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AGENDA ITEM 4 - CONSIDERATION AND PREPARATION OF PROPOSED
TECHNICAL REGULATIONS ON TONNAGE MEASUREMENT
AND TONNAGE CERTIFICATES (TM/CONF/6;
TM/CONF/C.2/WP.26; TM/CONF/C.2/WP.29-30;
TM/CONF/C.2/WP.32) (continued)

The CHAIRMAN outlined the important decisions which the Committee would have to take during the day. To begin with, it would have to choose between two formulae for calculating gross tonnage - one including a constant and the other a logarithmic expression, and the working group would then have to work out the most appropriate figures. The Committee would then consider the question of net tonnage and decide whether to adopt a formula based on displacement less the volume of water-ballast spaces, or a formula introducing cargo spaces, with the necessary passenger corrections in each case. It would also have to decide, with regard to net tonnage, whether the formula should include passenger spaces or number of passengers, confirm the minimum value for net tonnage and finally decide what should be recorded on the tonnage certificate.

Mr. ERIKSSON (Sweden) speaking as Chairman of the working group, said that the United Kingdom had made a computer study of certain formulae for net tonnage, as shown on the graphs in document TM/CONF/C.2/WP.32. The United Kingdom had found that the formula embodying the volume of cargo spaces gave slightly better results with regard to the standard deviation, but both alternatives should be examined.

Mr. PROHASKA (Denmark) said that before the Committee voted between the formula containing a constant coefficient and the formula using a logarithmic expression for calculating gross tonnage, he would point out that there was no need to be apprehensive about applying a logarithmic expression. The

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latter could easily be extracted from logarithmic tables and different coefficients could thus be obtained according to the ship's size, which would be fairer to the owners of small ships (as would be seen from the graphs in TM/CONF/C.2/WP.26).

Mr. ROCQUEMONT (France) said his delegation was not worried about the use of a logarithmic expression, but it wondered whether there was any value in using a formula of that type. He did not in fact think that a large ship would have to pay much more than a small one, as the tariffs were on a sliding scale. His delegation therefore thought it preferable, for the sake of simplicity, to use the formula embodying a constant coefficient.

Mr. de JONG (Netherlands) said it was essential to try to keep as close as possible to the existing figures, and he therefore thought it preferable not to use the formula embodying a constant coefficient.

Mr. ERIKSSON (Sweden) said that while he was not against the adoption of the formula containing a logarithmic expression, he had come to the same conclusion as the representative of France and would prefer to have the formula with a constant coefficient.

Mr. PROHASKA (Denmark) said that the observations made by the representative of France were pertinent. He too thought that it would be simpler to use the constant coefficient.

The CHAIRMAN called for a vote on the proposal to use the formula embodying a logarithmic expression for calculating gross tonnage.

The proposal was approved by 24 votes to 10.

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The CHAIRMAN then invited the Committee to choose between formula (1), giving the net tonnage as a function of displacement, namely, $NT = A (\nabla - WB) + f (P_n \text{ or } P_v)$ and formula (2), giving the net tonnage as a function of the volume of cargo spaces, namely, $NT = A (V_c) \frac{D}{D_{LL}} + f (P_n \text{ or } P_v)$.

Mr. ROCQUEMONT (France) said that the comparison was, of course, not concerned with the second term, relating to passengers, since it was identical in the two formulae. He directed the Committee's attention to the exact meaning of " D_{LL} " which was defined differently in two documents.

The CHAIRMAN, referring to TM/CONF/C.2/WP.29, read out the definition given in it for " D_{LL} ". He asked whether the Committee accepted that definition.

Mr. SOLDA (Italy) thought it would be advisable to add "without any influence on subdivision of ships".

Mr. MOZIGLIA (Argentina) said that, after examining the two formulae proposed for the calculation of net tonnage, his delegation had concluded that the one which used the volume of cargo spaces gave figures close to the existing values, while the other formula gave figures which differed from them. However, it might perhaps be more appropriate for ships of the future. After having weighed up the advantages and disadvantages of the two formulae, his delegation thought formula (1), based on displacement, should be adopted.

Mr. MURRAY SMITH (UK), reverting to the definition of the term " D_{LL} ", said that in the Load Line Convention that definition did not take into account the ship's scantlings, and the situation was further complicated by the fact that there were two different types of ships (A and B). If the definitions which the Chairman

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had read out were used, they would get even further away from reality. What was required on the contrary was a precise definition of that term for the purposes of the Convention under consideration.

Mr. ROCQUEMONT (France) observed that the Argentine delegation had presented the question very well, but every point called for lengthy development. In the definition of " D_{LL} " it was necessary to know what the freeboard in question was. The Italian delegation had suggested that no account should be taken of the scantlings, which would lead to discarding Regulation 1 of the 1966 Load Line Convention and also Chapter II on the requirements for solidity of construction in regard to the assignment of freeboard. The definition of the " D_{LL} " would become much too complicated.

Mr. de JONG (Netherlands) considered that the comparison between the two formulae was not a fair one. The first formula was not correct, because it included a constant A, whereas a variable was needed and it was incorrect to deduct the volume of the water-ballast from the displacement. The Committee had not enough data to proceed at once to a vote.

Like the representative of Argentina, he feared that great difficulties would be encountered in practice if the second formula was used in an attempt to calculate the volume of net tonnage.

The CHAIRMAN pointed out that the coefficient A was not a constant and could be a variable.

Mr. de JONG (Netherlands) remarked that the figures available referred only to British ships and that the information was insufficient.

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Mr. MURPHY (USA) said that the question was one of the most critical which the Conference had to resolve if it wished to draw up a Convention that would be acceptable to all. He recalled that the Conference had at first considered the formula based on displacement to be the most appropriate. Subsequently, it had been led to reverse its decision. His delegation was still of the opinion that the formula using cargo space was preferable for calculating net tonnage, and all the more so since, in respect of the standard deviation - which was 13.9 per cent with the first formula but became 8.5 per cent with the second - results showed definite progress. The figure might be further improved, and that formula might be used with good results.

The CHAIRMAN said he wondered whether, to avoid difficulties, it might not be desirable to add, in the definition of " D_{LL} ", that that term related to B type ships.

Mr. PRIVALOV (USSR) said his delegation had always favoured the choice of volume as a parameter for net tonnage as well as for gross tonnage. On 9 June the Committee had been concerned to find that it was not obtaining satisfactory results from calculating net tonnage on the basis of displacement, and the Conference had given it new and wider terms of reference, which enabled it to carry out a comparative study. The essential thing, therefore, was to determine the parameter, since the coefficient was of minor importance. His delegation shared the views of the United States on that point.

Mr. CHRISTIANSEN (Norway) agreed with the views expressed by the representatives of the United States and the Soviet Union.

Mr. GUPTA (India), too, shared that view. He asked whether in regard to the expression $\frac{D}{D_{LL}}$, the Committee could not depart

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from the provisions of the 1966 Load Line Convention, since existing ships were to preserve their tonnage and, in the case of new ships, new concepts would have to be applied.

Mr. SIMPSON (Liberia) favoured volumetric tonnage, but was worried about the expression $\frac{D}{D_{LL}}$. Many existing ships had the 1930 freeboard, while the Committee seemed to want the adoption of the 1966 freeboard, which would entail new calculations and considerable work.

Mr. SOLDA (Italy) feared that the deduction of water-ballast spaces in the first formula would encourage owners to build ships with enormous water-ballast spaces. He was therefore inclined to prefer the second formula which took into account the volume of cargo spaces. With reference to what had been said by the representative of Liberia, he pointed out that the Committee could fix an upper limit for the expression $\frac{D}{D_{LL}}$.

Mr. PROHASKA (Denmark) thought that, before taking a decision, the Committee should ensure that there was no possibility of misunderstanding. In the first formula, the water-ballast could be considered either as a weight or as a volume and he saw no reason for making a distinction according to whether the water-ballast was above or below the water-line.

One delegation had expressed the fear that owners might be inclined to provide large water-ballast spaces, but he pointed out that by so doing, whatever the formula adopted, the owner would have to reduce cargo space, which was hardly in his interest. Shipyards should be encouraged to construct strong water-ballast tanks in order to improve the safety of ships and to prevent the pollution of the sea by oil.

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As the representative of the United States had recognized, use of the computer had given better results for the second formula than for the first. The figures for standard deviations, quoted by the United States delegation - namely, 13.9 for the first formula and 8.5 for the second formula - could not, however, be compared and were in no sense an argument in favour of the first formula. It was the second formula which would permit of the closest approach to existing tonnage values. The Committee would of course need to have fuller and more precise data concerning the whole world fleet, including shelter-deck ships.

In his view, the Committee should await the outcome of the working group's discussions before choosing a formula. As for the expression $\frac{D}{D_{LL}}$, the figures which were to be supplied by the Norwegian delegation would make it possible to reach a decision with full knowledge of the facts.

The CHAIRMAN proposed that the Committee should decide on its choice of a formula before the end of the meeting.

The proposal was adopted by 27 votes to 1.

Mr. ROCQUEMONT (France) emphasized that the problem for delegations was to present to their Governments the solution which would be easiest to apply from the technical point of view, so as to avoid difficulties in regard to ratification.

On the subject of the expression $\frac{D}{D_{LL}}$, only hypotheses had been put forward. Some delegations thought that the freeboard table for type B ships should be applied, as given in the 1966 Load Line Convention, while others preferred not to take

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it into account. Such differences were serious, for the expression should apply to all ships. If the Committee gave too simple a definition of that expression, the result might be that oil tankers would have a value for $\frac{D}{D_{LL}}$ that was greater than 1. Moreover, shipowners would be likely to try to obtain a low ratio for $\frac{D}{D_{LL}}$; in other words, a high value for D_{LL} . Thus, if only geometrical considerations were taken into account, there was a grave risk that ship yards would build ships whose superstructures were not strong enough.

He pointed out further that both formulae included volumes: water-ballast in the first, and holds in the second; and both contained the term displacement. It was therefore solely for practical and not doctrinal reasons that the French delegation advocated the first formula.

Mr. ENDO (Japan) said that his delegation still stood by the principle that the new net tonnage figures should be as close as possible to the old ones, and it therefore preferred the second of the proposed formulae.

Mr. GUPTA (India) pointed out that, with the first formula, there was a risk that the volume of the water-ballast would be deducted even when the latter was non-existent, as in the case of a fully-loaded ore carrier. The working group should therefore provide for a reasonable limit of deductible water-ballast to avoid any such anomaly.

Mr. RUSSEL (South Africa) stressed the importance of the vote about to be taken, as the success of the Conference would be jeopardized if the Committee did not find a compromise solution.

Mr. MURRAY SMITH (UK), agreeing, said that was why his delegation, though more in favour of the first formula, would vote for the second one, which seemed to have greater support, on the understanding that the working group would make a more detailed study of the factor $\frac{D}{D_{LL}}$, which would doubtless enable it to find a satisfactory solution.

Mr. PROHASKA (Denmark) pointed out to the Indian representative that the problem concerning water-ballast which he had mentioned would apply to the second formula too, but in neither case could the deduction for water-ballast exceed 50 per cent, if a minimum limit for net tonnage were fixed at 30 per cent of the gross tonnage.

Mr. KELLY (USA) explained that the working group had not taken that limit into account in its calculations but had been able to establish to what ships it would apply.

Mr. ROCQUEMONT (France) said that, contrary to that view maintained by several delegations, it was not certain that the second formula would produce results closer to the present figures than the first; in fact no calculation had yet been made with the corrective $\frac{D}{D_{LL}}$; and the working group had frankly admitted that the results of its calculations were questionable, as they had only been based on a small number of ships which did not include certain types of ships at all.

Whichever formula were chosen, it was likely that the standard deviations would, at best, be in the region of 8 per cent, which would in any event entail different treatment for existing ships and new ships.

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Moreover, since both formulae entailed the measurement of volume and displacement, the main thing was to choose the simpler of the two. In cargo ships, the volume of the holds increased with that of the ship, which was itself proportional to the displacement; it could therefore be said that:

$$V_c = K \times D_{LL}$$

In that case, the first part of the second formula would become:

$$NT = A \times K \times D_{LL} \times \frac{D}{D_{LL}}$$

or simplified:

$$NT = A \times K \times D$$

In other words, net tonnage would be the product of the displacement and the coefficient AK. The two formulae were therefore equivalent, but the first was much simpler.

If the second formula were adopted, the French delegation would reserve its position in regard to the factor $\frac{D}{D_{LL}}$ until it had been defined by the working group.

Mr. ERIKSSON (Sweden) supported the view expressed by the representatives of South Africa and the United Kingdom, and thought the Committee should make an immediate choice between the two formulae in order to leave enough time for the calculation of the most appropriate coefficient.

The determination of net tonnage on the basis of volume of cargo seemed to be a reasonable formula which would be acceptable to many countries, and the Swedish delegation would therefore support the compromise solution.

Mr. MURPHY (USA) stressed that the reason why the working group had not yet produced definitive studies was that it had been trying to resolve all the points raised by the various

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delegations. Nevertheless, the formulae before the Committee were adequate to enable it to take a decision, and the United States delegation would vote for the formula based on volume.

The CHAIRMAN called on the Committee to decide between the two formulae.

At the request of Mr. de JONG (Netherlands) a roll-call vote was taken.

The CHAIRMAN asked members to indicate individually the formula for which they were voting.

Poland, having been drawn by lot by the Chairman, was called upon to vote first. The result of the vote was as follows:

In favour of the first formula: Poland, Portugal, Spain, United Arab Republic, Venezuela, Argentina, Belgium, Brazil, France and Kuwait.

In favour of the second formula: South Africa, Sweden, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United States of America, Yugoslavia, Australia, Bulgaria, Canada, China, Czechoslovakia, Denmark, Federal Republic of Germany, Finland, Ghana, Greece, India, Ireland, Israel, Italy, Japan, Liberia, Mexico, New Zealand, Nigeria, Norway and Philippines.

Abstentions: Netherlands.

The second formula was adopted by 27 votes to 10 with 1 abstention.

The CHAIRMAN reminded members that, in order to enable the working group to continue its study of the formula which had

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passenger term should be calculated on the basis of the volume of passenger space or of the number of passengers. The question was the subject of a note by Denmark (TM/CONF/C.2/WP.30).

He thought he was right in saying that the formula based on the number of passengers would produce a slightly greater scatter but would have the advantage of being infinitely simpler.

Mr. GUPTA (India), concurring, said that the term $\frac{Nu}{10}$ proposed for the number of unberthed passengers would apply very satisfactorily to pilgrim ships.

The Committee decided by 32 votes to one that the passenger term should be calculated on the basis of number.

The CHAIRMAN said he would also like the Committee to decide whether the coefficient to be applied to the number of passengers should be so calculated that the line representing the passenger term in the graph would run below the majority of the points representing ships; if so, virtually no passenger ship would have its net tonnage increased, with the exception of ferries and United States ships.

Mr. MURPHY (USA) agreed that in that respect his country's rules differed from most other regulations. The adoption of the solution suggested by the Chairman therefore seemed to him reasonable, and he would abstain if the question were put to the vote.

Mr. MURRAY SMITH (UK) pointed out that the graph in TM/CONF/C.2/WP.30 had been prepared on the basis of a limited selection of passenger ships and that the question called for greater reflection because, if the line in question were too low down on the graph, it might encourage port authorities to

increase their dues. He accordingly proposed that the decision be deferred until the next meeting.

Mr. GUPTA (India) supported that proposal.

It was so decided.

The CHAIRMAN asked the Committee whether it considered that a minimum net tonnage should be fixed in order to obviate any abuses made possible by the factor $\frac{D}{D_{LL}}$. If so, he thought that in the light of the information supplied by the working group, the minimum could be fixed at 30 per cent of the gross tonnage.

Mr. CHRISTIANSEN (Norway) said he would prefer 25 per cent.

Mr. de Jong (Netherlands) was afraid that any such limit would penalize shelter-deck ships.

Mr. MURRAY SMITH (UK), supported by Mr. GUPTA (India), expressed the view that if the limit were fixed at less than 30 per cent, the levying authorities might be led to calculate their dues on other, even less favourable bases.

Mr. PROHASKA (Denmark) shared that view, which he supported with figures relating to passenger ships.

The CHAIRMAN proposed that a minimum net tonnage value be fixed, calculated on the basis of gross tonnage.

That proposal was adopted unanimously.

Mr. ERIKSSON (Sweden) thought that the percentage in relation to gross tonnage should be fixed on the basis of the coefficient to be determined by the working group.

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Mr. de JONG (Netherlands) thought the percentage should vary according to the size of the ship, as the lower net tonnage limit ought to be higher for big ships than for small ones.

The CHAIRMAN proposed that the matter be referred to the working group.

It was so decided.

The meeting rose at 12.35 p.m.