



## IMCO

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INTERNATIONAL CONFERENCE ON  
TONNAGE MEASUREMENT, 1969  
Technical Committee

PROVISIONAL SUMMARY RECORD OF THE THIRD MEETING  
held at Church House, Westminster, London, S.W.1,  
on Friday, 30 May 1969, at 2.35 p.m.

Chairman:	Mr. F. SPINELLI (Italy)
Secretary:	Mr. Y. SASAMURA (Japan)

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

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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.

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Mr. CHRISTIANSEN (Norway) reiterated his delegation's suggestion put forward at the second meeting of the Technical Committee for a means of calculating the gross tonnage of a ship by calculating the volume of the whole body and multiplying by a conversion factor allowing for crew, navigation and similar spaces but omitting passenger spaces. For calculation purposes, an imaginary line could be taken at eighty-five per cent of the depth of the ship, instead of using a real constructed second deck as a load line. The underdeck tonnage for, say, an open shelterdecker could then be calculated and the conversion factor applied. To avoid confusion, the ship would have to be allowed a maximum draught and only one minimum draught, and would have to change its load line certificate and tonnage measurement certificate at the same time, within time limits to be settled by the Committee.

Mr. BONN (Canada) observed that while he did not doubt the feasibility of using displacement as a parameter for gross tonnage measurement, some ships could nevertheless have a number of tonnages to suit the density of the cargo. He did not believe that owners would hesitate to change the tonnage registration of their ships because of the complexity of the procedure: tonnage certificates could certainly be mailed to consulates in the major ports at short notice. There was a danger, however, that since the existence of two tonnage measurements was currently causing confusion, the possibility of increasing that number could only make matters worse.

Mr. SAGARA (Japan), in response to a request made by the French delegation, explained that his delegation did not agree with the use of the concept of displacement as a system of tonnage measurement because it believed that the gross tonnage was a system for indicating the size of a ship but not its earning capacity. Proposal C, however, did not embody the

concept of earning capacity. If the depth and size of a ship were introduced into measurement, some confusion would be caused, since displacement varied with the nature of the cargo and many ships were multi-purpose carriers.

Mr. ROCQUEMONT (France), in reply, firstly to Mr. SAGARA (Japan) said that while a ship could certainly have several displacements, it was obviously in the interests of the shipowner to use it at the highest value authorized. He pointed out that an open shelterdeck ship with a relatively light cargo could have a permanently low draught, envisaged in its final design. The classification societies use tables to compute the scantlings, the structural characteristics of the principal parts of the ship and would not want that system to be changed. He considered, therefore, that it was no use determining the draught if the ship could, on the basis of its structure and assigned load line, have a higher draught. His delegation took displacement to correspond to the load line allocated to the ship and considered that the load line could possibly be placed at a lower level than that laid down in the 1966 Convention.

On the question of deadlines and the time to elapse between issuance of the two certificates, the delegation believed that that could be less than six months with the provision, of course, that a ship should not change its displacement registration between successive stages of a single voyage. It had been said that if a ship had a low displacement, certain port authorities would believe it had a theoretically higher one, which should be used. He felt, however, that if the ship were adequately designed its displacement would be a maximum, because if the maximum freeboard were not determined from geometrical considerations, the minimum freeboard would anyway have to meet the requirements of the classification societies.

His delegation could not agree with the Canadian suggestion that there should be two displacements, a high and a low. A ship making several successive voyages with the same displacement could be adequately classified by that value; it should thus be possible for each ship to have a single displacement and a single certificate stating it, with strict rules applied to ensure that the tonnages were changed as infrequently as possible.

Mr. UGLAND (Norway) protested that shipowners did not necessarily use their ships to full draught; open shelter-deckers, for instance, needed to run with very little draught with a very light cargo. He did not agree with the French proposal to change the tonnage very infrequently since that would do away with the shelterdeck principle which it had been agreed to keep. He pointed out, furthermore, that if a ship had many different tonnage certificates it would be a very difficult situation for the port authorities.

Mr. MUENCH (Israel), in reply to the point made by Mr. SAGARA (Japan) on the earning capacity of a ship, said that Proposal C intended to provide a parameter on which gross tonnage could be based and could not therefore lead to any confusion. The formula put forward by his delegation was aimed at giving a figure fairly close to the gross tonnage, but close also to the displacement for most ships; displacement would thus play the role currently occupied by gross tonnage.

Furthermore, he wondered how, if gross tonnage was to represent the size of the ship, that size could vary with the deadweight; it would seem that an element of earning capacity was being re-introduced into the displacement measurement.

In conclusion, he observed that the Proposal made by Mr. Christiansen (Norway) to calculate one of the two values to the waterline, was exactly in accordance with the wishes of the Israel delegation.

Mr. de JONG (Netherlands) said that his delegation could accept the formula put forward by the Israeli delegation as a basis for discussion but considered that the displacement value to be used should be the actual displacement of the ship, in most cases the maximum displacement in accordance with the freeboard. So far it had not been made clear which of the two displacement values - for close or open shelter-deck conditions - was to be used.

He also believed that owners should not be able to change their ship's tonnage frequently; a limitation of one year would be sufficient.

Professor PROHASKA (Denmark), replying to the delegation of the Netherlands on the definition of delta ( $\Delta$ ) in the formula, explained that in a closed shelter-deck condition the displacement of the load line mark should correspond to that position, and that of the ship in an open condition should correspond to the freeboard measured from the second deck.

On the subject of the possibility of changing the tonnage, he pointed out that it would render impossible the open/closed shelter-deck system, the advantages of which had already been

agreed upon. Owners should be allowed to change the freeboard mark and could be relied upon not to do so too frequently so there seemed no need to impose limitations; the system could be left as it was.

Mr. ROCQUEMONT (France), on the matter of convertible shelter-deckers, suggested that either, if a displacement parameter were chosen, there could be two displacement values depending on the load condition of the ship, i.e. the ship could have a high displacement on the outward journey and a low one on its return. He wished to keep the open shelter-decker concept, with the possibility of conversion as well, whether a volume or a weight parameter were finally adopted, but believed that the port authorities did not want many changes of the tonnage value, nor too flexible a tonnage measurement system.

Mr. JONG (Netherlands) said that the Committee should be careful not to adapt a convention which would not be acceptable to the ports and other interested parties. He invited delegates also to study during the weekend the Netherlands formula on page 38 of TM/CONF/3 and to make comparative calculations.

#### Net Tonnage

Mr. CUNNINGHAM (United States of America) maintained that a simple formula for approximating net tonnage should equate it to the gross tonnage minus the water ballast space, all multiplied by a coefficient not less than a certain percentage (for example 25 to 35 per cent) of the gross tonnage, so that in no case could the net tonnage arrive at a zero or near zero value.

The CHAIRMAN considered that the proposal put forward by Mr. Cunningham (USA) could be expressed in the following formulae:

$$\text{Net} = K\left(\frac{\Delta}{a} + \text{Pb} - V\right)$$

$$\text{Net} \geq K\left(\frac{\Delta}{a} + \text{Pb}\right)$$

where K stands for the coefficient and V for the water ballast spaces.

Mr. CHRISTIANSEN (Norway) considered that once cargo spaces had been defined in some way, the volumes of the cargo spaces should be measured and bona fide water ballast spaces not included. Referring to the Norwegian proposal that all cargo spaces above the uppermost deck should in all cases be exempted, he explained that it was intended that real cargo spaces would be included in the gross tonnage for closed shelter-deck ships and exempted for open ones. He agreed that some provision should be made to ensure that the net tonnage was not less than a certain percentage of the gross tonnage but stipulated that the latter should be in volumetric units to avoid confusion in existing ships.

Professor PROHASKA (Denmark) commented that since most delegations seemed to prefer that both gross and net tonnage measurements be kept, some modification of the United States proposal could be acceptable. Firstly, he believed that the passenger space term should be the same in both gross and net tonnage and, secondly, it was not correct simply to deduct the water ballast term. The Committee had to aim at obtaining net tonnage figures in the neighbourhood of existing ones; he suggested that the displacement and passenger term multiplied by a coefficient of around 0.2 to 0.25 would give a simple figure of the right value.



Mr. GRUNER (Finland) observed that his delegation proposed use of the deadweight instead of the net tonnage as a basis for calculating dues and drew attention to the tables on the last page of TM/CONF/3/Add.5. The deadweight corresponded very closely to existing net tonnages for cargo ships if multiplied by a factor of 0.375.

Mr. MURRAY SMITH (United Kingdom) observed that since there was no great value in subtracting water ballast spaces, so that the net tonnage would be simply a percentage of the gross, there seemed no relevance in keeping the concept of net tonnage at all.

Mr. CUNNINGHAM (USA) maintained that if the formula selected was to apply to cargo ships, there was need to introduce some factor to cover water ballast space.

As to the suggestion that only one tonnage, the gross tonnage, be provided, he feared that such a development would entail upward adjustment of port dues by every port in the world. He accordingly considered that the two tonnages should be maintained.

Mr. ROCQUEMONT (France) said that on the question of water ballast factor, he associated himself fully with the stand taken by Denmark and the United Kingdom. To introduce water ballast into the tonnage measurement formula would complicate matters and open the way to fraudulent practices, unless detailed requirements for manhole diameter, etc. were laid down.

Secondly, he agreed fully with the United Kingdom on the question of a second parameter. If, as he hoped, the Committee decided to accept the compromise formula suggested by Israel for the measurement of gross tonnage, the Convention could be confined to that parameter. As to the fear expressed by the United States regarding rises in port dues, he himself thought that port authorities would probably thank the Conference for taking that line; i.e. laying down a single parameter on which to levy dues on ships.

Mr. MURRAY SMITH (United Kingdom) said he had been going to reply to the United States in much the same terms as France. He would take the opportunity to make it clear that the United Kingdom was not necessarily fully in agreement with the compromise proposal on gross tonnage measurement which was to be considered over the weekend.

He drew attention to a paper submitted by the United Kingdom (TM/CONF/C.2/WP.2); its purpose was purely to help delegations lacking computer facilities in their consideration of the compromise proposal, by indicating in graphic form the relationship between the Danish amendment to Proposal C and existing gross tonnages in respect of some 150 ships.

Mr. PRIVALON (USSR) said that the second parameter, net tonnage, was the basis in many countries for determining port dues, which in turn had a bearing on the earning capacity of ships. Therefore, his delegation could not accept displacement as a basis for the parameter in that it had no linear dependence. In the past, calculations had been made in his country with a view to determining whether there existed a function close to a linear function between displacement and net tonnage and had found quite considerable variation between the two (of the order of 0.16-0.36). If it was now desired to adopt a parameter of the kind as a basis of fair distribution of earnings for all types of ship, certain substantial adjustments should be made.

He would take the opportunity to refer to the question of gross tonnage. The use of displacement as the basic parameter involved features that would penalize shipowners planning to improve safety of navigation from the technical standpoint. He cited, as an example, the strengthening of a ship against ice

conditions. Such strengthening was of great importance from the safety standpoint for ships habitually plying in icy waters; and the proposed new net tonnage formula would undoubtedly militate against such action, thus reducing safety at sea. Secondly, navigation was becoming faster and faster and all would recognize that high speed also entailed more mechanical equipment of a costly type, adding to deadweight. Nuclear powered ships would also be penalized because of the weight of the collision protection required. With advances in shipping, the world was looking forward to the time when the use of liquid fuel in ships would be completely dispensed with and unclean fuel would be used. Lastly, it was difficult to visualize displacement as the basis for calculating net tonnage in the case of certain new types of ship that were now coming into use. His delegation would accordingly prefer the slightly more complex proposal set out in TM/CONF/9/Add.1.

Professor PROHASKA (Denmark) disagreed with the Soviet view that the use of displacement in calculating the gross tonnage would penalize ice-strengthened ships. Strengthening of the kind was covered by national regulations and the matter of importance for the shipowner was the first cost of the additional strengthening and not any modest increase in tonnage that might result. Again, he would take issue on the question of nuclear-powered ships, for the weight of the heavy shielding for the atomic reactor was not high as compared with the weight of fuel oil i.e. conventional ships.

The essential was to arrive at a simple formula that would provide tonnage figures not too far away from the present figures and displacement would, in his opinion, be the best parameter for that purpose.

Mr. UGLAND (Norway) endorsed the comments made by the Soviet Union. The important aspects to which he had drawn attention should be given due consideration.

The discussion showed that there was need to clear up some matters of principle. He had understood that there had been more or less general agreement in Plenary on the inclusion of two parameters, gross tonnage and net tonnage. His delegation took the view that the two parameters should be derived from different sources; i.e. if gross tonnage was to be measured on the basis of displacement, the net tonnage should be calculated on cargo space volume.

Lastly, there was need to lay down in principle that anything done to improve the safety of a ship should not add extra expense for the shipowner.

Mr. ROCQUEMONT (France) pointed out that for a long time past shipowners had been concerned to keep their ships as light in weight as possible, because weight was costly to displace. It was an immutable physical law that propulsion power was a growing function of speed and weight of ship; and everyone was aware that each useless ton was costly throughout the whole lifetime of a ship, the more so as it meant higher port dues. But many other instances might validly be cited where weight had to be added to a ship for special purposes, as, for instance, the case of ships operating in tropical waters which had to have greater ventilation facilities or air-conditioning plant.

Mr. WILSON (United Kingdom) thought there was need for the Committee to keep its feet firmly on the ground. An owner built a ship for a specific purpose, a particular trade or function.

If the trade happened to be in northern European waters, the ship, to be operated, had to have ice strengthening; and if in tropical waters, air-conditioning. Those facilities were not added specifically for safety purposes but merely to enable the ship to operate in those waters. Safety was taken care of by government regulations and international conventions so that the owner had no choice in regard to the installation of safety precautions. The same applied to crew accommodation but in general a higher standard had to be maintained in order to obtain crews.

All those matters were essential so that it was a false precept to speak of "penalizing" the shipowner. A nuclear-powered ship was not penalized in displacement or deadweight because the extra shielding was offset by not having to carry oil fuel. Moreover, the accommodation on a luxury liner was not provided simply to give the greatest comfort but to attract custom, enabling a profit to be made on operation.

Mr. GRUNER (Finland) pointed out that the Finnish shipowner had no choice in the matter of ice-strengthening, as, without it, ships would have to be laid-up for three to five months each winter. Nor was the object of such strengthening simply to be able to operate at a profit: it was necessary to keep the country going. It was true that ships operating in tropical waters required air-conditioning installations. In that connexion, he would point out that one Finnish shipping line operated between Finland and South America and accordingly required both air-conditioning and ice-strengthening.

Mr. CHRISTIANSEN (Norway) pointed out to the representative of Denmark that insurance premiums in shipping were based on the statistics of the complete fleet, and had nothing to do with strengthening or otherwise. Finnish ships plying to other parts

of Europe or to the United States had to pay higher duties than shipping lines starting in more clement waters. It was true that nuclear-powered ships were saved the weight of oil fuel but they had to have many other weight-adding items peculiar to such ships alone.

Those considerations were, however, irrelevant. The point at issue was whether an owner should be penalized for increasing safety precautions and his delegation was emphatically against such a contingency.

The United Kingdom representative had spoken of ships being designed for a special purpose. Norwegian shipping had to be ready to trade anywhere in the world. Indeed, special design was the exception rather than the rule.

In many cases, shipowners included safety precautions going beyond the minimum requirements laid down; his point was that they should not be penalized for so doing.

Professor PROHASKA (Denmark) said that the shipowner's concern was obviously to have a ship that would be profitable on the trade route for which it was to be used. He might even, if necessary, require ice strengthening in excess of regulations of the classification societies. Increase in tonnage was a relatively minor matter, amounting only to about 1 per cent of the initial outlay on a ship. The Committee should concentrate on a simple formula and avoid discussion on minor details.

Mr. PRIVALON (USSR) said that there was no point in discussing ice strengthening or air conditioning, or their respective implications, though in his opinion they would penalise shipowners. It was the principle that was important.

Mr. GRUNER (Finland) said that ice strengthening was very important for ships using Finnish harbours in winter. Ships without ice-strengthening paid higher fees per net registered ton. Ships built to Finnish ice standards paid no dues; but a ship - whatever its class - that was not capable of going through ice would have to be towed by an ice-breaker at very high fees. In his opinion the displacement rule was not satisfactory; the deadweight rule would be simpler and easier.

Dr. MUELNCH (Israel) said that over the years the tonnage rules had come to embody provisions concerning crew comfort, safety of ships and prevention of oil pollution, which should really be provided for in other regulations or instruments. The existing tonnage regulations were liable to have adverse effects on naval architecture because they contained too many definitions.

The CHAIRMAN asked if he was correct in understanding that the USSR was in favour of the Norwegian proposal in TM/CONF/9/Add.1 as far as net tonnage was concerned.

Mr. PRIVALON (USSR) concurred. He also said that his delegation saw no linear connexion between the Norwegian proposal and earlier proposals.

The CHAIRMAN, summing up, said that there were four main trends in the discussion: net tonnage as a function of displacement; net tonnage as a function of displacement with correction for water ballast and a limitation of minimum net tonnage; net tonnage as a function of volume; Mr. Gruner added net tonnage should be a function of deadweight.



Dr. MULNCH (Israel) asked the Norwegian delegate what effect would have the addition of cargo volume above the deck on the tonnage deck.

The CHAIRMAN asked also the Norwegian delegate with respect to the sketch on the blackboard whether for open and closed shelter-deckers the same figures would apply.

Mr. CHRISTIANSEN (Norway), replying to questions by Dr. Muench (Israel) and the CHAIRMAN, said that according to his proposal the cargo space above the uppermost deck would be exempted in all cases, for open and closed shelter-deckers, as a result of the provisions of Assembly Resolution A48 (III). According to the suggestion in his sketch, whereby the cargo space below the imaginary line would be net tonnage and passenger space would be added, it might be necessary to define cargo space. He did not mean that the open deck was cargo space: he had never envisaged deck cargo as cargo for the purposes of net tonnage.

The CHAIRMAN said he understood that in closed conditions, to avoid the problem of an additional deck for tonnage purposes, the net tonnage would be the total volume of cargo plus the volume for passengers. In open deck conditions the net tonnage would comprise all cargo space below a line corresponding to 85 per cent of the depth, plus passenger space.

Mr. CHRISTIANSEN (Norway) concurred.

Mr. PRIVALON (USSR), in reply to a question by the CHAIRMAN, said that the Norwegian representative's explanation would provide a good basis for discussion of net tonnage because it took shelter-deck ships into account.



Mr. WILSON (UK) asked whether the imaginary line of 85 per cent depth in the Norwegian proposal could apply to a ship whether or not it had a second deck: in other words, to a tanker.

Mr. CHRISTIANSEN (Norway) replied in the affirmative, although he doubted whether it would pay tankers to use the imaginary line. He would prefer to retain the old shelter-deck idea.

Mr. CUNNINGHAM (USA) said he assumed that if the second deck were eliminated there would still be load line control as proposed in TM/CONF/9/Add.1. As regards what the United Kingdom representative said he doubted if it would be used by tankers because they would have to lose an unnecessary amount of deadweight.

Mr. BELL (UK) understood load lines were being assigned from an imaginary deck line; but under the Load Line Convention there had to be a deck.

The CHAIRMAN said that as he understood it, the load line mark should be at or below the imaginary line for the purpose of calculating net tonnage. The provisions of the Load Line Convention should not preclude the imaginary line.

Mr. CHRISTIANSEN (Norway), in reply to questions by the CHAIRMAN, Professor PROHASKA (Denmark), Dr. MUENCH (Israel) and Mr. CUNNINGHAM (USA), said that he had not invented the imaginary line. He had suggested it to overcome the difficulty over the second deck. His proposal reverted to the operation of shelter-deckers before the existence of the International Tonnage Mark Scheme; it applied to open and closed shelter deck ships. He would endeavour to prepare a further paper, although the information was all contained in TM/CONF/9/Add.1.

The meeting rose at 6.10 p.m.

Dear Sir,  
I have the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the above matter. I am sorry to hear that you are not satisfied with the results of the investigation. I have been very busy lately, but I have been unable to devote more time to this matter. I have been very busy lately, but I have been unable to devote more time to this matter.

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