INTER-GOVERNMENTAL MARITIME
CONSULTATIVE ORGANIZATION

TM/CONF/C.2/SR.23
16 June 1969
Original: ENGLISH

IMCO

FOR PARTICIPANTS ONLY

INTERNATIONAL CONFERENCE ON
TONNAGE MEASUREMENT, 1969

Technical Committee

PROVISIONAL SUMMARY RECORD OF THE TWENTY-THIRD MEETING

held at Church House, Westminster, London, S.W.1.
on Monday, 16 June 1969, at 9.45 a.m.

Chairman : Mr. F. SPINELLI (Italy)

Secretary: Mr. Y. SASAMURA

A list of participants is given in TM/CONF/INF.1/Rev.1

N.B. Corrections to be incorporated in the final summary record of the meeting should be submitted in writing (two copies in French or English), preferably on the provisional summary record, to the Documents Officer, Committee Room 2 and after the Conference to the IMCO Secretariat, 22 Berners Street, London, W.1, not later than 8 July 1969.

CONTENTS

		Page
Agenda item 4 -	Consideration and preparation of proposed technical regulations on tonnage measurement and tonnage certificates (continued)	3

AGENDA ITEM 4 - CONSIDERATION AND PREPARATION OF PROPOSED TECHNICAL REGULATIONS ON TONNAGE MEASUREMENT AND TONNAGE CERTIFICATES (TM/CONF/6; TM/CONF/C.2/WP.19/Add.3; TM/CONF/C.2/WP.37; TM/CONF/C.2/WP.43) (continued)

The CHAIRMAN invited the Committee to consider document TM/CONF/C.2/WP.19/Add.3, which contained Part IV of the progress report of the Working Group on Gross and Net Tonnage.

Mr. ERIKSSON (Sweden), Chairman of the Working Group on Gross and Net Tonnage, presented the report and outlined its contents. The Working Group had pursued the terms of reference set out on page 1, paragraph 18.

As indicated in paragraph 19, the Working Group recommended a coefficient of $0.2 + 0.02 \log_{10} V$ for the gross tonnage formula. The recommendations concerning the net tonnage formula were contained in paragraph 20, the coefficient recommended being $0.2 + 0.02 \log_{10} V_c$, which was the same as for gross tonnage with the addition of cargo space.

The CHAIRMAN paid a special tribute to the Chairman and members of the Working Group and everyone who had helped them. Their untiring work might well have saved the Conference.

In the absence of general comments, he invited the Committee to consider the report item by item. It should be noted that the formulae to be discussed all had coefficients based on the metric system.

Gross tonnage formula (paragraph 19)

The Committee approved the formula $0.2 + 0.02 \log_{10} V$ recommended by the Working Group.

Mr. GRUNER (Finland) said that an indication should be given of the number of figures to be used in the logarithm.

Mr. ERIKSSON (Sweden), Chairman of the Working Group, said that the Working Group had agreed that a table should be appended to the regulations to demonstrate that fewer figures would be needed for smaller ships.

Mr. PROHASKA (Denmark) pointed out that the volume "V" in the formula had been determined on the basis of calculations by Simpson's rules or similar rules which gave only one-tenth per cent of accuracy. That meant that there was no point in taking them beyond four decimal figures, even for large ships. A logarithmic table with four figures would be suitable.

The CHAIRMAN suggested that one of the delegations possessing a computer might be willing to prepare two tables, prior to signature of the Convention, one in metric and the other United Kingdom units.

Mr. ERIKSSON (Sweden) Chairman of the Working Group, said that since the Group had agreed to use the metric system, only a metric table would be needed: cubic feet measurements could be converted beforehand.

The SECRETARY pointed out that whichever system were agreed on would have to be applied throughout the Convention and the Regulations.

Mr. GUPTA (India) proposed that both figures should be given, the United Kingdom units in brackets.

Mr. PROHASKA (Denmark) pointed out that it would not be possible with cubic feet to obtain the simple coefficient used in the proposed formula. His delegation was strongly in favour of a single system which would be clear and would prevent future errors. There would be no difficulty in conversion where necessary.

Mr. CUNNINGHAM (USA), while agreeing that conversion would be easy, suggested that the United Kingdom equivalent should be included in brackets in the Regulations.

The CHAIRMAN asked if the Committee agreed that only the metric system should be used in the formula, but that the metric figures with the United Kingdom equivalent in brackets should appear in the text. The Drafting Committee would verify that such presentation was in conformity with IMCO rules.

It was so agreed.

Net Tonnage Formula (paragraph 20)

The CHAIRMAN, referring to sub-paragraph (a), suggested that the Load Line definition of "weathertight", which had been the subject of considerable debate, should be incorporated in the definition of "upper deck" and added to the terms mentioned in the proposed recommendation on the uniform interpretation of terms (TM/CONF/C.2/WP.43). Its purpose was to prevent the use of high decks solely to reduce tonnage.

It was so agreed.

The CHAIRMAN invited comments on the coefficient in sub-paragraph (b) and the factor in sub-paragraph(c).

The recommendation in sub-paragraphs(b) and (c) were approved.

The CHAIRMAN said that the formula thus approved was as follows: $NT = (0.2 + 0.02 \log_{10} V_c) V_c \left(\frac{4d}{3D}\right)^3$.

Mr. ROCQUEMONT (France) said that the Committee had overlooked a serious consideration, on which the success or failure of the Conference might depend. He had understood that the coefficient was to be used to take into account open shelter-deck or other ships with a low draught. A single formula for all ships, as now agreed upon, would certainly be used by owners to reduce net tonnage. He demonstrated, by means of diagrams, that it would be possible, through the addition of a light shelter-deck, to transform a tanker with gross tonnage of

200,000 and net tonnage of 60,000 into a shelter-deck tanker with 130,000 gross tonnage and 43,800 net tonnage. The slight increase in gross tonnage would make little difference to costs since port dues were based on net tonnage. The figures were approximate, but it would be easy to calculate the 'tween-deck required to obtain the minimum ratio of 0.3 between net tonnage and gross tonnage. New ships would be built with that proportion, and even existing ships could be modified, since the new Convention would apply to them if it were so requested.

Mr. PROHASKA (Denmark) pointed out that the French representative had left out of account an important factor, namely that of first cost for the postulated upper 'tween-decks. The additional deck would necessarily have to be of full scantling strength and that cost would be so heavy as to rule out the possibility of such manipulation. Furthermore, since many ports levied dues either on the basis of draught or of gross tonnage, he failed to see how it could be profitable to increase gross tonnage in the way suggested.

The new regulations would certainly influence ship design and no doubt some way would be found to increase depth for the purpose of obtaining reduced net tonnage, particularly in the case of medium-sized and small ships; but there would be no particular harm in such a development, and the corrective factor had in fact been introduced specially to cater for that type of ship. The ideal, would, of course, have been to base tonnage on displacement.

Mr. CUNNINGHAM (USA), agreeing with the views just expressed, opined that the cost of adding the useless 'tween-deck would be high for any type of vessel, not simply the tanker. His understanding was that the factor $\frac{4d}{3D}$ had been selected for the express purpose of stabilising the effect of the formula on tankers, the idea being that they would be unable to obtain a reduced net tonnage without considerable structural expenditure.

Mr. ROCQUEMONT (France) agreed that the operation envisaged would add to the first cost of the ship, but only slightly, for the superstructure would not have to satisfy the regulations under the International Load Line Convention beyond the requirements on water and weather tightness and, hence, could be kept light. And the saving on dues would more than offset the additional structural cost.

As to the safety question, he would reiterate that the purpose of the Conference was not to improve the international convention directly concerned.

The CHAIRMAN pointed out that no classification society would accept a superstructure of less strength than the main deck.

To take the factor $\frac{4d}{3D}$ to the cube power would, he thought, tend to encourage reduction of draught in the special case of container ships where ballast was needed for safety in the loaded condition. Possibly, it would be better to take the factor to the square power.

Mr. CHRISTIANSEN (Norway), said he would go so far as to say that the figures cited by France were more or less fictitious rather than just approximate. Any tanker of the size cited was obviously in need of more cubic capacity. To meet that need, any added 'tween-deck would have to be a substantial structure, costing around £1 million; and the result would be an apparent increase in gross tonnage to around 130,000 tons whereas the net tonnage would come back to 60,000 tons.

Mr. ERIKSSON (Sweden) considered that the point raised by France should be discussed in conjunction with the definition of cargo spaces, with a view to determining whether a between deck of the postulated kind should be included in total cargo volume.

The Working Group, after discussion, had reached a consensus on a cubed power for the corrective factor, as giving figures the closest to existing net tonnages for open shelter-deck ships.

Mr. DE JONG (Netherlands) recalled that his delegation had endorsed the original decision that the gross tonnage formula should take no account of the open shelter-deck concept, for at that time Proposal C was still valid insofar as net tonnage was concerned. Now that it was considered necessary to introduce a corrective factor into the net tonnage formula in order to take account of that concept, his delegation considered that the same should be done in the gross tonnage formula. Possibly, other delegations would also have second thoughts on the matter and accordingly the issue should be referred to the Conference for reconsideration.

In the light of Annex XI to the report, it would seem more equitable to have a corrective factor to the squared rather than to the cubed power.

Mr. ROCQUEMONT (France), answering points raised, said he was convinced that the result of his exercise, if based on specific data, would be exactly the same. Secondly, classification societies determined scantling strength as a function of the draught, in which there would be no change; the strength of the upper 'tween deck would be of account only insofar as tonnage was concerned and therefore it could be as light as would be consistent with the requirements of the International Load Line Convention.

If the formula for net tonnage now under consideration was maintained, France would, albeit with regret, be unable to sign the Convention.

Mr. HABACHI (Observer for the Suez Canal Authority) said his Authority had had the experience of a vessel passing through the Suez Canal in which three decks had been converted into one.

The CHAIRMAN reminded the French representative that, under classification society rules, notification of any structural alterations made in a ship was obligatory; and the classification societies would certainly want to be assured that the stress on the upper deck was not greater than that on the lower deck considered as satisfactory under their rules.

Mr. PROHASKA (Denmark), referring to Annex XI, explained that some of the points in the lower half of the diagram related to ships built under the existing regulations with very deep hulls and hence extremely low net tonnage. If those vessels were omitted, the scatter would be found to be even around the cubed line and that was why the Working Group had opted for the cubed power of the corrective factor, in line with its instructions to seek a formula giving figures as closely approximate as possible to existing tonnages.

Mr. ROCQUEMONT (France) observed that the choice of a cube power was not surprising, given that a longitudinal and not a displacement ratio was involved. The Working Group had undoubtedly done good work on the basis of the instructions given but his objection to the formula still remained, for undoubtedly the case he had postulated was a valid one. A light superstructure of the kind envisaged could even be constructed with expansion joints.

Mr. BELL (UK) thought the point raised by France was a fundamental one in that it again brought into question the whole implications of the shelter-deck concept. Originally, the United Kingdom had taken the view that it would be difficult to make an exception for one class of ship and that, if displacement or draught ratios were introduced in a formula controlling net tonnage, the comparison would have to be between actual draught and maximum permitted draught under the Load Line Convention, as otherwise the formula would encourage design manipulations. The corrective factor, as it stood, had been found to give satisfactory results for shelter-deck ships in the United Kingdom fleet; nevertheless, it would open the way to manipulating draughts that would normally be higher. He would accordingly suggest that the ratio be raised from .75 of draught to moulded depth to .85 to the square power.

Mr. PROHASKA (Denmark) said there was considerable opposition to such a rise, because its effect would be to give ships with more than 15 per cent freeboard an unjustified reduction in net tonnage.

He pointed out that an upper deck with expansion joints would have no influence on tonnage for it would not meet the requirement of continuous jointing.

Mr. DOLCINI (Italy) said that, in line with the Netherlands, his delegation was in favour of the corrective factor being to the square rather than to the cube power.

Mr. CHRISTIANSEN (Norway) said his delegation was willing to accept the Netherlands proposal on that point if it met with general support.

Mr. TYMOUR (United Arab Republic) said his delegation would endorse the French stand on the corrective factor since it would apparently affect net tonnage.

Mr. ROCQUEMONT (France) agreed that the effect would be less by using the factor to the square power; but his criticism went far beyond that point, as his earlier remarks showed.

Mr. PROHASKA (Denmark), illustrating his comments on the blackboard, explained that the Working Group had taken into consideration the possible adverse influence of the new regulations on ship safety and future ship design and had recognized the need for ensuring that no encouragement be given toward a reversion to ships of the old deck cargo type. And it had decided to introduce the corrective factor purely in order to rule out any such development.

Mr. ROCQUEMONT (France) fully agreed that the only way to preclude an adverse influence on ship design would be to relate net tonnage to displacement. Secondly, the Danish representative had once again demonstrated that the gross tonnage rules, as approved, would have the disadvantage of encouraging deck cargo transport. In the circumstances, it might be advisable to reopen consideration of the gross tonnage formula with a view to using displacement as the basic parameter, particularly as the disputed corrective factor in the net tonnage formula was an absolutely new proposal, coming at a very late stage in the negotiations.

The CHAIRMAN proposed to put to the vote the Netherlands suggestion that the corrective factor should be to the square power.

In answer to a point raised by the French representative, he noted that there was only one firm proposal before the Committee, that of the Netherlands, since the discussion on the gross tonnage formula could not be reopened.

Mr. FILIPPOVICH (USSR) thought it would be difficult to take the vote at that juncture in the absence of any proposal to meet the point raised by France. He would therefore suggest tentatively that an additional regulation might be inserted, reading: "Any added space, the purpose of which cannot be explained by the operational needs of the ship and the installation of which would artificially reduce the net tonnage, shall be added to the net tonnage".

Mr. KING (Kuwait) pointed out that, under that wording, a tanker owner would be able to claim exemption by installing the pipe-line system on the added superstructure instead of, as normally, below deck.

Mr. ROCQUEMONT (France) welcomed the Soviet suggestion as plainly showing that delegation's awareness of the gravity of the problem under consideration. However, the likelihood of manipulation would not be ruled out by any such regulation, however much the text might be elaborated. The owner could claim, for instance, that the space in question was a recreation room for the crew.

Mr. DE JONG (Netherlands), illustrating his comments on the blackboard, showed successive changes in ship design over the years and made the point that it was obviously better to construct so as to have the longtitudinal strength on the upper deck. A more useful purpose for an artificial between deck on a tanker would be to accommodate ballast tanks. In any case, his delegation did not share France's apprehensions that there would be recourse to manipulations of the kind envisaged.

The CHAIRMAN asked the Committee to indicate if it preferred the factor $(\frac{4d}{3D})^3$, as proposed by the Working Group.

There were seven votes in favour of using $(\frac{4d}{3D})^3$.

It was decided to adopt the factor $(\frac{4d}{3D})^2$ in the first term of the NT formula to take account of ships assigned a freeboard in excess of the minimum freeboard.

Passenger term

Mr. GUPTA (India) stated that his delegation had no objections to passengers being divided into two groups only, provided that those groups were: passengers in cabins with not more than eight berths, and passengers in dormitories with more than eight berths or entirely unberthed. He thus proposed deletion of the N_2 term tentatively included in the formula.

Mr. MURRAY SMITH (UK) explained that his delegation had done an exercise using the passenger term with N_1, N_2 and N_3 on two British ships having a few cabin berths and a much greater number of dormitory berths, and had found that if the N_2 term were ignored the new net tonnage values obtained were closer to existing figures than if the N_2 term were included. In the light of that discovery, and since the Indian delegation had concluded that a two-factor passenger term adequately took account of the pilgrim ships, his delegation was in favour of deleting the N_2 term and redefining the remaining two N values; thus: N_1 = cabin passengers, N_2 = non-cabin passengers.

Mr. ROCQUEMONT (France) reminded the Committee that it had not yet voted on the essential issue of whether or not the new net tonnage figures should be as close as possible to the net tonnage values of existing ships, a matter which had some bearing on the inclusion of individual terms in the formula.

Mr. PROHASKA (Denmark) recalled that although the Working Group had done its calculations using two passenger groups only, i.e. $(N_1 + N_2)$ and N_3, as originally defined in paragraph 20(d),

simply because it did not have separate data available for the N_2 group, it nevertheless considered that in any case the N_2 term would not substantially influence the passenger term in the NT formula.

The CHAIRMAN invited the Committee to vote on the proposal made by India and supported by the United Kingdom to delete the N_2 term.

There were twenty-two votes in favour and none against.

It was decided to delete the $\frac{N_2}{6}$ factor in the passenger term of the net tonnage formula, and to redefine N_1 as the total number of cabin passengers and N_3 as the total number of non-cabin passengers. The N_3 factor was then re-named N_2.

Lower limit for the net tonnage

Mr. PROHASKA (Denmark) drew attention to the procedure adopted by the Working Group in testing values for the lower limit of the net tonnage formula in TM/CONF/C.2/WP.44, and to the graphs thereto appended (Diagrams I and II). He invited delegations to check the figures used for the calculations and listed in TM/CONF/C.2/WP.44 for their own countries' ships.

He added that the passenger coefficient itself had been derived on the basis of the principle that passenger ships should not be allocated net tonnages on the new system higher than their current values.

The CHAIRMAN invited the Committee to vote on whether a lower limit should be fixed for the net tonnage of 0.3 GT, for cargo ships.

There were twenty-six votes in favour and one against.

It was decided to fix a lower limit for the net tonnage of cargo ships of 30 per cent of the gross tonnage.

Mr. PROHASKA (Denmark) pointed out that the Working Group had intended that the lower limit, whatever it might be, should apply to all types of ships. He explained that subsequently the Group had decided on different limits for the two terms in the formula, as indicated in the second sentence of paragraph (1), Annex XIII.

It had found, firstly, that the 0.25 limit for the first term in the net tonnage formula for passenger ships would give a better balance between the two terms and, secondly, that for all IMCO passenger ships the limit had to be applied for the first term because it was so small. For the mixed cargo and passenger ships and the car and rail ferries, the Working Group had concluded that a limit of 0.25 for the first term and an overall limit of 0.30 would give the best approximation to the NT Values for existing passenger ships, but allocating them in most cases rather a lower figure than before.

Mr. ERIKSSON (Sweden), Chairman of the Working Group, noted that in the graph with a limit of 0.3 GT (Diagram II, TM/CONF/C.2/WP.44), the ferries were included but not with their correct final net tonnage whereas in the other graph, with a limit of 0.25 GT (Diagram I, TM/CONF/C.2/WP.44), all ferries were excluded because car space was not included in the tonnage and the points would have been negative. It was clear that the ferries would have higher net tonnages under the proposed new formula.

The CHAIRMAN invited the Committee to vote on the Working Group's recommendation that the first term in the NT formula should not be taken less than 0.25 GT, and that the net tonnage as a whole should not be taken less than 0.30 GT, for all ships.

There were twenty-seven votes in favour and none against.

It was decided to fix a lower limit for the net tonnage of all ships of 30 per cent of the gross tonnage and to fix a lower limit for the first term of the net tonnage formula of twenty-five per cent of the gross tonnage.

Mr. ROCQUEMONT (France) pointed out that a considerable number of delegations had refrained from voting in the choice between a power x of 2 or 3 for the factor $(4d/3D)^x$ in the first term of the net tonnage formula. He therefore considered there should be further and broader discussion on a suitable value for x.

The CHAIRMAN asked the Working Group to explain why the phrase "in register tons" had been put in square brackets in each case, in Annex XIII.

Mr. ERIKSSON (Sweden), Chairman of the Working Group, explained that the Group had, after brief discussion, concluded that the units for the final NT formula might not, strictly speaking, be register tons after all, because not all components of the formula were in register tons. Furthermore, it was extremely difficult to define a register ton. It had therefore drawn attention to the issue for further consideration.

Mr. GUPTA (India) agreed that the Committee should clearly define the term "register ton". He also asked for confirmation that both terms in the NT formula would be applied to all ships, whether passenger or cargo vessels.

Mr. GRUNER (Finland) said he hoped that the second term in the formula would not be applied to cargo ships carrying less than twelve passengers; in view of the small difference it would make numerically, to their net tonnages, he felt that it was just a needless complication.

The CHAIRMAN suggested that some stipulation could be made after the definition of passenger number in Annex XIII to the effect that for the purposes of the NT formula the total number of passengers indicated in the ship's certificate was to be taken as zero if it was, in fact, less than thirteen. He considered that the addition of even a small amount of net tonnage in the case of certain small vessels, such as research ships, might be an unnecessary disadvantage for them.

Mr. GUPTA (India) formally proposed that for the purposes of applying the net tonnage formula, a vessel carrying less than thirteen passengers should be deemed to have none.

The CHAIRMAN invited the Committee to vote on the Indian proposal.

There were twenty-nine votes in favour and none against.

It was decided to insert a sentence in Annex XIII after The definition of passenger numbers indicating that, in the application of the net tonnage formula, the total number of passengers as indicated in the ship's certificate was to be taken as zero for ships carrying less than thirteen passengers.

Mr. GRUNER (Finland) asked whether the certificate referred to in the definition of passenger numbers in Annex XIII was the ship's tonnage certificate, the safety certificate or any other certificate. He pointed out that the safety certificate generally stipulated the number of persons on board, not the number of passengers.

The CHAIRMAN observed that the unqualified expression "certificate" had been used expressly, since any certificate indicating the total number of passengers was adequate.

He suggested that the expression "ship's certificate" used on page 2 of Annex XIII should be left as it stood.

It was so agreed.

The meeting rose at 12.45 p.m.