INTERNATIONAL MARITIME ORGANIZATION

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Agenda item 9

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# DEVELOPMENT OF PROVISIONS TO ENSURE THE INTEGRITY AND UNIFORM IMPLEMENTATION OF THE 1969 TM CONVENTION

## Alterations or modifications affecting tonnage – Comparison of requirements and interpretations

**Submitted by the United States**

**SUMMARY**

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|---|---|
| *Executive summary:* | This document offers a comparison of requirements in the 1969 TM Convention and associated interpretations, related to ship alterations or modifications, along with historical information, and a ship comparison to help illustrate the tonnage impacts of such changes. The United States believes this information could be useful to the Sub-Committee, as it develops updated interpretations and/or possible amendments to the TM Convention under the new SLF 54 tonnage planned output. |
| *Strategic direction:* | 2.0 |
| *High-level action:* | 2.0.1 |
| *Planned output:* | 2.0.1.8 |
| *Action to be taken:* | Paragraph 7 |
| *Related documents:* | MSC/Circ.254; TM/Circ.28, TM.5/Circ.1, TM.5/Circ.5 and SLF 54/9/1 |


## Background

1 Adjustment of tonnages following ship alterations or modifications has presented challenges to tonnage certifying authorities long before the widespread adoption of the International Convention on Tonnage Measurement of Ships, 1969 (the TM Convention). Because the gross and net tonnage parameters have traditionally appeared on registry and other certificates, and have been used as a basis for a wide range of taxes, fees, design standards and regulatory requirements, any change to a ship's assigned tonnages can potentially have far-reaching consequences, both from the owner's and the flag Administration's perspective. This is compounded by the fact that the traditional tonnage measurement unit of "register tons" of 100 cubic feet (2.83 cubic metres), upon which the TM Convention system of measurement was ultimately derived, constitutes a relatively small enclosed volume. Therefore, depending on the flag Administration, a change in enclosed

volume, or in the use of spaces, amounting to only one ton, or "unity," could require a re-certification of tonnages, and in some cases result in substantive economic or other impacts on ship owners, operators and mariners.

2 At the 1969 International Conference on Tonnage Measurement of Ships in London (the TM Conference) that drew up the TM Convention, discussions on alterations focused on two principal areas: (a) re-certification of ships undergoing certain alterations; and (b) phase-in of certification under this new measurement system for "existing" (older) ships, including their continued use of national tonnages for certain purposes (so-called "tonnage grandfathering" provisions). Concerning tonnage re-certification after alterations, it was agreed that re-certification is necessary if alterations take place in the arrangement, construction, capacity, use of spaces, and certain other parameters "such as would necessitate an increase in the gross or net tonnage". Concerning certification and grandfathering of "existing" ships, it was agreed that these ships would have to be certified under the new system if they "undergo alterations or modifications which the Administration deems to be a substantial variation in their existing gross tonnage", and in any event, not later than 12 years after the coming into force of the TM Convention. It was further agreed that these ships could continue to have relevant requirements of other International Conventions applied using "existing", or national, tonnages (expressed in terms of "gross register tons" or "GRT"), provided the ships do not undergo such alterations or modifications.

3 In developing the TM Convention system of measurement, an additional element of complexity was introduced to counter the possibility of temporarily reducing the net tonnage through changes to the ship's load line and other "adjustable" parameters upon which net tonnage calculations are based (e.g. reducing the load line draft on unladen voyages). In the end, a 12-month restriction was agreed to, requiring delayed tonnage re-certification following certain changes that reduce net tonnage, excepting "alterations or modifications deemed by the Administration to be of a major character". Arriving at this restriction entailed substantial debate, including discussions over the interrelationship between the various tonnage re-certification requirements and what was meant by alterations of a "major" or "substantial" nature, and ultimately whether Administrations would have the authority to certify tonnage decreases.[1]

4 The International Maritime Organization (IMO), formerly named the Inter-Governmental Maritime Consultative Organization (IMCO), has issued relatively few interpretations related to "alterations or modifications" affecting tonnage, with the notable exception of the GRT tonnage grandfathering language for "existing" ships. The 1979 IMCO interpretations of the TM Convention effectively deferred a decision on GRT tonnage grandfathering by citing ongoing work on this subject (MSC/Circ.254). In 1982, IMO superseded these interpretations with amended interpretations defining "alterations or modifications" in the context of tonnage grandfathering as those which change the principal dimensions or involve structural changes, not to include the sealing of tonnage openings which could otherwise have a substantive impact on the ship's GRT tonnage (TM/Circ.28). These interpretations were repeated in the 1983 replacement interpretive document (TM.5/Circ.1). They remained in effect until 1994, when they were superseded by the current interpretations, which invoke a single criterion of a 1% change in either "existing" gross tonnage or gross tonnage calculated in accordance with the TM Convention (TM.5/Circ.5).

[1] TM/CONF.C.1/SR.8 meeting 11 June 1969; TM/CONF/C.1/SR.10 meeting 12 June 1969; TM/CONF/C.1/SR.12 meeting 16 June 1969; TM/CONF/C.2/SR.24 meeting 16 June 1969; and TM/CONF/C.1/SR.16 meeting 18 June 1969.

**Discussion**

5 Under the SLF 54 tonnage planned output (agenda item 9), the Sub-Committee has the opportunity to take a comprehensive look at the requirements of the TM Convention and associated interpretations and, where appropriate, make recommendations on possible amendments to the Convention. With this in mind, the United States conducted an analysis of language in these documents related to the impact of alterations or modifications on either tonnage re-certification or tonnage grandfathering. The results are discussed below, with some additional historical background included. The complete text for each of these requirements, along with associated interpretations in TM.5/Circ.5, is provided in Table 1 of the annex to help facilitate comparison.

.1 **Article 10(1) – Alterations requiring ITC cancellation.** This article requires cancellation of the International Tonnage Certificate (1969) (ITC) following specific alterations that would "necessitate an increase in gross tonnage or net tonnage". The requirement has its origins in the work leading up to the TM Conference. Proposals A, B, C and C1, that formed the basis of discussions at the TM Conference, all contained language to the effect that ITC cancellation would be required following alterations that would "necessitate" a change of tonnage.[2] During subsequent discussions, the possibility of specifying a percentage change in tonnage of 1% to 2% was introduced, but rejected, followed by agreement that requirements on certificate cancellation would be limited exclusively to increases in gross or net tonnage.[3]

.2 **Article 3(2)(b), (d) – GRT tonnage grandfathering.** This article provides for "existing" ships (keel laid dates prior to 18 July 1982) to be measured under the TM Convention system by 18 July 1994. However, the Article permits the continued use of national (GRT) tonnages for such ships when applying relevant requirements of International Conventions, provided the ships do not undergo alterations or modifications which the Administration deems to be a "substantial variation in their existing gross tonnage". This language has its origins in the work leading up to the 1969 TM Conference, with Proposals A and B including GRT grandfathering provisions subject to revocation for ships which "undergo alterations or modifications of a major character which affect their tonnage". There were a number of discussions at the TM Conference that resulted in further development of this language, focusing principally on whether a specific criterion (i.e. 10%) was needed, and whether the tonnage change should refer only to national tonnage, or was also intended for the TM Convention tonnage.[4]

.3 **Regulation 5(1) – Net tonnage change.** This regulation requires a new net tonnage to be determined and applied following alterations to certain characteristics that would increase the net tonnage. The language was developed at the TM Conference, following a proposal first advanced at the Conference to base net tonnage on cargo and passenger spaces, while allowing for a coefficient to reflect the change from open to closed conditions in shelter deck ships that eventually included the maximum draft

2 TM/CONF/4 (Proposal A); TM/CONF/5 (Proposal B); TM/CONF/6 (Proposal C); and TM/CONF/7 (Amended Proposal C, referred to as C1).

3 TM/CONF/SR.9 meeting 19 June 1969.

4 TM/CONF/C.1/SR.8 meeting 11 June 1969; TM/CONF/C.1; and TM/CONF/C.1/SR.12 meeting 16 June 1969.

(d) and moulded depth (D) parameters.[5] In a first draft of the regulations prepared by Secretariat to facilitate the work of the Conference's Technical Committee, this regulation required a new net tonnage to be determined if the load line or other characteristics were altered in a manner which increased the net tonnage.[6] This language underwent modification during subsequent discussions at the Conference, as the net tonnage formula was finalized.

.4 **Regulation 5(3) – Net tonnage 12-month delay.** This regulation requires that a new ITC shall not be issued until a 12-month period has elapsed following alterations to certain characteristics that would decrease the net tonnage, unless the ship undergoes alterations or modification deemed to be of a major character. As with the regulation 5(1) language, this regulation was developed at the TM Conference, with the first draft of the regulations providing the guidance that a gross tonnage change of at least 10% is regarded as being of a major character. The language underwent subsequent modifications, with the 10% criterion deleted and the example of a superstructure removal added.[7]

.5 **Article 9(2) and Annex II – Listing spaces on ITC.** While this article and the associated certificate format do not explicitly refer to tonnage re-certification matters, the requirements are related to this general subject. If, as a result of alterations or modifications, the ship's particulars change from those reflected on the reverse of the ITC (e.g. the names of the spaces, and their locations and lengths), the validity of the ITC could be called into question. This subject was discussed early at the 1969 TM Conference and the certificate format was developed later at the Conference.[8] There were a number of discussions related to the extent of ship-identifying information to be specified on the ITC, with proposals to include a sketch of the ship and the volumes of individual spaces ultimately rejected, while the listing of other ship particulars was retained.[9]

.6 **Annex II – Alteration date on ITC.** The ITC format provided in Annex II includes a "Date" block with an accompanying note indicating that the date is either: (a) the ship's keel laid date; or (b) the date when the ship "underwent alterations or modifications of a major character" per article 3(2)(b). This date was included by the working group that finalized the format of the ITC certificate in the closing days of the Conference, with its need the subject of subsequent discussion.[10] However, there was no mention of the lack of agreement between the expression "major character" in the asterisked note on the ITC and the expression "substantial variation in their existing gross tonnage" used in article 3(2)(b).

5 TM/CONF/C.2/SR.14 meeting 9 June 1969.

6 TM/CONF/C.2/WP.22, 10 June 1969, First Draft of Regulations for Determining Gross and Net Tonnages of Ships.

7 TM/CONF/C.2/SR.17 meeting 11 June 1969.

8 TM/CONF/C.1/SR.2 meeting 30 May 1969.

9 TM/CONF/C.2/SR.24 meeting 16 June 1969 and TM/CONF/SR.11 meeting 20 June 1969.

10 TM/CONF/C.1/SR.16 meeting 18 June 1969.

6 In conjunction with this work, the United States prepared a comparison of tonnage impacts for four sample ships to illustrate the relative magnitudes of changes affecting gross tonnage for ships of varying sizes and types. This comparison is presented in Table 2 of the annex. Gross tonnage changes of unity, 1%, 5%, and 10% are listed for each sample ship, representing the range of values discussed at the TM Conference. Volumetric changes are described both in terms of cubic metres, as well as twenty-foot equivalent units (TEUs), to help facilitate visualization of the magnitude of the tonnage changes.

**Action requested of the Sub-Committee**

7 The Sub-Committee is invited to note the information set out in this document.

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## ANNEX

**Table 1: Requirements comparison**

| Item | TM Convention Text | TM.5/Circ.5 Interpretation |
|---|---|---|
| **Art. 10(1) Alterations Requiring ITC Cancellation** | Subject to any exceptions provided in the regulations, an International Tonnage Certificate (1969) shall cease to be valid and shall be cancelled by the Administration if **alterations** have taken place in the arrangement, construction, capacity, use of spaces, total number of passengers the ship is permitted to carry as indicated in the ship's passenger certificate, assigned load line or permitted draught of the ship, such as would necessitate an increase in gross tonnage or net tonnage. | |
| **Art. 3(2)(b),(d) GRT Tonnage Grandfathering** | The present Convention shall apply to:<br>(a) new ships;<br>(b) existing ships which undergo **alterations or modifications** which the Administration deems to be a substantial variation in their existing gross tonnage;<br>(c) existing ships if the owner so requests; and<br>(d) all existing ships, twelve years after the date on which the Convention comes into force, except that such ships, apart from those mentioned in (b) and (c) of this paragraph, shall retain their then existing tonnages for the purpose of the application to them of relevant requirements under other existing International Conventions. | The term "**alterations or modifications** which affect its tonnage" in resolution A.758(18) means increase or decrease of more than 1% in either existing gross tonnage or gross tonnage calculated in accordance with the 1969 Tonnage Convention. |
| **Reg. 5(1) Net Tonnage Change** | When the characteristics of a ship, such as V, $V_c$, d, $N_1$ or $N_2$ as defined in regulations 3 and 4, are **altered** and where such an **alteration** results in an increase in its net tonnage as determined in accordance with the provisions of regulation 4, the net tonnage of the ship corresponding to the new characteristics shall be determined and shall be applied without delay. | |
| **Reg. 5(3) Net Tonnage 12-Month Delay** | When the characteristics of a ship such as V, $V_c$, d, $N_1$ or $N_2$ as defined in regulations 3 and 4 are **altered** or when the appropriate assigned load line referred to in paragraph (2) of this regulation is altered due to the change of the trade in which the ship is engaged, and where such an **alteration** results in a decrease in its net tonnage as determined in accordance with the provisions of regulation 4, a new International Tonnage Certificate (1969) incorporating the net tonnage so determined shall not be issued until 12 months have elapsed from the date on which the current Certificate was issued; provided that this requirement shall not apply:<br>(a) if the ship is transferred to the flag of another State, or<br>(b) if the ship undergoes **alterations or modifications** which are deemed by the Administration to be of a major character, such as the removal of a superstructure which requires an alteration of the assigned load line, or<br>(c) to passenger ships which are employed in the carriage of large numbers of unberthed passengers in special trades, such, for example, as the pilgrim trade. | |
| **Art. 9(2) and Annex II Listing Spaces on ITC** | The form of the certificate shall correspond to that of the model given in Annex II. | Information inserted in the "location" columns on the reverse of the International Tonnage Certificate (1969) should not be detailed. |
| **Annex II Alteration Date on ITC** | Date on which the keel was laid or the ship was at a similar stage of construction (Article 2(6)), or date on which the ship underwent **alterations or modifications** of a major character (article 3(2)(b)), as appropriate. | The "Date" shown on the front of the International Tonnage Certificate (1969) refers to the year when the keel was laid or the ship was at a similar stage of construction (article 2(6)) or the ship underwent **alterations or modifications** as defined in article 3(2)(b) but when the year of construction or alteration or modification is 1982 or 1994, the month and day should also be described. |

## Table 2: Ship comparison[1]

### Ship A Fishing

GT 126
NT 44
L 24.14 m
B 6.89 m
D 3.51 m

| GT Change | Unity | 1% GT | 5% GT | 10% GT |
|---|---|---|---|---|
| Gross Tonnage | 127 GT | 127 GT | 132 GT | 138 GT |
| Net Tonnage | 44 NT | 44 NT | 44 NT | 44 NT |
| Added Volume ($m^3$) | 5 $m^3$ | 5 $m^3$ | 24 $m^3$ | 46 $m^3$ |
| Added Volume TEU | 0.1 TEU | 0.1 TEU | 0.6 TEU | 1.2 TEU |

**TEU Volume Change Representation**

### Ship B Offshore Supply

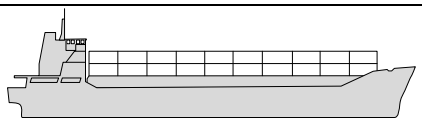
GT 499
NT 226
L 49.90 m
B 10.97 m
D 3.66 m

| GT Change | Unity | 1% GT | 5% GT | 10% GT |
|---|---|---|---|---|
| Gross Tonnage | 500 GT | 501 GT | 520 GT | 542 GT |
| Net Tonnage | 226 NT | 226 NT | 226 NT | 226 NT |
| Added Volume ($m^3$) | 4 $m^3$ | 18 $m^3$ | 88 $m^3$ | 179 $m^3$ |
| Added Volume TEU | 0.1 TEU | 0.5 TEU | 2.3 TEU | 4.6 TEU |

**TEU Volume Change Representation**

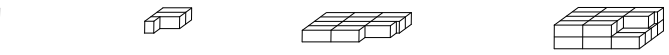
### Ship C Containership

GT 2463
NT 1227
L 87.42 m
B 13.00 m
D 7.10 m



| GT Change | Unity | 1% GT | 5% GT | 10% GT |
|---|---|---|---|---|
| Gross Tonnage | 2464 GT | 2487 GT | 2586 GT | 2709 GT |
| Net Tonnage | 1227 NT | 1227 NT | 1227 NT | 1227 NT |
| Added Volume ($m^3$) | 4 $m^3$ | 84 $m^3$ | 427 $m^3$ | 854 $m^3$ |
| Added Volume TEU | 0.1 TEU | 2.2 TEU | 10.9 TEU | 21.9 TEU |

**TEU Volume Change Representation**



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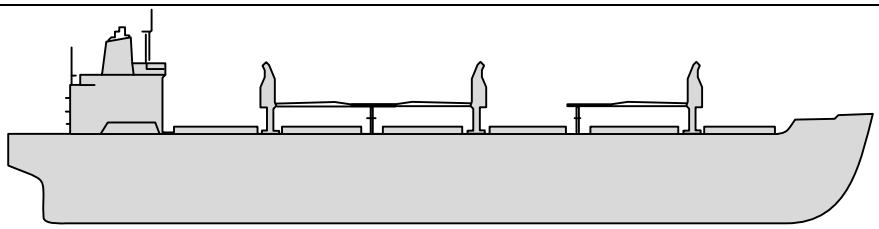
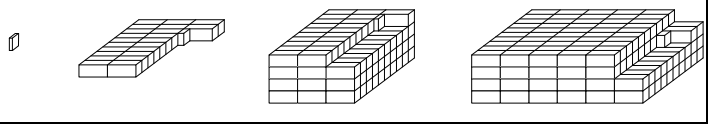
### Ship D Bulk Carrier

GT 26712
NT 17862
L 182.82 m
B 30.01 m
D 16.84 m



| GT Change | Unity | 1% GT | 5% GT | 10% GT |
|---|---|---|---|---|
| Gross Tonnage | 26713 GT | 26979 GT | 28047 GT | 29383 GT |
| Net Tonnage | 17862 NT | 17862 NT | 17862 NT | 17862 NT |
| Added Volume ($m^3$) | 4 $m^3$ | 868 $m^3$ | 4336 $m^3$ | 8669 $m^3$ |
| Added Volume TEU | 0.1 TEU | 22.3 TEU | 111.2 TEU | 222.3 TEU |

**TEU Volume Change Representation**



[1] For the purpose of this comparison, a twenty-foot equivalent unit (TEU) represents the volume of a standard intermodal container, 6.1 m (20.0 feet) long, 2.44 m (8.0 feet) wide, and 2.6 m (8.5 feet) high, which is equal to 39 cubic metres. The added volume is considered to have no effect on $V_c$ or the maximum permitted draft.