



TM/CONF/C.2/SR.1
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FOR PARTICIPANTS ONLY

INTERNATIONAL CONFERENCE ON
TONNAGE MEASUREMENT, 1969

Technical Committee

PROVISIONAL SUMMARY RECORD OF THE FIRST MEETING

held at Church House, Westminster, London, S.W.1,
on Thursday, 29 May 1969, at 2.45 p.m.

Chairman:	Admiral E.J. ROLAND (USA) later: Mr. F. SPINELLI (Italy)
Secretary:	Mr. Y. SASAMURA

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

TM/CONF/C.2/SR.1

CONTENTS

	<u>Page</u>
<u>Agenda item 1</u> - Election of the Chairman and Vice-Chairman of the Committee	3
<u>Agenda item 2</u> - Adoption of the agenda	3
<u>Agenda item 3</u> - Consideration of matters as instructed by the Conference	3

AGENDA ITEM 1 - ELECTION OF THE CHAIRMAN AND VICE-CHAIRMAN
OF THE COMMITTEE

Mr. DUBCHAK (USSR) proposed that Mr. Spinelli (Italy) should be elected Chairman of the Technical Committee. His energy and his specialized knowledge of the questions the Committee was to study would contribute to the success of the Committee's work.

Mr. CUNNINGHAM (USA) and Mr. SATO (Japan) warmly supported that proposal.

Mr. Spinelli was elected Chairman of the Technical Committee by acclamation.

Mr. Spinelli took the chair,

Mr. CHRISTIANSEN (Norway) proposed Mr. ERICSSON (Sweden), a distinguished engineer, for the office of Vice-Chairman of the Committee.

Mr. GUPTA (India) and Mr. MURRAY SMITH (UK) whole-heartedly supported that proposal.

Mr. Ericsson was elected Vice-Chairman of the Committee by acclamation.

AGENDA ITEM 2 - ADOPTION OF THE AGENDA (TM/CONF/C.2/1)

The agenda was adopted.

AGENDA ITEM 3 - CONSIDERATION OF MATTERS AS INSTRUCTED
BY THE CONFERENCE (TM/CONF/WP.3; TM/CONF/6 and 7;
TM/CONF/9/Add.1)

The CHAIRMAN recalled that the Conference had given precise instructions to the Committee (TM/CONF/WP.3). The analysis of the two proposals referred to it must be very general and the discussion must be restricted to questions of substance and practical application. He invited the French representative to introduce Proposal C, with particular reference to the question of the two parameters.

TM/CONF/C.2/SR.1

Mr. ROCQUEMONT (France) outlined the basic principles by which the authors of Proposal C (TM/CONF/6) had been guided.

The proposal envisaged a system which could be adapted to all ships, whatever their type, regardless of developments in shipbuilding. It laid stress on the future rather than on continuity with the past, although it was eminently suitable for effecting the transition from the present system.

It classified a ship, like any normal object, by its volume and weight, i.e. by two independent parameters. It considered each individual ship as a whole, made no provision for exemptions in the calculation of the volume and expressed the weight, or mass, by the displacement to a given load line. In that connexion, it should be noted that the Moorsom method could not use displacement, as the load line had only been defined by a convention since 1930.

Proposal C avoided the disadvantages of the tonnage mark and exempted spaces, and took account of the interests of shipowners. Its great simplicity also seemed to meet the wishes of the International Association of Ports and Harbors. The use of displacement would enable all ships - and not only those having a complete second deck - to benefit from reductions according to their cargo.

It had the advantage of allowing for fair competition in the shipping industry, thanks to a system of allocating dues that was as just as possible. It did not affect the safety of the ship, it enabled the parameters to be calculated at the design stage, and it would be readily adaptable to the future evolution of shipbuilding. Its many advantages seemed to have been widely recognized. The variant proposed by

Denmark, which took displacement as the only criterion, also had many advantages.

The French delegation was of the opinion that the decision whether or not to adopt the parameter of displacement was one of the essential questions to be solved (TM/CONF/WP.2), especially as it had been agreed that the proposed Convention should not embody the concept of dual tonnage, as related to the tonnage mark (TM/CONF/WP.3).

At the invitation of the CHAIRMAN, Mr. CHRISTIANSEN (Norway) introduced his delegation's proposal (TM/CONF/9/Add.1). He explained that it retained the old volumetric measurements expressed by gross and net tonnage so as to ensure continuity in tonnage measurement, to avoid disorganizing the shipping industry and to create a system which could be applied to all ships in as short a time as possible. It eliminated the definitions of exempted, deducted and completely open spaces, which had led to so many difficulties in the past, whereas Proposal C provided for a definition of open spaces.

A clear distinction should be made between the "values" - gross and net tonnage - and the "parameters" on which they were calculated.

As for the tonnage mark system, shelter-deck ships could get on without it as they had done in the past.

The Norwegian delegation sincerely hoped that the Committee would be able to reach a compromise acceptable to all.

The CHAIRMAN agreed that it would be useful to make a distinction between the parameters (such as volume, displacement, volume of cargo space and deadweight) and the values (gross and net tonnage) obtained from them.

Mr. CUNNINGHAM (USA) stressed another essential element in the Norwegian Proposal which had induced many delegations to support it: net tonnage was calculated by direct measurement of cargo space. Water-ballast spaces were thus indirectly but entirely deducted. That deduction was the condition which the United States had insisted on if it was to agree to give up exemption of those spaces in the calculation of gross tonnage. It was part of a compromise on a matter which had so far been one of the main obstacles to the adoption of a universal system.

Mr. PROHASKA (Denmark) introduced the Danish variant of Proposal C (TM/CONF/7). It was a simple system comprising only five regulations and one parameter, displacement. To enable values nearer to present tonnages to be obtained, the Danish delegation had agreed to express the parameter in tons of 2 cubic metres and not of 100 cubic feet as it had originally proposed. Calculations which had been made for 483 ships belonging to fifteen States Members of IMCO had shown that the choice of that parameter would cause no more disturbance than the other proposals. On the contrary, it appeared that volumetric tonnage gave rise to greater disparities between the different types of ship. It was impossible to avoid entirely penalizing one or other type, but it was essential to devise as fair a system as possible.

Perhaps a compromise should be sought. The Norwegian Proposal was also relatively simple; in calculating gross tonnage, the parameter V+H (TM/CONF/9/Add.1, page 6, Regulation 4) could be replaced by displacement with a modification of the coefficient. The displacement envisaged by the Danish Proposal might also be corrected by a conversion factor taking into account the volume of passenger space. The concept of total volume also deserved close study. But it was more complex than displacement and that was a disadvantage in a period of rationalization. Moreover, it was liable to tempt shipowners to reduce crew space to a minimum.

Finally, if the Committee considered it necessary to retain two tonnages, it would be possible to calculate both of them from the displacement by multiplying it by a different conversion factor. Several solutions could, then, be envisaged.

Mr. DE JONG (Netherlands) said that two main trends of opinion emerged from the discussion and considered that, rather than try to impose either of them, it would be better to seek to bring them together by extracting the best features from each proposal.

One should begin by taking account of what was already in existence, namely, the present values of gross and net tonnages, without forgetting the values used for the purposes of the canals.

Perhaps it would be better to concentrate on the concept of gross tonnage by eliminating at once Proposals A and B and endeavouring to clarify the definition of the second deck. With that object one might, for instance, retain the notion of "underdeck tonnage", as defined in the Norwegian Proposal and, with that as a starting-point envisage the possibility of taking displacement, if necessary corrected by a coefficient, as the parameter.

The problems should be taken one after another and, to start with, perhaps an endeavour could be made to simplify the Norwegian proposal.

Mr. ROCQUEMONT (France) wondered whether, in regard to the measurement of volumes, the Norwegian system was in fact better than the system adopted in Proposal C. Both those proposals made use of a volumetric parameter but the Norwegian delegation claimed that its formula was better since it required no definition of open spaces. The French delegation did not share that view. In point of fact, when one spoke of "measuring" a ship, that obviously meant measurement of its internal volumes so that a definition of the surface separating the outer and inner parts was required. That was what Proposal C did by defining in the clearest way possible the spaces which were completely open. The Norwegian Proposal said, in particular, that the volume of passenger spaces above deck had to be measured. But in that case what was to be done for spaces which could be considered, according to circumstances, either as open spaces or as closed spaces, unless a definition of completely open spaces was arrived at?

It should moreover be stressed that Proposal C also was a compromise between the views of those who were in favour of measuring by volume and those who preferred to measure by displacement, and the success it had already encountered in the course of the discussions which had taken place showed that it was an acceptable compromise.

Mr. CHRISTIANSEN (Norway) explained that the Norwegian Proposal was designed to determine gross tonnage by measuring the total moulded volume of the ship (with a coefficient which took account of the volume of the superstructures and adding to it the volume of passenger spaces,

TM/CONF/C.2/SR.1

but that the methods of calculation which would make it possible to arrive at that result had not yet been worked out in detail.

What mattered was that the conversion factors used should be calculated in such a way that the new parameters remained as close as possible to the existing values. It was moreover essential to take account of all the spaces located above the tonnage deck, not only in the interests of safety but also for reasons of a social nature. In that connexion it would doubtless be necessary to define more precisely what was meant by passenger spaces, but those were matters of detail which would have to be examined at a later stage.

Basically, the Norwegian delegation wished to see gross tonnage expressed by a volumetric parameter and wished the old unit of one register ton, equivalent to 100 cubic feet, to be retained.

The CHAIRMAN, summing up the discussion, said that four parameters had clearly emerged, namely, three for the calculation of gross tonnage: the total volume in sea water (Proposal C), displacement in sea water to the water plane (Proposal C) and the volume below deck together with the passenger spaces above deck (Norwegian Proposal), and one for the calculation of net tonnage, namely, the volume of the cargo spaces below deck only, together with the volume of the passenger spaces above and below deck (Norwegian Proposal).

In addition, the Netherlands representative had suggested that an endeavour should be made to simplify the parameters proposed by Norway and the representative of Denmark had shown how that could be done.

Mr. WILSON (UK) said that his delegation was in favour of Proposal C, on the one hand, because it was becoming obvious that the parameters currently in use were not working satisfactorily and, on the other hand, because the existing concepts of gross tonnage and net tonnage had been debased to such a point that they had come to have practically no meaning. It was absolutely necessary to approach the problem in a new spirit and to determine what exactly the functions of the new parameter or parameters to be adopted should be.

The United Kingdom delegation considered, for its part, that such a parameter should first of all express the overall size of the ship. That function was of very great importance to many users (in particular, in regard to national and international regulations, statistics and so forth) and the new parameter must give a real idea of the true size of the ship. It was also essential that that parameter should express the carrying capacity of a ship since the present notion of net tonnage which had been meant to serve that purpose had been greatly debased. Indeed, when the Moorsom system had been introduced all that was sought was to measure the volume of the spaces intended for carrying cargo, which as a general rule meant a single hold. The types of cargo themselves had been very simple: it was mostly a case of bulk cargoes which rarely exceeded the 100 cubic foot "ton". At the present time the very wide variety of cargo carried by sea had led to increasingly complex and ever improving ship designs for which the existing values were no longer appropriate.

From that standpoint, Proposal C seemed to be acceptable, even though it was unfortunate that the Conference was taking place at a time when ship design was in course of being completely

revolutionized and when it was difficult to foresee what the ships of the future would be. The volumetric parameter defined in proposal C could express the ship's size satisfactorily without influencing future design. There was no doubt that volumetric tonnage was a modern and contemporary concept. On the other hand, for measuring the carrying capacity of a ship, displacement would be a satisfactory parameter and would prove to be very useful for ports.

It was true, as some delegations had stressed, that there was no relationship between displacement and net tonnage but there was no reason why there should be. Those two notions could be brought together only by the use of coefficients and it had to be admitted that the abusive utilization of coefficients had for years been IMCO's besetting sin. It would, moreover, be impossible to find a coefficient applicable to all types of ships apart from the fact that, for the same ship, conditions could change according, for example, to whether it was carrying cargo or passengers.

As the representative of France had said, displacement had the advantage of not penalizing ships which carried light but bulky cargo as compared with those which carried high-density cargo.

As for the Norwegian Proposal the first point to be noted was that it was emphatically not true that the calculation of volume was a long and difficult process. In practice, so far as the volume of all the under-deck spaces was concerned, hydrostatic calculations were made in the shipyards for their own purposes and were therefore already available. As for the volume above deck, it could usually be calculated easily. From that point of view, the Norwegian Proposal had advantages over Proposal B. In regard to superstructures, however, it was to be feared that the Norwegian

Proposal would have disastrous effects on ship design, by encouraging shipowners and naval architects to build ships from whose tonnage it would be possible to exclude almost all 'tween-deck spaces. Furthermore, it was essential to define passenger spaces with the utmost care, as the countless attempts which had been made to do so in the past had always come up against the difficulty of deciding when a passenger space was or was not a genuine passenger space. All in all, the Norwegian Proposal was too close to the existing system, which had grave drawbacks for small vessels.

As for net tonnage, the Norwegian Proposal repeated the principles of Proposal B, in which the definition of cargo spaces was entirely inadequate. Under the terms of that definition, small vessels carrying high-density cargoes would enjoy considerable advantages over those carrying light but bulky cargoes. It would also become possible to exclude certain compartments in large container ships, thereby making it impossible to measure such ships properly. As for crew spaces, it should be borne in mind that the minimum standards laid down in the Conventions were always complied with generously and that no shipowner would dream of foregoing an opportunity to improve those spaces for fear of increasing his tonnage.

Mr. ter HAAR (Netherlands), who illustrated his remarks by means of a diagram, said he would like to know what effect the Norwegian Proposals would have on the net tonnage of certain ships as at present built for the carriage of cargoes such as meat and fruit from the Netherlands to Great Britain.

Mr. CHRISTIANSEN (Norway) said he would be glad to deal with that question privately with the representative of the Netherlands.

Recalling Mr. Wilson's statement, he said he had noted several points of detail which called for comments on his part, more particularly with regard to conversion factors, the special difficulties with regard to small ships, the need to avoid penalizing shipowners who wished to give their crews better accommodation, the importance of superstructures and so forth. However, he did not wish to dwell unduly on such details over which the discussion might easily get bogged down. The immediate requirement was to define parameters, which was another way of saying to agree on what should go into tonnage measurement certificates. Afterwards the time would come to determine the method to be employed for those calculations.

Mr. DE JONG (Netherlands) approved of Mr. Christiansen's remarks and suggested that the Committee should first turn its attention to gross tonnage.

His delegation wished to enter at once its reservations concerning the "under-deck tonnage" concept embodied in the Norwegian Proposal. It would prefer to substitute displacement for it.

Mr. CUNNINGHAM (USA) endorsed the Netherlands Proposal and wished the Committee to deal first with gross tonnage questions.

Mr. WILSON (UK) said that when he had spoken before, he had not felt he should limit his remarks to gross tonnage questions. He had attempted to point out the obstacles in the way of a definition of acceptable parameters, to explain

his delegation's view and to make known its objections to the Norwegian Proposal. For the time being, he would merely amplify his previous remarks by saying that he believed the gross tonnages obtained by using the methods adopted in system C to be every bit as close to existing tonnage values as those which would be arrived at under other systems, with the possible exception of vessels in which there was a considerable amount of excluded volume. He added that his delegation had no objection to the conversion factors, provided they could be applied to all types of ships.

Mr. PROHASKA (Denmark) presented a table drawn up on the basis of figures sent to IMCO by 15 countries, showing the relationship of the proposed gross tonnage to the existing gross tonnage, under the various proposals which had been made, for different types of cargo vessel:

	Proposal B	Proposal C (volumetric tonnage)	Danish amendment (displace- ment units of 2m ³)	Norwegian proposal
C (dry cargo carriers)	0.97	1.10	1.06	0.87
B (bulk cargo carriers)	1.03	0.98	0.86	1.01
T (ore carriers)	1.01	0.95	0.97	1.00
R (refrigerator ships)	0.90	1.07	0.86	0.90
Q (ships with raised quarter decks)	1.08	1.08	1.04	0.71

He pointed out that no matter which proposal was adopted, the new system would cause upheavals and that obviously an effort must be made to find the formula producing the least possible distortion. We had already drawn the Norwegian delegation's attention to the fact that its proposal would give small ships an undue advantage. It should perhaps be corrected on that point, or else small ships could be temporarily excluded from the application of the new system.

The reason why Denmark had proposed the use of displacement as the sole parameter was that that country had noted that displacement while, much easier to calculate than volume, also gave results every bit as good as did other criteria.

It should also be noted that the figures given represented averages for the different categories of vessels. Within each category there might be considerable scatter. For instance when the Norwegian proposal was applied to refrigerator ships (average ratio: 0.90), it gave ratios which varied from 0.40 to 1.25. Shipowners would of course take advantage of that scatter, which could not be avoided and which might, in certain circumstances, make it necessary temporarily to maintain existing tonnages.

At all events it was essential to reduce "vertical scatter" and the wisest course would appear to be to choose the simplest possible solution.

Replying to a query from Mr. MURRAY SMITH (UK), who pointed out that the figures did not entirely correspond to those worked out for British ships, he added to his table the following figures for passenger ships:

	Proposal B	Proposal C	Danish amendment	Norwegian proposal
Passenger vessels	0.94	1.00	0.49	0.95
Mixed cargoes	0.97	0.99	0.67	0.97
Ferries	0.93	1.27	0.52	0.95

This second table gave better ratios with reference to Proposal C than the Danish amendment, even though there still remained considerable scatter for each type. It had been thought that the very low tonnages arrived at on the basis of

displacement alone might prove to be acceptable, having regard to the special terms accorded to that particular type of ship which was badly hit by competition from air transport. They could be corrected, however, by the addition of a supplementary coefficient or supplementary criteria, such as passenger spaces, number of passengers - possibly with a separate count for cabin passengers.

Mr. ERICSSON (Sweden) said that the figures given by Mr. Prohaska were of interest, but above all in regard to existing ships.

Mr. ROQUEMONT (France) said that the big advantage of the table was that it showed that, no matter what system was chosen, there would be changes - although he thought that, in the circumstances, the word "upheaval" was an overstatement. The participants at the present Conference were at all events united in the desire to see vessels flying different flags treated in the same way in the same ports. That goal, fair competition, was a feature of all the international conventions concluded under IMCO's auspices, and one towards which all would aim, no matter what system were adopted. When the question was approached in that spirit, the choice of system became almost a secondary matter. The main point was to work for the adoption of a simple system which could be uniformly applied.

The CHAIRMAN reverted to the suggestion of the Netherlands delegation which had been supported by the delegation of the United States and accordingly proposed that the Committee should devote its next meeting to a consideration of gross tonnage questions. Over the week-end, delegations might reflect on the ideas put forward in the course of the initial discussion and check their validity mathematically; in that way the Committee would be in a position to consider practical proposals early in the following week.

It was so decided.

The CHAIRMAN recalled the factors which had been suggested for the definition of gross tonnage, namely, the volume below the tonnage deck, the volume of the passenger spaces above deck (Norwegian Proposal), the total volume of the ship, displacement (Proposal C) - those parameters having been proposed separately or in combination.

Mr. DE JONG (Netherlands) drew the Committee's attention to the formula proposed by his delegation which was set out on page 38 of document TM/CONF/3. That formula in which use was made only of displacement and volume yielded gross tonnage values which were very close to the present values irrespective of the type of ship. The variation of factor "q" conduced to the maximum use being made of displacement for open-shelter-deck ships and of volume for closed shelter-deck ships.

The meeting rose at 5.30 p.m.

1. The first part of the report is a general
description of the project and its objectives.
2. The second part is a detailed description of the
methodology used in the study.

3. The third part is a description of the results of the study.
4. The fourth part is a discussion of the results and their implications.
5. The fifth part is a conclusion and a list of references.
6. The sixth part is an appendix containing additional data and figures.
7. The seventh part is a list of abbreviations and a glossary of terms.
8. The eighth part is a list of figures and tables.

9. The ninth part is a list of references.
10. The tenth part is a list of figures and tables.
11. The eleventh part is a list of abbreviations and a glossary of terms.
12. The twelfth part is a list of figures and tables.

13. The thirteenth part is a list of references.
14. The fourteenth part is a list of figures and tables.
15. The fifteenth part is a list of abbreviations and a glossary of terms.
16. The sixteenth part is a list of figures and tables.