



SUB-COMMITTEE ON STABILITY AND
LOAD LINES AND ON FISHING VESSELS
SAFETY
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Agenda item 5

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**DEVELOPMENT OF OPTIONS TO IMPROVE EFFECT ON SHIP DESIGN AND
SAFETY OF THE 1969 TM CONVENTION**

Report of the Correspondence Group

Submitted by Australia and the Netherlands

SUMMARY

<i>Executive summary:</i>	This document provides the results of the work of the correspondence group on this agenda item that was established by SLF 51
<i>Strategic direction:</i>	2
<i>High-level action:</i>	2.1.1
<i>Planned output:</i>	2.1.1.2
<i>Action to be taken:</i>	Paragraph 19
<i>Related documents:</i>	SLF 48/12; SLF 50/19, SLF 50/6/1; SLF 51/17 section 6, SLF 51/6, SLF 51/6/1; MSC 85/23/6 and MSC 85/23/6/Corr.1

Introduction

1 At its fifty-first session, the SLF Sub-Committee agreed to establish a correspondence group, under the joint coordination of Australia and the Netherlands, with the following terms of reference:

- .1 further develop and evaluate the options in document SLF 51/6, taking into account document SLF 51/6/1 and relevant documents from previous sessions;
- .2 further develop and evaluate subsequent options which may be identified during this work;
- .3 identify the added value of the options, as appropriate;

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- .4 further investigate the options for amendments to the 1969 TM Convention;
- .5 make recommendations, as appropriate; and
- .6 submit a report to SLF 52.

2 Delegations from the following Member States participated in the work of the correspondence group:

AUSTRALIA	MEXICO
CHINA	NETHERLANDS
DENMARK	NORWAY
FRANCE	PANAMA
INDIA	REPUBLIC OF KOREA
IRAN (ISLAMIC REPUBLIC OF)	SWEDEN
ITALY	UNITED KINGDOM
JAPAN	UNITED STATES
MARSHALL ISLANDS	

Participants in the group also included representatives of the following United Nations specialized agency:

INTERNATIONAL LABOUR ORGANIZATION (ILO)

and observers from the following non-governmental organizations:

INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)
 INTERNATIONAL CHAMBER OF SHIPPING (ICS)
 INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATION (IFSMA)
 INTERNATIONAL TRANSPORT WORKERS FEDERATION (ITF)

3 Following consideration by MSC 85 of documents MSC 85/23/6 and MSC 85/23/6/Corr.1, which relate to its work, the group took account of those documents under the relevant provisions of its terms of reference.

Method of work

4 Instructions given to the Sub-Committee by MSC in relation to this agenda item anticipated a response by SLF 51 to MSC 85. The group's work was, therefore, conducted from the outset with a view to providing SLF 52 with a firm basis on which to report back to the Committee.

5 The coordinators initiated discussion on terms of reference 1, 2 and 3 by proposing that the group develop elaborations of all proposed options. The group was asked to address specific questions and score each option against the expected performance of that option against criteria of:

- .1 Regulation. (Can the option be readily implemented by reference to or in parallel with the 1969 TM Convention?)
- .2 Convention/Non-Convention. (Can the option be implemented in a technical sense without requiring amendment of the 1969 TM Convention?)

- .3 Administrative. (Would there be a low administrative workload for flag and port States associated with implementation of the option?)
- .4 Likely direct safety effectiveness with regard to freeboard, superstructures and stability. (Will implementation of the option reduce pressure on designers to reduce enclosed spaces associated with improving safety?)
- .5 Likely indirect safety effectiveness with regard to provision of accommodation berths and maintenance. (Will implementation of the option enable or improve designer's choices to enhance accommodation spaces and make other indirect improvements in safety?)
- .6 Winners and losers. (To what extent has the option been assessed as having an acceptably low impact on ship types when compared with use of 1969 Convention gross tonnage?)

6 The coordinators received limited response from the group on this general approach and no specific input on the proposed ranking method. It was concluded that the group as a whole had no enthusiasm to proceed with a scoring process. Nevertheless this report was developed using the above evaluation criteria because no alternative way forward was proposed by group members. The final round of discussion did, however, provide sufficient comment to provide a conclusion.

7 From the outset the group noted that the Sub-Committee's terms of reference do not extend to the matters covered directly in document MSC 85/23/6 "Proposal for mandatory accommodation for training berths on all new ships". Nevertheless it sought to take account of the tonnage-related implications of such a measure through consideration of tonnage penalties that might accrue from the provision of such additional crew accommodation spaces. Two participants specifically desired the group to indicate to the Sub-Committee that it recognized that the current approach of counting crew accommodation spaces in the gross tonnage figure creates a penalty on shipowners who want to provide larger accommodation spaces on their vessels and that this matter should be addressed.

Development and evaluation of options, including those from preceding sessions (ToR.1 and ToR.2)

8 Options considered were:

- .1 the existing options put forward in SLF 51 by the correspondence group that reported to the previous session; and
- .2 as a result of group comments, a new Option 7 – Ensure the integrity and uniform implementation of the existing gross and net tonnage parameters.

9 Comments relating to each of those options, including those made by the two delegations that submitted further comments to this group have been related to the criteria outlined in paragraph 5 and collated in annex 1. Comments from previous documents and sessions have been reframed to directly reflect the evaluation criteria.

10 Option 1 – "New maritime real estate parameter" (MRE) has received comment in support and in criticism but no consensus could be reached. The group recommends that Option 1 be retained for consideration because of its potential safety benefits and because its supporters within the group outnumbered those wishing to discontinue it.

11 Bearing in mind the comment by Germany on SLF 51/6/1 that Option 2 – Promotion of using Net Tonnage is little or no different to Option 6 – Take no action, the group concluded that these two options should be considered as one.

12 The comments gathered in relation to Option 3 – Allow semi-open spaces to be excluded from total enclosed volume under the TM Convention, indicated a possible negative effect upon safety and no improvement from the crew accommodation aspect. There was consensus that the safety implications of wide disparities in tonnage assignments of vessels with large semi-open uncovered spaces could be more appropriately addressed under Option 7. The group agreed, therefore, to discontinue consideration of this option.

13 In considering Option 4 – Amend TM Convention to revise the Net Tonnage parameter to include a deck cargo allowance and Option 5 – Amend TM Convention by establishing a third tonnage parameter “Gross Tonnage maximum capacity” that includes deck cargo volume, the group considered that each option has its own advantages and disadvantages. For example:

- .1 Option 5 has the advantage of introducing a third tonnage parameter while leaving the existing gross and net tonnages unchanged but it does not assist in reducing the economic pressure for reduction in crew accommodation space.
- .2 The facts that Option 4 does not affect gross tonnage and reduces the economic pressure on crew accommodation space are to its advantage but its impact on the existing net tonnage is a disadvantage especially for existing ships.
- .3 Introduction of a new net tonnage parameter, and the availability of that parameter for assessment of fees by those authorities who choose to do so, avoids creation of the double standard that would arise if the existing net tonnage parameter is revised and the revision is not made retroactive (i.e. older vessels are grandfathered).
- .4 If made voluntary there would be little incentive to take-up the third tonnage parameter. Fee-setting authorities would have no authoritative basis upon which to set revised fees because there would be no relevant certification for all ships. There might be no winners.

The group concluded that further pursuit of Options 4 and 5 individually was unwarranted at this time. The group was however able to draw on favorable elements of these two options to create Option 8 – Amend TM Convention to establish a third tonnage parameter of “adjusted net tonnage” that includes deck cargo volume. The resulting Adjusted Net Tonnage would be calculated in the same manner as the Convention net tonnage except that it includes an allowance for deck cargo volume in the total volume of all cargo spaces. The resulting evaluation is provided in annex 1.

14 Option 7 – Ensure the integrity and uniform implementation of the existing gross and net tonnage parameters was the option that received the most support from delegations that made submissions to the group. The Sub-Committee’s work on this item constitutes the most serious review of the 1969 TM Convention since its entry into force. Despite the lack of response to the Group it should not be assumed that the Convention, as currently implemented, cannot be improved. The group recommends that Option 7 should be pursued in preference to Option 6 unless substantial safety improvements are likely to flow from Option 8.

15 The group considered that an essential precursor to any decision to give effect to any option would be a thorough analysis of the consequences of that option; particularly with regard to the likely creation of new types of paragraph ships and the effect that those ships are likely to have on ship safety.

Investigation of the added value of the options (ToR.3)

16 This item has been covered in relative terms in the preceding paragraphs. However, further development in this regard will be necessary before the Sub-Committee can provide a future session of the Committee with a recommendation to implement a particular option.

Investigation of options for amendment of the TM Convention (ToR.4)

17 The available time following consideration of foregoing matters did not permit this issue to be further and directly canvassed. The group recalled, however, that the Sub-Committee had considered the matter at its previous session (paragraphs 6.8 to 6.11 of SLF 51/17). From that discussion the introduction of tacit amendment procedures, using the unanimous acceptance provisions of the Convention, appeared to be the most expedient way of providing for future Convention amendments.

Recommendations (ToR.5)

18 The group's conclusions are provided above in paragraphs 7 and 9 to 15. In the final round of consultation the group was asked to rank the conclusions in order of preference or simply to provide one recommendation. The summary of the final round is provided in annex 2 and this provides an indication/guidance to the Sub-Committee on any actions/terms of reference for any further actions that the Sub Committee may wish to direct. The Correspondence Group recommends that SLF 52 convenes a working group to address the options indicated in annex 2.

Action requested of the Sub-Committee

19 The Sub-Committee is invited to consider the group's conclusions and recommendations and take action as appropriate.

ANNEX 1

EVALUATION OF OPTIONS

Option 1 – “Maritime real estate” (MRE) concept (perhaps as third tonnage value under the 1969 TM Convention) with associated resolution recommending use of this value for tonnage-based fees		
<i>Criterion</i>	<i>Reference</i>	<i>Comment</i>
Regulatory	SLF 51/6 SLF 51/6	1. Can be implemented either in parallel with existing (unamended) Convention or through Convention amendments. 2. Retention of existing gross tonnage for statutory purposes (e.g., SOLAS) and for passenger ships fees may be considered contradictory.
Convention/ Non-Convention	SLF 51/6, CG Member	Doesn't necessarily require Convention amendment (could be implemented separate to Convention or by Remark on Convention certificate similar to SBT).
Administrative	SLF 51/6 SLF 51/6 SLF 51/6	1. If implemented under Convention new certificates required for all ships to include the third tonnage measure. Data for issue of those certificates can, however, be obtained from defined dimensions in existing Convention computation. 2. If implemented in parallel with Convention; MRE tonnage could be computed from existing ship's certification. 3. In view of differences between ship types; authorities using MRE tonnage for fee-setting will need to compute level at which to set fees based on the mix of sizes and types of ships using their services.
Likely direct safety effectiveness	SLF 51/6 CG Member SLF 51/6 SLF 51/6, CG Member SLF 51/6/1	1. Safety likely to be improved by excluding, from the measurement on which tonnage-based fees are based, all parts of the ship (freeboard, superstructures, deckhouses, hatches, sheer, etc.) above the summer waterline. Thereby removing ongoing operational costs for adding such spaces. Any inconsistent implementation of MRE and steelwork costs of additional spaces may, however, at least partly negate this effect. 2. Safety improvement not guaranteed as fee-setting bodies cannot be compelled to base their fees on a new parameter. 3. MRE encourages high block coefficients that may be detrimental to safety in terms of manoeuvrability, seakeeping and crew comfort/fatigue. 4. Safety-related merits not understood.
Likely indirect safety effectiveness	SLF 51/6	If widely implemented; removes incentive to minimize total enclosed volume through reduced accommodation size, extra berths and measures involving high-maintenance, such as hatch cover stiffening on upper side of hatch cover plate.

Winners/Losers	SLF 51/6 SLF 51 Intervention CG Member	<ol style="list-style-type: none"> 1. Unavoidably some ship types will be advantaged by MRE tonnage-based fees. While others (e.g., generally deadweight-limited ships and multihulls) will be disadvantaged. This could result in strenuous objections from certain industry segments. 2. No indication of support expressed within group for use of ship type factor to rectify winners/losers situation. 3. This situation may change following the implementation of MRE, due to design optimization around MRE.
Option 2 – Promote use of existing Net Tonnage for tonnage-based fees		
Regulatory	SLF 51/6	Promotes use of an existing measure so no action required.
Convention/ Non-Convention	SLF 51/6	Promotes use of an existing Convention measure so no Convention amendment action required.
Administrative	SLF 51/6	Port and Flag state systems based on gross tonnage would need to be changed.
Likely direct safety effectiveness	CG Member, SLF 51/6, SLF 51/6/1	No substantive change from current situation (option is seen by Germany in SLF 51/6/1 as the same as Option 6), in that authorities are already free to set fees based on net tonnage. Therefore cannot be expected resolve underlying ship design and safety concerns. However proponents suggest this option would encourage ship designs with higher freeboards and, in most cases, improved stability characteristics.
Likely indirect safety effectiveness	CG Member	If widely implemented, will remove ongoing penalty for increased crew spaces. Does not address tonnage-reducing features that may need high maintenance.
Winners/Losers	CG Member	Little effect unless globally implemented. Further assessment required.
Option 3 – Allow semi-open spaces to be excluded from total enclosed volume (V) under the TM Convention		
Regulatory	SLF 51/6	No amendment of Convention required.
Convention/ Non-Convention		Requires updating of TM.5/Circ.5.
Administrative	SLF 51/6, CG Member	If applied to existing ships there would be additional workload to reissue tonnage certificates to the effected vessels. Any necessary remeasurement could be at owner's expense.

Likely direct safety effectiveness	SLF 51/6 CG Member SLF 51/6/1, CG Members	<ol style="list-style-type: none"> 1. Improves likely take-up of open-top containerships by effectively eliminating the gross tonnage penalty for high sided semi-enclosed spaces on open-top containerships in favor of lower tonnages. Thereby levels the playing field between open-top and conventional containership designs through uniform interpretations that are applicable to all vessel types. On the other hand, unless handled carefully, it could result in new low-tonnage designs. Does not level the playing field between vessels that carry large above-deck cargo loads (e.g., containerships) and those that carry cargo internally (RO-RO's). 2. Query whether this option is much different from resolution MSC.234(82) and whether that resolution is itself being used or ignored. 3. Could lead to reduced safety through increase in semi-open spaces and could encourage designs of ships (other than open-top containerships) with increased deck cargo and reduced safety margins.
Likely indirect safety effectiveness	SLF 51/6	Does not address the crew space issue or tonnage-reducing features that may need high maintenance.
Winners/Losers	SLF 51/6	Would require adoption of grandfathering provisions to avoid disadvantaging operators of existing ships having gross tonnages that would increase under the consolidated interpretations. However introduction of grandfathering would dilute the effect of the option upon safety.
Option 4 – Amend TM Convention to revise the net tonnage parameter to include a deck cargo allowance		
Regulatory	SLF 51/6 SLF 51/6	<ol style="list-style-type: none"> 1. Except as provided below in relation to possible non-Convention implementation; requires amendment of Convention and so its implementation would be delayed until the amendments enter force. 2. Also requires complex and carefully framed interpretations for determining the maximum deck cargo allowance in some cases and to prevent exceeding any deck cargo volume limits by ships in service.
Convention/ Non-Convention	CG Member	The non-Convention sub-option involves including a remark on the TM Convention certificate detailing an “adjusted net tonnage” value, which should be calculated according to instructions issued by IMO (similar to “interpretations” mentioned above under “regulatory”).

Administrative	SLF 51/6 CG Member CG Member SLF 51/6 CG Member	<ol style="list-style-type: none"> 1. Would require reissue of International Tonnage Certificates for all applicable vessels. However extent of changes to tonnage computations should be negligible or small for many ships since they involve an existing parameter. 2. Application to new ships only would initially be simpler than to “all ships” but involves accepting a two-tier standard likely to be complicated for ships in service. 3. Will introduce disconnect between gross and net tonnages because deck cargo spaces measured for net tonnage will not be included in gross tonnage. 4. Trials of similar measures by some port authorities have been unsuccessful due to administrative burden and inconsistency in implementation. 5. Difficult to apply to ships having undefined deck cargo space (e.g., semi-submersible heavy lift ships).
Likely direct safety effectiveness	SLF 51/6 CG Member CG Member	<ol style="list-style-type: none"> 1. Encourages more widespread use of net tonnage by making that parameter more truly reflective of the “useful capacity” of the vessel. In turn this encourages higher freeboards and, in most cases, improved stability characteristics; effectively without penalty for larger crew spaces. 2. Avoids increased regulatory burden on affected ships as it does not involve changing the gross tonnage parameter. 3. Effectiveness will be reduced if applied only to new ships.
Likely indirect safety effectiveness	SLF 51/6	<p>Improvement is dependent upon more widespread adoption of the amended net tonnage parameter as basis for fees.</p> <p>Does not address tonnage-reducing features that may need high maintenance.</p>
Winners/Losers	CG Member	Affected ships will be mainly those that carry deck cargo, which will be subject to increased net tonnage values. (So not likely to be implemented on a voluntary basis by ship operators.)
Option 5 – Amend TM Convention to establish a third tonnage parameter Gross Tonnage Maximum Capacity (GT_{MaxCap}) that includes deck cargo volume		
Regulatory	SLF 51/6	Requires Convention amendments so its implementation would be delayed until the amendments enter force.
Convention/ Non-Convention	SLF 51/6 SLF 51/6	<ol style="list-style-type: none"> 1. Non-Convention application likely to be limited to test calculations. 2. Regulations require supplementation by complex interpretations for similar reasons to Option 4.
Administrative	SLF 51/6	Option 4 comments under this heading also apply here; except that, in the case of comment 3, deck cargo volume would be included in gross tonnage but not net tonnage.

Likely direct safety effectiveness	SLF 51/6	1. Improves safety by increasing cargo space volumes so that deck cargo volumes and cargo volumes within the vessel are treated the same. Eliminates the gross tonnage penalty for sheltered spaces and thus levels the playing field between open-top containerships, conventional containerships and RO-ROs.
Likely indirect safety effectiveness	SLF 51/6	Does not address the crew space issue or tonnage-reducing features that may need high maintenance.
Winners/Losers	CG Member	Increases gross tonnage of ships/designs carrying deck cargo.
Option 6 – Take no action		
Regulatory		No resolution of existing problem but no unforeseen problems created. A couple of correspondents noted, in recent times, increasing visibility of the existing Convention net tonnage parameter because some flag States have started using the net tonnage parameter for tax purposes (tonnage taxes) in lieu of corporate income taxes. This may make the parameter more attractive to other fee setting entities. This, in turn, might reduce the need to develop and implement any alternate tonnage parameters.
Convention/Non-Convention		
Administrative		
Likely direct safety effectiveness		
Likely indirect safety effectiveness		
Winners/Losers		
Option 7 – Ensure the integrity and uniform implementation of the existing Gross and Net Tonnage parameters		
Regulatory	CG Members	Does not of itself require Convention amendments but could be implemented in parallel with any Convention amendments developed under this agenda item.
Convention/Non-Convention	CG Members	Requires updating of TM.5/Circ.5; but updated version presumed to be non-binding.
Administrative	CG Members	1. No administrative burden if not made retrospective. 2. Any remeasurement under the new interpretations would be done at owners' expense.
Likely direct safety effectiveness	CG Members	Safety improved, perhaps marginally, by ensuring the integrity and uniform application of tonnage parameters.
Likely indirect safety effectiveness	CG Members	No change.
Winners/Losers	CG Members	Winners will be measurement organizations and all who depend on the gross and net tonnage parameters as meaningful indicators of ship's size and earning capacity. Clearer guidelines would, however, help alleviate measurement anomalies.

Option 8 – Amend TM Convention to establish a third tonnage parameter <i>adjusted net tonnage</i> [or an alternative name] that includes deck cargo volume		
Regulatory	CG	1. Except as provided below, in relation to possible non-Convention implementation, it requires amendment of Convention and so its implementation would be delayed until the amendments enter into force.
	CG	2. Requires carefully framed interpretations for determining the maximum deck cargo allowance in some cases and also to prevent exceeding any deck cargo volume limits by ships in service.
Convention/ Non-Convention	CG	Non-Convention application is likely to be limited to test calculations because no ships will be advantaged by the option and will not adopt it voluntarily. The non-Convention sub-option, however, involves including a remark on the TM Convention certificate detailing an <i>adjusted net tonnage</i> value which should be calculated according to instructions issued by IMO (similar to “interpretations” mentioned above under “regulatory”).
Administrative	CG	1. Would require reissue of International Tonnage Certificates for all applicable vessels; but extent of changes to tonnage computations to produce <i>adjusted net tonnage</i> should be negligible or small for many ships since they involve an existing parameter.
	CG	2. Application to new ships only would initially be simpler than to “all ships” but involves accepting a two-tier standard likely to be complicated for ships in service.
	CG	3. Will introduce disconnect between gross and net tonnages because deck cargo spaces measured for <i>adjusted net tonnage</i> will not be included in gross tonnage.
	CG	4. Trials of similar measures by some port authorities outside of the Convention have been unsuccessful due to administrative burden and inconsistency in implementation.
Likely direct safety effectiveness	CG	5. Difficult to apply to ships having undefined deck cargo space (e.g., semi-submersible heavy lift ships)
	CG	1. If <i>adjusted net tonnage</i> is used for fees it enables more widespread use of a net tonnage parameter that is more truly reflective of the “useful capacity” of the vessel and, this in turn, encourages higher freeboards with improved stability characteristics; effectively without penalty for larger crew spaces.
	CG	2. Provided <i>adjusted net tonnage</i> is used for fees; improves safety by including deck cargo volumes (which are excluded from the present Convention) in the cargo volume on which that parameter is based. The deck cargo volumes will therefore be treated the same as cargo volumes within the vessel; thus levelling the playing field between open-top containerships, conventional containerships and RO-ROs.

	CG CG	3. Avoids increased regulatory burden on affected ships as it does not involve changing the gross tonnage parameter. 4. Effectiveness will be reduced if applied only to new ships.
Likely indirect safety effectiveness	CG	Improvement is dependent upon widespread adoption of the <i>adjusted net tonnage</i> parameter as basis for fees. It addresses the crew space issue through increased use of a net tonnage parameter which does not include the volume of crew space.
Winners/losers	CG	Affected ships will be mainly those that carry deck cargo because they will be subject to increased <i>adjusted net tonnage</i> values. Will not, however, be likely implemented on a voluntary basis by operators of these ship types.

ANNEX 2

EVALUATION OF FINAL ROUND DISCUSSION – OPTIONS RETAINED FOR FURTHER CONSIDERATION

Re-numbered and listed in order of support		
Option A – Ensure the integrity and uniform implementation of the existing gross and net tonnage parameters		
Ranking	Reference	Summary
Supported by all correspondents to the final round and was the 1st choice for the majority	New option; introduced during the work of the correspondence group.	This proposal seeks to ensure the integrity and uniform implementation of the existing gross tonnage (overall size) and net tonnage (useful capacity) volumetric parameters, by expanding and strengthening the interpretations of Tonnage Measurement Circular TM.5/Circ.5, “Interpretations of the Provisions of the International Convention on Tonnage Measurement of Ships, 1969”. During the development of this updated document, possible changes to the TM Convention could be identified and further developed, as necessary.
Option B – Promote use of existing net tonnage for tonnage-based fees but take no other action		
Ranking	Reference	Summary
Was the 2nd or 3rd choice for some correspondents to the final round. Little outright rejection.	New option combining existing Options 2 and 6.	A combination of existing options 2 and 6; the effect of both of which is regarded the same. Despite having its supporters the “take no action” option should be, at least, turned into the more proactive “promote the use of existing net tonnage”.
Option C – Amend TM Convention to establish a third tonnage parameter <i>adjusted net tonnage</i> that includes deck cargo volume		
Ranking	Reference	Summary
Received, in almost equal measure, support for retention and wish to discontinue.	New option combining existing Options 4 and 5.	A combination of the most advantageous features of existing Options 4 and 5.
Option D – “Maritime real estate” (MRE) concept (perhaps as third tonnage value under the 1969 TM Convention) with associated resolution recommending use of this value for tonnage-based fees		
Ranking	Reference	Summary
Received, in almost equal measure, support for retention and wish to discontinue.	Existing Option 1	An alternative parameter based on the ship’s actual maritime real estate (i.e. volume of length x breadth x draught).