "certificate" in Article 10(2) refers to the International Tonnage Certificate (1969) and existing ships as defined in Article 2 need not be measured under the 1969 Tonnage Convention on change of flag but may be measured under present national rules.

### Inspection (Article 12)

3 A copy of the tonnage calculations may be provided together with the International Tonnage Certificate (1969) to the ship's master. Although not a requirement, nothing in the Convention would prevent Administrations from providing these calculations to ships of their flag.

### Definition of terms used in the Annexes (Regulation 2)

4 The following interpretations apply to the terms given in the paragraphs of Regulation 2:

- .1 "Upper Deck" - In a ship with two or more decks having openings in the side of the ship below the uppermost deck, which are not closed but limited inboard by weathertight bulkheads and decks, the first deck below such openings should be considered the upperdeck (see Figure 1 in Appendix 2).
- .2 "Watertight" - The Administration may decide on this term with the view that a special definition for tonnage purposes is not needed.
- .3 "Amidships" - This term should be considered as the midpoint of the length as defined in Article 2(8) where the forward terminal of that length shall coincide with the fore side of the stem.
- .4 "Enclosed spaces" - the following should be observed:
  - .4.1 In paragraph (4) there is no contradiction between the definition of enclosed spaces as being "bounded by the ship's hull, by fixed or movable partitions ..." and "... where the absence of a partition shall preclude a space from being included in the enclosed space";
  - .4.2 Tanks, permanently located on the upperdeck, provided with removable pipe connexions to the cargo system or the vent (de-airing) lines of the ship, should be included in the  $V_c$ ;

- .4.3 The volume of weathertight steel pontoon covers on hatchway coamings should be included in the calculations of the total volume ( $V$ ) of the ship. If such covers are open on the underside, their volume should also be included in the  $V_c$ .
- .4.4
- .5 "Excluded Spaces"
- .5.1 The space between the side longitudinal bulkhead of a deck-house and the bulwark below a deck extending from side to side supported by stanchions or vertical plates connected to the bulwarks, should be considered as excluded space in accordance with Regulation 2(5)(b) and (c) (see Figure 2 in Appendix 2);
- .5.2 In the case of a ro/ro ship, for example, where the space between any erection may be open in accordance with the provisions of Regulation 2(5)(a)(i), but where such a space located within is fitted with means for securing cargo, the space should be included in  $V$  in accordance with the first condition of Regulation 2(5).
- .6 "Passenger" -  $N_1$  and  $N_2$  should be obtained from the Administration.
- .7 "Cargo Spaces"
- .7.1 The volume of the segregated ballast tanks should not be included in  $V_c$  (see resolution A.398(X)).
- .7.2 The volume of slop oil tanks for cargo residues should be included in  $V_c$ .
- .7.3 In fishing vessels, the volume of fish processing ships for fishmeal, liver oil and canning, tanks for re-cooling fish, wet fish bunkers, stores for salt, spices, oil and tare should be included in  $V_c$ . Fishing gear stores should not be included in  $V_c$ .
- .7.4 The volume of refrigerating machinery used for refrigerating cargoes and situated within the boundaries of the cargo spaces should be included in  $V_c$ .

- .7.5 The volume of mail rooms, baggage compartments separate from passenger accommodation and bonded stores for passengers should be included in  $V_c$ . The volume of provision rooms for crew or passengers and bonded stores for crew should not be included in  $V_c$ .
- .7.6 On ore/oil carriers, where the owners request to have the dual purpose oil/ballast tank converted to ballast tanks excluded from the  $V_c$ , the ballast tanks should be required to be permanently disconnected from the oil cargo system and not used for the carriage of cargo. The ship should then be re-measured in accordance with Regulation 5(3). For any ballast tanks not to be included in  $V_c$ , they should be solely allocated to ballast, connected to an independent ballast system and not used to carry cargo.
- .7.7 When determining the volume of cargo spaces, no account should be taken of insulation, sparring or ceiling which is fitted within the boundaries of the space concerned. For ships which have permanent independent cargo tanks constructed within the ship, e.g. gas tankers, the volume to be included in  $V_c$  should be calculated to the structural boundary of the tank, irrespective of insulation which may be fitted on the inside or outside of tank boundary.
- .7.8 The volume of dual purpose spaces such as those used for both ballast and cargo should be included in  $V_c$ .

Gross and Net Tonnage (Regulations 3 and 4)

5.1 The  $K_1$  and  $K_2$  coefficient used in the gross and net tonnage and calculations may be derived from either the table in Appendix 2 of the Convention or from the formula in Regulation 3 or 4 respectively at the discretion of the Administration.

5.2 The final tonnage figures as prescribed in Regulations 3 and 4 in the presentation of results of tonnage measurement should be given in rounded down figures without decimals.

5.3 Spaces allocated to passenger automobiles should be included in  $V_c$ .

Change of Net Tonnage (Article 3(2)(b))

6.1 6 An existing ship during the Convention transition period is not required to be measured under the Convention rules until 1994. An existing ship may be remeasured under existing national rules if it is modified effecting the net tonnage, provided the existing gross tonnage is not substantially changed.

6.2 Calculation of Volumes (Regulation 6)

7.1 Bulbs, fair waters, propeller shaft bossings or other structures should be treated as appendages.

7.2 Hawse pipes, sea-valve recesses, thruster tunnels, stern chutes in fishing vessels, dredging wells in dredgers and other similar spaces fitted in the ship's hull should be dealt with as spaces open to the sea.

7.3 In reference to Regulation 6(2), inaccessible masts, kingpost, air trunks and similar erections outside of and separated on all their sides from enclosed spaces and having cross-sectional areas not exceeding one square metre should not be measured; other similarly independent enclosed spaces of a volume not exceeding one cubic metre should not be measured.

Measurement and Calculation (Regulation 7)

8.1 When a tonnage certificate and a copy of the calculations of the tonnages are transmitted to another government in accordance with Article 8(2) or 10(3) of the Convention, they should be accompanied by a form as shown in Appendix 3, showing the main particulars of the tonnage calculations for easy reference. When listing underdeck volumes, the volumes may be combined (e.g. underdeck/extended forecastle, etc.) on the form.

8.2 Administrations should decide on the degree of accuracy required for the tonnage calculations.

Miscellaneous

9 Multi-purpose vessels which have the facility to trade with cargo hatches open or closed should always be measured with the hatch covers considered to be closed.

APPENDIX 1

RECOMMENDATION ON SHIPS WHICH REGULARLY  
ALTER LOAD LINES AND TONNAGE MARKS

The Maritime Safety Committee re-considered at its fortieth session the situation of ships which regularly alter their load lines and tonnage marks. Having recalled its decision taken at the thirty-ninth session the Maritime Safety Committee agreed on the following:

The attention of the Maritime Safety Committee at its thirty-ninth session was drawn to the case of ships which regularly altered their load lines and tonnage marks in order to change from higher to lower tonnage and vice versa without any modification to such ships.

The Committee noted that this practice existed although the Recommendation annexed to Resolution A.48(III) provided for a single tonnage certificate showing both higher and lower tonnages without the necessity to alter load lines and tonnage marks.

The Committee decided that after the coming into force of the 1969 Tonnage Convention the change from higher to lower tonnage or vice versa will not constitute a "substantial variation" for the purposes of Article 3(2)(b) of that Convention.

The Committee also decided that the higher tonnage should be used for the application of the SOLAS Convention, both at present and when the 1969 Convention comes into force.

APPENDIX 2

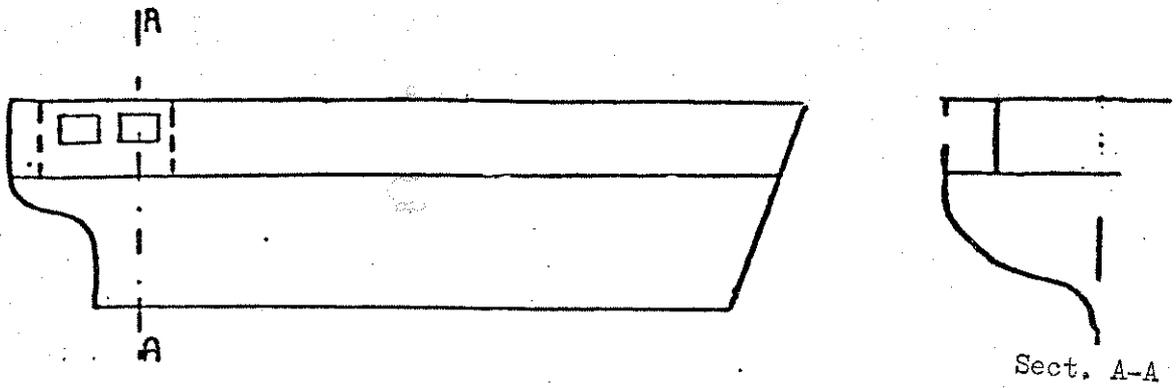


Figure 1

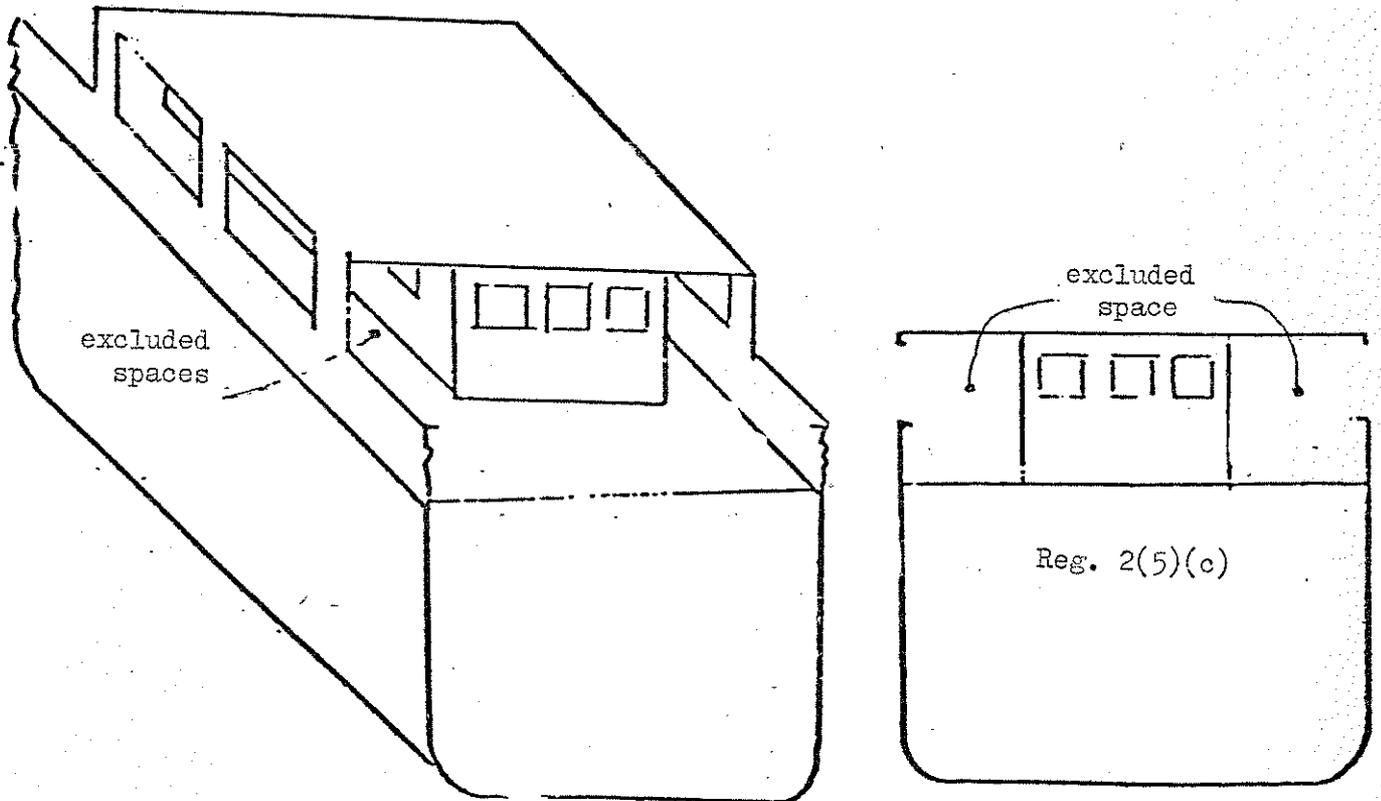


Figure 2

APPENDIX 3

STANDARD FORM GIVING PARTICULARS  
 OF UNIFORM TONNAGE CALCULATION

GROSS TONNAGE

Item No.	Name of Space	Location	Length	Moulded Volume
	Underdeck Poop Bridge Forecastle Roundhouses Hatches, etc.			
		Total Volume		
NET TONNAGE				
	No. 1 Hold No. 2 Hold, etc. No. 1 Tween Decks No. 2 Tween Decks, etc. Hatches, etc.			
		Total Volume		