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Geneva, September 15th, 1934.

LEAGUE OF NATIONS

ORGANISATION FOR COMMUNICATIONS AND TRANSIT.

MARITIME TONNAGE MEASUREMENT.

Report to the Advisory and Technical Committee on Communications and Transit by the Chairman and the Rapporteur of the Technical Committee for Maritime Tonnage Measurement on the Replies received from the Governments to the Circular Letter forwarding the Results of the Technical Committee's Work.

ANNEX 1.

REPLIES OF THE GOVERNMENTS TO THE CIRCULAR LETTER COMMUNICATING TO THEM THE RESULTS OF THE WORK OF THE TECHNICAL COMMITTEE ON MARITIME TONNAGE MEASUREMENT.

I. GENERAL OBSERVATIONS.

Germany.

December 13th, 1932.

The German Government has, from the outset, welcomed the attempt to establish an international uniform method of maritime tonnage measurement, and believes that the draft instructions drawn up by the Technical Committee represent valuable work which seems calculated to facilitate very considerably international agreements on this subject between maritime countries. Germany, like many other countries, has concluded inter-State agreements regarding the mutual recognition of tonnage papers in particular, with the United Kingdom and countries whose national tonnage measurement system is based on the British system. The German Government considers it desirable, in the first place, to communicate in due course with the contracting parties to the above-mentioned treaties regarding the situation created by the result of the Committee's preliminary work, and will send further communications later.

United Kingdom.

July 8th, 1932.

The competent officials of His Majesty's Government have, during recent months, been very fully occupied with the work involved in drawing up the necessary regulations and taking other action of various kinds to bring into operation the International Convention for the Safety of Life at Sea, 1929, and the International Load-Line Convention, 1930, and also in preparing the ground for the introduction of revised International Collision Regulations as recommended by the International Safety Conference of 1929. It is hoped that it will prove possible to bring the Load-Line Convention into operation at the beginning of 1933, and the Safety Convention and revised International Collision Regulations shortly after; but for some considerable time to come the competent officials of His Majesty's Government will be very fully occupied in dealing with matters arising out of the operation of the new conventions and regulations.

2. The Load-Line and Safety Conventions and the International Collision Regulations all have a very direct bearing on the safety of life at sea, and have necessarily had to be given preference over other questions, including that of tonnage measurements. His Majesty's Government have accordingly been unable to make more than a preliminary examination of the proposed International Tonnage Regulations, and they are not yet in a position, and do not expect for some little time to be in a position, to consult the various British interests concerned (*e.g.*, shipowners, dock and harbour authorities) in regard to these regulations.

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3. The matter is not, however, in their opinion, one either of great practical importance or of urgency, as the position is, for all practical purposes, adequately covered by the bilateral agreements which exist between most, if not all, of the principal maritime Powers for the mutual recognition of tonnage certificates. It is true that many of these agreements were made some considerable time ago, and it is appreciated that minor differences in regulations, which have been accepted as substantially equivalent, and in the application of those regulations, may have crept in; and the report of the Technical Committee which calls attention to the points on which these differences arise, and the draft Regulations which the Committee have since drawn up, will prove most useful when His Majesty's Government have occasion to review the arrangements made by them with other maritime Powers for the mutual recognition of tonnage certificates. But it is believed that, for the most part, the differences between the tonnage regulations of the various countries are not of major importance, and, in the opinion of His Majesty's Government, there does not appear to be any necessity to hold an International Conference to deal with the matter, in view of the satisfactory degree of uniformity which already exists in actual practice.

4. While His Majesty's Government appreciate highly the work undertaken by the Technical Committee on Maritime Tonnage Measurement, they have not yet been able, therefore, for the reasons stated above, to examine in any detail the draft Regulations for tonnage measurement of ships nor to consult the various British interests concerned. In the view of His Majesty's Government, the best procedure would probably be for the different Governments concerned to consider whether, in the light of the information furnished in the reports of the Technical Committee, any action is required in connection with their existing regulations or their existing bilateral agreements for the mutual recognition of tonnage certificates. His Majesty's Government propose to adopt this course and, as soon as circumstances permit, they will consider, in consultation with the interests concerned, the draft Regulations prepared by the Committee with special reference to any points in which they differ from the British regulations.

5. As it is understood that the draft Regulations are based mainly on the British tonnage regulations, it is not anticipated that this survey of the position will suggest any important alteration in the British regulations; but it may suggest one or two points which call for an adjustment of the present arrangements with other countries for the mutual recognition of tonnage certificates, and, if this should prove to be the case, His Majesty's Government will communicate with the Governments concerned.

Denmark. February 14th, 1933.

The Danish Government states that the Tonnage Measurement Regulations proposed by the Technical Committee do not differ from those used in Denmark sufficiently to necessitate any change in the Danish regulations, and that the circles concerned in Denmark are opposed to the establishment at present of tonnage measurement regulations which would require changes affecting existing ships.

The Danish Government therefore feels it should recommend that the question of the introduction of new international provisions concerning the tonnage measurement of ships should be deferred.

Irish Free State. March 10th, 1932.

The draft Regulations have been examined in the competent department in the Irish Free State and are considered satisfactory. The Government of the Irish Free State are accordingly prepared to agree to the adoption of the draft Regulations as the international standard.

Some such arrangement as the international agreement suggested in the draft Transitory Provisions appears to be a suitable way to proceed to give effect to the new Regulations. So far as the Irish Free State is concerned, the Regulations, when accepted internationally, can be introduced by a simple amendment of the existing law. As no question of urgency is present, it will be desirable to allow for a reasonable period of time between promulgation and date of enforcement, so that inconvenience will not be caused to the shipping interests and the authorities concerned, and no doubt it will also be found possible to arrange for the simultaneous adoption of the Regulations in the various maritime countries.

Iceland. March 15th, 1933.

The Government of Iceland is in agreement with the Danish Government in recommending that the question of the application of new International Regulations for the Tonnage Measurement of Vessels should be left pending.

Italy. February 22nd, 1934.

Transitory Provisions.—Articles 1 and 2 of these provisions give sufficient protection to ships already in use, or under construction, at the date of the coming into force of the Regulations, in respect of which it is not intended that the application of the new Regulations shall be required.

It would seem, however, that, in Article 2, different treatment is provided in the case of *measurement* (paragraph 2) and *remeasurement* (paragraph 3) of such ships. In the case of measurement, it is said that, unless requested by the shipowner, the International Regulations shall not apply to ships whose *keel was laid* before the entry into force of the said Regulations; on the other hand, in the case of remeasurement, it is said that the Rules shall not apply to ships *which have been presented for measurement* before the coming into force, etc.

Since ships are measured before being fully fitted out, the case might arise of ships whose *keel was laid* before the coming into force of the Regulations but which at that date were not yet completed and therefore would be measured after the said coming into force; it is possible that, later, such ships would have to be *remeasured* by reasons of changes occurring in the meantime. In the case of such ships, the application of the new Rules would be compulsory at the time of *remeasurement*, whereas at the time of the original measurement their application was optional. In order to avoid the possibility of such an inconsistency, it would be desirable to adopt the same rule for *remeasurement* as for *measurement* and to change the third paragraph accordingly.

It is also thought desirable to provide in the last paragraph for the case of remeasurement of vessels which have previously been under a foreign flag.

To make this clearer, it is proposed to alter the order of this paragraph, which, in view of the above observations, might read as follows :

> " Save at the request of the owner, the International Regulations shall not apply to remeasurement on account of alterations in the construction or use of spaces or of nationalisation by change of flag of ships the keel of which has been laid before the coming into force of the International Regulations; the provisions of Article 1 shall be applicable to tonnage certificates issued for such ships."

Japan. August 12th, 1932.

The Japanese Government is of opinion that the establishment and putting into force of International Regulations for tonnage measurement of ships are of the very greatest importance and therefore hopes that the work undertaken by the League of Nations will be continued in the future with unabated vigour. Nevertheless, it is of opinion that the necessity for such regulations cannot be gauged fully until they also apply to the Suez and Panama Canals, and that the establishment of such regulations can be considered useful only on that condition. The Japanese Government is therefore of opinion that it would be desirable, with a view to establishing and putting into force International Regulations concerning the tonnage measurement of sea-going vessels, to convene under the auspices of the League an International Conference composed of representatives of all Powers and, if possible, of representatives of the Panama and Suez Canals.

For this reason the Japanese Government submits general observations with regard to the draft regulations for tonnage measurement of ships and a memorandum giving its view on each article of the draft.

1. The International Regulations should be applied, not only by all Governments, but also for the calculation of tonnage as a basis for fixing tolls on the Suez and Panama Canals, which very closely affect the seagoing shipping of the various countries.

2. The International Regulations should, as far as possible, be of an impartial character and should be adapted to the real circumstances of all ships.

3. The International Regulations should, as far as possible, be simple, clear and practicable, provided that they do not infringe the principles referred to in the previous two paragraphs.

Should the International Regulations be amended in accordance with the observations made in the memorandum referred to, it is desirable that ships measured before the coming into force of the said Regulations should be treated as follows :

(a) The measurement of spaces under the tonnage deck, of spaces between each deck situated between the tonnage deck and the upper deck, of spaces on the upper deck and deductible spaces, such as propelling-power spaces, carried out under the British rule, properly so called, concerning tonnage measurement, may be regarded as having been carried out according to the International Regulations, and it would therefore not be necessary to remeasure under the latter. Nevertheless, in cases in which the International Regulations require new measurements or calculations for the fixing of gross and net tonnage, measurement or calculation should be made under the new rules. Thus, measurement will be carried out entirely in accordance with the new Regulations, and the international tonnage certificate to that effect will be issued within five years following the date of the coming into force of the International Regulations.

(b) Ships measured under tonnage measurement regulations other than the British rule, properly so called, must all be remeasured in accordance with the new Regulations, and provided with an international tonnage certificate, within five years from the introduction of the International Regulations.

(c) The mutual agreements existing between Powers with regard to tonnage measurement of ships should remain valid, as in the past, in respect of ships which have not yet been remeasured in accordance with the provisions quoted in the previous two paragraphs.

Norway. December 31st, 1932.

The Norwegian Control Office for Tonnage Measurement, referred to hereafter as the Control Office, having considered the supplementary report and the draft of International Regulations, and seeing that the latter will give practically the same results as the present Norwegian Rules, is of opinion that the documents presented by the Technical Committee will form a good basis for the discussion at an International Conference which it is proposed to call to deal with this subject.

The Control Office is also of opinion that the international agreement aimed at should take the form of a convention to which the Regulations should be an annex.

It is presumed that the draft of this convention will be submitted to the interested Governments in order that these may express their views on it before the League of Nations calls an International Conference.

The Control Office, seeing that the Regulations have been prepared with the so-called British system for tonnage measurement as a basis, wishes to point out that this must be said to be an advantage irrespective of the fact that the said system presents certain anomalies.

Owing to the fact that the countries employing the British system greatly outnumber those employing other existing systems for tonnage measurement, the adoption of a system departing from the British would, no doubt, cause a considerable amount of work in readjusting dues in the countries concerned. Nor, as far as the Control Office knows, has there been any demand for alterations in the principles of the British system from the interested Governments or shipowners.

It may be said that it is of minor importance to call an International Conference to adopt the British system now already used by the majority of sea-faring nations. It must, however, be realised that the rules now in force in the various countries, although based on the British system, are not verbally indentical. This fact causes differences in the interpretation and application of these rules, thus leading to an unequitable treatment of maritime commerce between countries.

No trade, probably, is more international than the shipping trade. It is, therefore, only fair and logical that the basis upon which ships' dues are levied should be the same in all countries.

The adoption of verbally identical Regulations for tonnage measurement will, to a great extent, contribute to this. In order, however, to obtain the greatest possible uniformity with regard to the interpretation and application of these, the Control Office strongly recommends that the said International Conference put forward the question of the establishment of an international body to deal with any questions that may arise regarding maritime tonnage measurement. Provisions concerning the task and power of this body should be embodied in the convention.

The Control Office also wishes to emphasise the importance of the authorities of the Suez Canal and the Panama Canal being requested to take part in the forthcoming International Conference. The fact that the majority of sea-going ships, besides holding the national tonnage certificate, must be provided with special tonnage certificates for the said canals prepared according to different systems, gives rise to considerable work for the tonnage authorities.

Observations on the Supplementary Report.

Formulæ of Measurement (Appendices 1 A, 1 A/B, 1 B, 1 C, 1 D and 1 E).

The Control Office must deeply regret that the Technical Committee has been unable to express a unanimous opinion as to the use internationally of the draft formulæ of measurement. It should be borne in mind that these documents have been prepared in close conformity with the Regulations. They will therefore serve as a valuable guide to the tonnage surveyors when carrying out the tonnage measurement. They will also contribute to the attainment of the uniformity aimed at. If a ship should require remeasurement on account of her changing her flag, it will be of great value that the formulæ of measurement have the same wording and are otherwise arranged in the same way in the two countries concerned. In such a case, there should be an opportunity for the tonnage measurement authorities carrying out the remeasurement to obtain a copy of the formulæ of measurement from the tonnage measurement authority of the country where the previous measurement was taken.

Transitory Provisions concerning the Coming into Force of the International Regulations for Tonnage Measurement.

The Control Office, while having no observations to make regarding the proposed transitory provisions, presumes that these will be embodied in the convention.

Netherlands.

July 8th, 1932.

Her Majesty's Government, while paying a tribute to the very considerable work done by the Technical Committee for Tonnage Measurement, desires to express its regret that there are still too many difficulties in the way of the international establishment of a more logical basis for tonnage measurement. Her Majesty's Government fully realises the serious inconveniences that would be involved by a change in the present basis of tonnage measurement, above all since the International Shipowners' Organisation is opposed to the establishment of such a basis. Possibly, the final object may be achieved in the future only after the adoption of the draft Regulations in question, which, besides the reforms contemplated, would have the advantage of providing a uniform system of tonnage measurement.

For these reasons the Netherlands Government is of opinion that the draft Regulations constitute a valuable basis of discussion with a view to the conclusion of a convention on this subject.

Overseas Territories. September 10th, 1932.

In a general way, the competent authorities of the overseas territories agree with the Netherlands Government that the draft Regulations constitute a valuable basis of discussion with a view to the conclusion of a convention on this subject. Nevertheless, the Government of the Netherlands Indies will have certain special difficulties, because there are a very large number of small primitive vessels in those territories. It would, *inter alia*, be impossible to appoint a sufficient number of tonnage surveyors in view of the very large number of such vessels and the large extent of the territory of the Indies.

Sweden. April 27th, 1933.

The question of the method of tonnage measurement of ships is certainly one of those which would more particularly call for the adoption of International Regulations. For such Regulations to achieve their object, it is necessary, however, that the various countries should apply them in a uniform manner.

The draft Regulations here contemplated agree in essentials with the British method of tonnage measurement as at present applied in the United Kingdom. Hitherto, Sweden has used a method based on the so-called " German rule ". Sweden's accession to a future convention based on this draft would therefore oblige her to abandon her traditional method for that laid down in the convention. Nevertheless, since an international method of tonnage measurement uniformly applied would offer certain advantages for her shipping, it seems that she might consider such a change if the adoption of such a method were really likely to produce the desired uniformity.

Would the scheme contemplated have that effect, however? It may be questioned whether such is the case. Indeed, it contains a very large number of detailed provisions which might stand in the way of the desired result. Some of these provisions are furthermore drawn up in such indefinite terms that they might give rise to differences in interpretation. As an example, the rule laid down in Article 26 *(a)*, 10, might be cited, whereby the maximum authorised height of double-bottom floors, and on ships with frames, longitudinal floors, shall be fixed, with due reference to the " regulations for strength and safety of ships ", and, on the other hand, the expression " normally spaced stiffeners " in Article 53, 1. Furthermore, it would not appear that the question whether water-ballast spaces are properly constructed and have been properly tested as ballast-tanks (Article 71 *(a)*) could or should be left to the decision of the tonnage surveyor.

To show how important it is that an international method of tonnage measurement should lay down as simple regulations as possible, it need only be pointed out that the relatively simple regulations, which may be said to be internationally uniform, concerning the measurement of spaces under the tonnage deck have in practice led to essentially different results in different countries.

The examination of the proposed draft Regulations by the experts of the competent Swedish authorities has further given rise to a number of technical observations concerning the matters dealt with. They are set forth in the annexed memorandum. Mention should be made here, however, of certain points of special importance.

Article 26.—The provisions of this article prevent the installations of very large water-ballast tanks.

Article 60.—The conditions to be fulfilled under the note to this article to ensure that spaces used as shelter for deck passengers are not included in the gross tonnage might be very difficult to comply with in the case of Swedish passenger ships used for traffic in the Baltic or for shorter distances. Either these conditions should be deleted or a reservation should be made providing for exceptions to them in Swedish harbours.

Article 71.—The limitation of the deduction provided for water-ballast spaces to a certain percentage of gross tonnage might cause difficulties in the case of vessels of a particular type which are of special importance in Swedish shipping—that is to say, ships specially built for the transport of ore which often make long voyages in ballast in rough seas. These vessels need a much larger quantity of ballast than that provided for by the percentage curve in the draft. The proposed limitation might, in their case, lead to a reduction of the quantity of water ballast, which would impair their safety.

Article 75.—The graduated curve provided for the deduction allowed for propelling-machinery space might easily—particularly at the lowest limit—lead to great unfairness, which would perhaps bear hardest of all on small motor vessels. It is extremely illogical that a vessel in which the space actually occupied by the propelling machinery is 12.9 per cent of the gross tonnage should be allowed a deduction of only 22.7 per cent for propelling power, whereas another vessel with the same space of 13.1 per cent should be allowed a deduction of 32 per cent. It is often very difficult and very expensive to bring a ship above the limit—by putting in trunk bulkheads, for instance; the safety of the vessel might even be impaired.

It seems desirable for the above reasons that the question of an international method of tonnage measurement should once more be carefully considered by experts whose special task it would be to examine the possibility of preparing a really simple method. Should such an examination result in their finding that the necessary simplicity could not be obtained by the adoption of the British rule, it should be considered whether another method might be found which would give the desired advantages and would provide a rational basis for the calculation of dues to be paid, etc., while fulfilling the necessary conditions as regards simplicity. The

documents forwarded to the Swedish Government do not show whether the Committee of Experts which drew up the draft Regulations really enquired fully into this question. In view of the fact that international provisions are at present in force whereby the displacement of ships must be ascertained for determining the load-line, the competent Swedish authority thinks it should at least draw attention to the scheme previously considered, which made the displacement fixed under the conditions provided by that text the basis for calculating shipping dues.

Should the outcome of the enquiry suggested above be the maintenance of the essential principles of the present draft, it should in any case, before being laid before an International Conference for preparing a convention on the matter, undergo a revision of form and substance to simplify the system whenever possible.

As the various countries cannot decide on their attitude towards a final scheme until they have examined from every point of view the consequences to themselves, they would require the necessary time, and a question so important should not be brought before a conference in circumstances which would force their competent authorities to take a decision without having sufficiently considered the question.

Lastly, it is desirable that an international method of tonnage measurement should not deprive the various countries of their freedom of action as regards the possibility of levying shipping dues on the basis of factors other than the tonnage of ships as fixed under the International Regulations, and, furthermore, in the case of their exclusively national navigation, on a tonnage different from that fixed by the application of the said Regulations.

In conclusion, the competent Swedish authorities express the desire that an International Conference for the international regulation of the method of tonnage measurement of ships should not be convened before the question has once more been carefully studied by experts instructed to consider the possibility of establishing a really simple method of tonnage measurement; and, if, for reasons which in such case should be given, this examination had a negative result, the draft here considered should be revised, both as regards its substance and its form, so as to simplify the method proposed in every way possible in present circumstances.

Yugoslavia.

April 5th, 1933.

Apart from the remarks which follow, the object of which is to unify procedure in respect of tonnage measurement of ships and complete it on certain points, it must be said that the draft Regulations for tonnage measurement of ships have been very well drawn up. Nevertheless, when the remarks given below are examined the draft should be completed on the following points :

(1) The validity of tonnage certificates;
(2) Conditions for remeasurement of ships;
(3) The duties of the shipowner and of the master of the ship when it is measured;
(4) Measurement of motor vessels;
(5) Measurement of tugs;
(6) Measurement of ships without decks and of fishing vessels used for international traffic.

Lastly, it would be necessary in practice to mention under the Figures annexed to the draft Regulations the article or paragraph to which each figure refers.

* * *

II. DETAILED OBSERVATIONS ON THE ARTICLES OF THE DRAFT REGULATIONS.

Article 1.

France.

A. It would seem that the number of transversal sections to be required should be fixed at a minimum of three in the case of ships having their propelling machinery in the centre and five for those having the propelling machinery aft. In the first case, these sections should be taken (1) at the midship section; (2) near and just aft of the collision bulkhead; (3) near and forward of the after-peak bulkhead. In the second case, two additional sections taken in the boiler-room and in the engine-room should be given.

Japan.

The nature of the plans to accompany the request for measurement should be left to be fixed by the internal regulations of each country.

Sweden.

The obligation to submit the plans specified in this article should be imposed only for newly built ships. The question how far it should also be applicable to less recently constructed vessels should be settled by transitory provisions.

ARTICLE 2.

Japan.

It would be preferable to exclude from the application of the present Regulations small vessels which are not much used in international traffic.

ARTICLE 3.

France.

First §.—For " A mesure que l'on procède ", read " Au fur et à mesure que l'on procède ".

For " qui sont spécifiés dans les 3e à 6e parties ", read " qui sont spécifiés dans les parties 3 à 6 ".

(Does not affect English text.)

ARTICLES 3 AND 4.

Italy.

Tables of Calculations.—Articles 3 and 4 lay down that the measures and calculations should be shown on the formulæ of the type reproduced in Appendices 1 A, 1 B, 1 C, 1 D, 1 E, 2 and 3 (annexed to the Supplementary Report, document C.719.M.324.1931.VIII).

The Italian Naval and Aircraft Registry, which is responsible for tonnage measurement in Italy, adopted some time ago the formulæ annexed to the present note,[1] which have given good results and which, with the variants shown in red, might be adapted to the new International Regulations.

The Italian formulæ have the following advantages over those proposed :

They are simpler and less fragmentary;

They involve fewer repetitions of titles and figures, the recapitulatory data being placed alongside the detailed particulars;

Blue-print copies of them can be made;

Instead of giving references to distant notes which may be overlooked by the expert, they give on the spot the tonnage measurement rules, the limits laid down for certain deductions, etc.;

They allocate the calculations in a way which is suitable for fixing special tonnages for Suez and Panama.

Therefore, while it is not thought necessary to lay down similar criteria for international formulæ, it is suggested that each State should at least be left free to adopt those formulæ which it considers desirable, on condition that they comply with the International Regulations.

Japan.

The model for the formulæ of measurements should be left to be fixed by the internal regulations of each country, and the competent authorities should be responsible for the method of checking the formulæ of measurements.

Sweden.

It would be desirable to insert in the main text a general clause providing that the cubic capacity of each of the spaces deducted from the gross tonnage of the ship should be mentioned on the tonnage certificate. The fact that in certain cases it is mentioned on the formulæ of measurement cannot be regarded as sufficient.[2]

ARTICLE 4.

Italy (see above).

Japan.

(a) The central authority responsible for tonnage measurement issues the tonnage certificate, after checking, in the case only of large vessels of a certain capacity; in the case of other vessels, the local authority responsible for measurement may issue the tonnage certificate without the measurement having been checked beforehand by the central authority responsible for tonnage measurement.

Nevertheless, the central authority may check the formulæ of measurement of such vessels and make corrections, if necessary, in the tonnage certificate.

(b) Since certificates other than tonnage certificates are usually issued in Japan in the name of the competent authority, they may bear the name and stamp of the authority instead of the signature of the tonnage surveyors.

(c) In the case of the double-bottom spaces not included in the gross tonnage, it would be needless to insert the number and cubic capacity in the tonnage certificate. In the case of other spaces not included in gross tonnage, it would be sufficient to mention the position, name and measurements; the tonnage measurement itself need not be indicated.

[1] These formulæ may be consulted in the archives of the Secretariat.

[2] These observations apply to Article 4.

Yugoslavia.

This article should provide that international tonnage certificates should be made out first in the official language of the country to which the vessel measured belongs, and then in French or in English. Further, tonnage certificates (Appendices 2 and 3) should contain on the first page a recapitulation of particulars of tonnage under a special heading—namely :

Gross tonnage, tons ..... m^3 .....
Total deductions, tons..... m^3 .....
Net tonnage, tons ..... m^3 .....
Net tonnage (in words).....

ARTICLE 5.

Norway.

First §.—As it is hardly correct to say that spaces, which are dealt with under Articles 76 *(d)* and 77, are *deducted* from the gross tonnage, the expression " 76 *(d)* and 77 " in the first and second lines in the first paragraph should be omitted, and between " 63 " and " 66 " should be inserted " and ". After " indicated " in the last line of the same paragraph should be added, " The spaces referred to in Article 76 *(d)* shall be marked in the same manner ".

Sweden.

Second §.—Insert a clause to the effect that the marking—in accordance with the tonnage certificate valid for the vessel—shall be maintained.

ARTICLE 6.

Italy.

First §.—The figure 2.83 cubic metres indicated as being the equivalent of 100 English cubic feet would seem to be inaccurate. The real figure is 2.832 cubic metres. The difference may appear negligible, but in the case of large vessels it may lead to an appreciable increase in total tonnage.

It is therefore proposed that the rule in question be modified as suggested.

Japan.

First §.—The tonnage calculated in cubic metres should be converted into English tons by multiplying by 0.353 and not by dividing by 2.83.

France.

§ *II (a)*.—After " (see Article 21) ", add : " from the common interval taken in each transversal section (see Article 33) ".

Norway.

II (a).—Put " (1) " in front of " *The common interval between the transverse sections* ", and put a semicolon after " (see Article 21) ". Insert here as a new line : " (2) *The common interval between the breadths in each transverse section* (see Article 33) " (see also observations under Article 33).

Italy.

II (b) 8.—It is also proposed that in No. 8 of letter *(b)* the calculation of height to the nearest millimetre should be replaced by calculations to the nearest half-centimetre.

Japan.

II (b) 8.—Should a metric unit be used, tonnage-measurement calculations should, in general, be made to three decimal places, the third being increased by one should the fourth be 5 or more.

Sweden.

II (b) 8.—For calculation in metres, a degree of accuracy greater than calculation to two or, in some cases, three decimal places should not and in practice probably cannot be required.

Yugoslavia.

II (b) 8.—As regards the degree of accuracy of the measurement and calculation in cubic metres, it would be sufficient for the measurements and calculations to be shown in metres to two decimal places, the second decimal to be corrected as follows : should the third decimal be five or more, the second decimal to be increased by one.

ARTICLE 7.

France.

3.—For " d'un bout à l'autre ", read, " d'un bord à l'autre ".
Same correction in footnote 1 to page 8.
(Does not affect English text.)

ARTICLE 9.

France.

Third §.—Certain ships have *only* two complete decks, the upper of which has a tonnage opening which may cause the 'tween-deck space between these two decks to be regarded as " open ". According to the provisions of the third paragraph of Article 9, it would appear that, in this special case, the height of the sections of the main cubic capacity should be taken as one-third of the round of beam of the lower deck, and that the 'tween-deck space should be regarded as an open shelter. If this procedure is adopted, the definition of the tonnage deck should perhaps be completed.

ARTICLE 10.

Sweden.

The fact that a deep tank interrupts a deck should not preclude that deck from being regarded as continuous for purposes of measurement. The Swedish rule is preferable, according to which a deck is regarded as continuous if the total length of such deck from side to side on the same beams exceeds half the length of the ship.

ARTICLE 12.

France.

Second line.—For " inférieur " read " intérieur ".
(Does not affect English text.)

Third sentence.—Does the limitation of the thickness of ceiling also apply to the bottom ceiling? Articles 25, 26 and 27 do not indicate this.

ARTICLE 13.

Netherlands.

Second §.—In order to avoid any difference in interpretation, it would seem preferable, in the second line of the second paragraph, to replace the words " spacing of the battens " by " spacing between the battens ".

ARTICLE 15.

Italy.

The tonnage length should be measured from the aft perpendicular and the space between that line and the over-all line aft should be measured separately. This change may be urged on æsthetic grounds, for reasons of sailing capacity and on account of nautical requirements and certain constructional requirements in respect of some special types of vessels, all points which would otherwise suffer. The tonnage measurements should therefore be independent of those of the hull of the vessel and be taken only in respect of space available for commercial purposes.

ARTICLES 16 TO 20.

Japan.

Since these articles are too complicated for International Regulations, it would be desirable to delete them.

ARTICLE 17 (ROUND OF BEAM).

Yugoslavia.

It is very difficult in practice to measure the round of beam in respect of certain transverse sections, as is provided for in Article 17, at several places on almost all passenger vessels with three decks, since the vessel is divided lengthwise both above and below the tonnage deck. This circumstance makes it impossible to draw the horizontal line *d d* on Figure 9 direct. It would have to be transferred. Furthermore, fixing it thus would involve an appreciable loss of time, while in several cases no accurate result would be arrived at. To avoid such difficulties and to arrive at the same result, one of the following methods should be resorted to :

First Method.—If for half of its breadth the bottom of the ship is in a horizontal position or parallel to the base-line, the round of beam should not be measured; direct measurement should be taken of the depth of the vessel over a quarter of its breadth—that is to say, from the lower surface of the tonnage deck to the upper surface or the floors. The depth thus measured is the true depth, to obtain which the provisions of Article 25 apply and which should be counted without deduction.

Second Method.—Should the bottom of the ship not be horizontal for half its breadth, but curved or round, measurement should be taken on the transverse section of regulation breadth No. 1, which is then divided by 50 (fifty). The quotient thus obtained will give a very approximate estimate of the round of beam in question.

In view of the above it would be reasonable to add the following paragraph at the end of Article 17 :

" If above the tonnage deck there are bulkheads which make it very difficult to determine the round of beam, and there are no such obstacles below the said deck, the round of beam shall then be measured below the tonnage deck by means of a tape tightly stretched between points *e e* (Figure 9) ; thus the distance *b c* will be measured in the symmetry plane of the ship—that is to say, the distance between the lower part of the tonnage deck and the stretched tape, and that distance will be equal to the round of beam.

" If above and below the tonnage deck there are bulkheads which make it difficult to measure the round of beam both above and below the tonnage deck, one of the two following methods shall be used :

" *First Method.*—If for half of its breadth the bottom of the ship is in a horizontal position or parallel to the base-line, the round of beam should not be measured; direct measurement should be taken of the depth of the vessel over a quarter of its breadth—that is to say, from the lower surface of the tonnage deck to the upper surface or the floors. The depth thus measured is the true depth, which should be taken into account without any deduction being made.

" *Second Method.*—Should the bottom of the ship not be horizontal for half its breadth, but round, measure on the profile fixed breadth No. 1 and divide by 50 (fifty). The quotient thus obtained will represent very approximately the round of beam."

ARTICLE 19.

France.

Last Line but one.—For " la somme de ces deux parties avant et arrière " read, " la somme des deux parties avant et arrière ". (Affects French text only.)

ARTICLE 21.

France.

Delete the " s " in the word " articles ". (Affects French text only.)

Japan.

In view of the practical advantage of using the metric unit, the division between the tonnage length and the number of parts should be as shown in the following table :

Tonnage length.	Number of parts.
15 metres or less	4
Over 15 metres to 37 metres inclusive	6
Over 37 metres to 55 metres inclusive	8
Over 55 metres to 69 metres inclusive	10
Over 69 metres	12

ARTICLE 22.

France.

Page 14, *Note* 1.—Delete the word " subsidiary ".

ARTICLES 22 TO 24.

Japan.

Same observations as for Articles 16 to 20.

ARTICLE 24.

Italy.

This article lays down that the round of beam should be measured for every transverse section.

If, under the rules for naval construction, the camber of the deck taken at the different transverse sections is the same—that is to say, if the upper curves of these sections are lines of greater or lesser length but of a similar parabola—the round of beam B at the main section of the breadth L being known, the round of beam at the other section of breadth l will be given by the formula $B \frac{l^2}{L^2}$.

It is therefore suggested that the above provision should be amended, replacing the word " measured " by the word " determined ", in order that—provided, of course, the curve of deck is found to be constant—a difficult measurement may be avoided.

ARTICLE 25 (taken together with Article 27).

Yugoslavia.

In connection with the remarks on Article 17, the fixing of tonnage depth might here be simplified—that is to say, the thickness of ceiling planking on top of floors should not be deducted from the measured depth, but that depth should be measured direct to the upper surface of the ceiling planking.

The thickness of the layers referred to in the last paragraph of Article 27, which appear under *c* in Figures 30 and 31, and in so far as such layers do not extend over the whole length of the double bottom or over the whole length of one of the grounds, should be ignored up to a thickness of 30 millimetres, for such layers—in cement, for instance—are used for strengthening the plating of the double bottom and are not used for economic (commercial) purposes.

ARTICLE 26.

Sweden.

(a).—For the purpose of determining the authorised depths of floors, compliance with the " regulations for strength and safety of ships " should not constitute a decisive factor. If it is agreed that such a limitation should be prescribed—which is open to question—the exact depth should be determined—for instance, as a certain percentage of the depth at the beam-line.

France.

(a) 2.—The condition required in paragraph 2 of *(a)* would appear superfluous. It would hardly seem in the interest of a shipowner to have water-ballast spaces constructed which do not give full guarantees of strength and safety.

Italy.

(a) 3.—In order to avoid uncertainty, it would be desirable in the clause laying down that in the case of a non-cellular double bottom the tonnage depth is measured to the tank-top, provided that the longitudinal keelsons are not deeper than is necessary to provide access, to add that, if the contrary is the case, the depth should be measured to the top of floors.

Norway.

(a) 4 and 5.—As, so far as the Control Office knows, the expression " open floors " is more common than " skeleton floors ", the latter should possibly be replaced by the former.

France.

(a) 5.—This clause deals with floors of an unusual depth. Should not there be a reference to § 10 for the definition of " unusual depth "?

Japan.

(a) 5.—In the case of No. 5 of *(a)* of this article, the tonnage depth should be measured to the imaginary top of the solid floors of normal depth and not to the upper edge of the shell frame.

Should there be a double bottom or solid floors of great depth on one side and elsewhere a double bottom or full floors of ordinary depth (depth not exceeding 25 per cent of the normal depth), a double bottom or solid floors of ordinary depth should be taken as extending over the whole of the ship.

Yugoslavia.

(a) 5, 6 and 8.—Paragraphs 5, 6 and 8—that is to say, the cases of Figures 18, 19, 20 and 21—should apply exclusively to the single bottom. It would not be reasonable for them to apply to a double bottom by reason of difficulties of measurements.

Italy.

(a) 10.—As the note indicates that " excessive " cases will be dealt with on their merits, this provision would not seem sufficient as regards double bottoms in propelling-machinery spaces. In particular, in vessels fitted with internal-combustion engines, the depth of such double bottoms is often considerable, obviously by reason of the need for providing strong foundations for the engines, and any provision which would regard such depths as *excessive* would be contrary to essential principles of construction. Consequently, the rule which appears in the paragraph in question should not apply to double bottoms of machinery spaces nor—since, for the same reasons of strength of construction, an abrupt break could not be allowed—to the necessary junction with the double-bottom depths of adjacent spaces.

Yugoslavia.

(a) 10.—Paragraph 10 does not state the depths prescribed which are referred to in this paragraph.

Sweden.

(b).—As in cases where after-peak floors are deeper than the floors immediately adjacent to the peak bulkhead the difference of depth is ignored, it should be ignored in the contrary case as well. The measurements to be taken in parts could thus be avoided.

Japan.

(b) 2.—In the part dealt with under *(b)*—that is to say, parts of the ship situated forward of the collision bulkhead or aft of the after-peak bulkhead—the tonnage depth should be measured, irrespective of the real depth of the solid floors, up to an imaginary line drawn parallel to the keel at a level corresponding to the depth of the double bottom or of the solid floors immediately adjacent to the collision bulkheads or the after-peak bulkhead.

ARTICLE 27.

Italy.

Last §.—Article 12 lays down that, when tonnage depth is measured, the average thickness of ceiling should be deducted unless it is greater than 0.076 metre, in which case the deduction should not exceed that figure.

Article 27 (last paragraph) supposes that the under-line of the ceiling is at some distance from the floors or from the double bottom—for instance, when between the ceiling and the double bottom there is the interval normally necessary for proper maintenance of material. In such cases, the depth may be measured on the upper side of the ceiling, the depth of the interval in question being added to the measured depth.

This clause does not appear altogether in accordance with Article 12, which is based on the principle that a maximum deduction of 0.076 metre may be allowed. There might, indeed, be, for instance, a ceiling having an average thickness of 0.060 metre and an interval of 0.050 metre. According to Article 27, 0.060 metre would have to be deducted and 0.030 metre added. That is to say, in substance, 0.060 metre is deducted, whereas logically, under the provisions of Article 12, the deduction should not be less than 0.076 metre.

It is therefore proposed to make the following addition at the end of the article in question : " Should the thickness of ceiling be equal to or greater than one-quarter of a foot—*i.e.*, 0.076 metre "; if, on the contrary, the thickness in question is less than that figure, the sum of the distance and of the ceiling less 0.076 metre should be added to the measured depth.

Japan.

Same observations as for Articles 16 to 20.

ARTICLE 29.

Sweden.

§ 2.—A ceiling situated exclusively below hatchways should not be allowed unless it is permanently fixed on the top of the double bottom, on the bilge knees or other parts of the hull.

ARTICLE 32.

Japan.

4.88 metres should be replaced by 5 metres for the same reason as has already been given under Article 21.

ARTICLE 33.

Japan.

Same observations as for Articles 16 to 20.

Norway.

The second sentence should be omitted (see observations under Article 6).

Sweden.

Concerning the number of decimal places, see observation on Article 6.

Yugoslavia.

Should the depths be expressed in metres, they should be given to two decimal places, as has been said in the remarks on Article 6.

France.

Page 22, *Note* 1.—Read " d'un bord à l'autre et un vaigrage. . . " (Affects French text only.)

ARTICLE 34.

Japan.

Same observations as for Article 16 to 20.

Sweden.

Provisions should be inserted as to how the measurement should be carried out to determine the breadth of a transverse section as illustrated in Figure 42.

ARTICLE 35.

Sweden.

The wording of this article should be changed in order to indicate clearly that the rule laid down should also be applied by analogy to vessels with longitudinal frames.

ARTICLE 36.

Japan.

It should be clearly stated that the present article should also apply to " stern-tube bossing ".

Sweden.

The distance between the imaginary line of the inner surfaces of the frames and the ordinary planking should be stated.

ARTICLE 37.

Italy.

The method indicated for measuring the upper depth would not appear quite accurate when the sides slope, as is most generally the case.

In order by calculation to estimate approximately the actual surface area of the section, it would be more accurate to take as upper breadth, not that at the beam-line, but that taken at the line above the beam-line at two-thirds of the round of beam.

This breadth might be measured on the deck by lowering the ends of the tape at the sides by one-third of the round of beam.

The error due to the angle between the two parts of the tape is negligible.

Japan.

Same observations as for Articles 16 to 20.

ARTICLE 38.

Italy.

§ 2.—There is no objection to the technical basis of the last two paragraphs of Article 38.

Nevertheless, the calculation in question is perhaps left too much to the judgment of the surveyor, a circumstance which may detract from the uniform application of the method.

In practice, it would be somewhat difficult, working from the midship section to the stern and the bow respectively, to determine where the ship's bottom begins to show a slight continuous curve.

In order to ensure uniformity of method, it is proposed that, in the case of vessels with a double bottom, should there be no knees and should the bottom at the main section not be curved, the depth should be measured to the lowest point. This depth would then be divided into five or seven parts and the last part into four. The breadths corresponding to the points of division would be measured and separate calculations made, by means of Simpson's rule, of the area corresponding to the first four or six parts and of the area corresponding to the last part subdivided into four.

Yugoslavia.

§ 2.—As regards Figure 58, it would be reasonable for the lower breadth to be measured on the bottom planking between the points where the curve begins.

ARTICLE 40.

France.

Replace " quant " by " quand ". (Affects French text only.)

ARTICLE 41.

Norway.

First §.—Owing to the fact that it is often necessary to measure a transverse section outside its correct position, and then, by means of control curves dealt with in Article 44, determine the area corresponding to the correct position, the first line should have the following wording: " Having found the area of each transverse section at its correct position, the . . . "

Japan.

Second §.—The method of converting cubic metres into tons should be that given in Article 6.

Yugoslavia.

Second §.—To convert the capacity in cubic metres into registered tons, it would be preferable, instead of dividing it by 2.83, to multiply it by 0.3533; the same result would thus be reached with a deficit of 0.16 ton per 1,000.

It would also be preferable for the cubic capacity given in cubic metres to be multiplied by 0.353, for, in this way, there would be a deficit of one ton per 1,000. The results obtained would be sufficiently accurate, more especially since a registered ton equals not 2.83, but 2.832 cubic metres.

ARTICLE 42.

Japan.

(a).—" 9.14 metres " should be replaced by " 9 metres " for the same reason as that given in Article 21.

(b).—In the parts of the ship forward of the collision bulkhead and aft of the after-peak tank, it would be desirable not to divide these spaces into several parts for measurement purposes, since there would always be floors of the same depth as that of the double bottom or floors in the holds adjacent to such part (cf. Article 26).

As regards the other parts, it would be better for practical reasons to dispense with measurement in several parts in the following cases :

(1) If the difference in depth of the double bottom and of the ordinary floors does not exceed 6 inches (152 mm.);

(2) Should there be ordinary floors of different depth, only in the propelling-power space (including the space occupied by the boilers). In such case it would be assumed that there are floors or double bottom of the same depth as that of the other parts.

(c).—Even if the upper surface of a double bottom has no step and if it connects spaces of a different depth, there being an incline between the centres of several floor-frames, it should be taken that there is an abrupt change. For that reason the general provisions concerning measurement in several parts will apply, and the above-mentioned inclined part will be regarded as belonging to the shallow-depth section of the double bottom. (It would be preferable to embody an explicit provision to this effect in the present Regulations.)

Italy.

Second §.—It is necessary to be quite clear that the term " abrupt change " is also to be understood as covering the very frequent case where one double bottom passes to another by a short, straight slope. It would be necessary in such cases also to specify that the points of division should be taken at the highest point of the slope.

Sweden.

Second §.—A provision should also be inserted providing for the case in which the break in the double bottom slopes from a higher to a lower part of the top of the double bottom.

Yugoslavia.

Second §.—In the second paragraph of this article provision should be made for changes in the depth of a double bottom so that one part connects with the other; the point of the break of continuity will then be that of the greatest depth.

ARTICLE 43.

Japan.

Same observations as for Articles 16 to 20.

Norway.

In the first line, last paragraph (page 27 in the French text), is written " au-dessous " instead of " au-dessus ".

ARTICLE 44.

Italy.

The value of the control curves is fully admitted.

Nevertheless, seeing that they are intended for purposes of verification and particularly that they are used to obtain by graphs data not obtained by direct measurement, information should be given with regard to the scales, so that, when the curves are read, an approximation may be possible comparable to that laid down in respect of the measurements mentioned in Article 6. Further, for convenience, the curves and diagrams should not occupy too much space. On the principle that to verify a diagram the scale of the abscisse and ordinates need not be the same, the following method is proposed :

For the diagram of depths a scale of lengths should be adopted such that the diagram may be drawn on a sheet of moderate dimensions, and the ordinate should represent, not the depth, but the excess of depth as compared with a fixed measure—for instance, the midship section depth—the scale of 1 : 10 being adopted, making 1 millimetre equal 1 centimetre; it would thus be easier to read the graph to the nearest centimetre.

In tracing the diagrams of the breadths in a transvers section as a function of the depths, any scale may be adopted for the depths.

In order to simplify the diagrams relating to the various sections and enable them to be easily grouped together, the intervals between the breadths in the various sections should be represented by the same segment.

Lastly, the diagrams as a whole should appear as a vertical segment of any length divided into four or six equal parts, with six parallel straight lines passing through the points of division, on which the breadths are shown from the vertical segment; for the latter, a scale of not less than 1 : 50 should be adopted, so that two-tenths of a millimetre equals 1 centimetre, which could easily be ascertained with a little skill.

In order to find the breadths outside the equal intervals, the following method might be used : project obliquely, between the two extreme parallel straight lines, the segment representing, on an appropriate scale, the net depth of the sections, and the depth corresponding to the breadth desired will be measured on the segment itself, and not vertically. In this way, if the vertical segment divided into four or six intervals represents, on a given scale, the net depth of the midship section, all the other depths will be represented by oblique segments progressively farther from the first.

In the same way, in the diagrams of breadths, at a given number of intervals in depth, as a function of the distances of the sections, it would be best to adopt for those distances any scale enabling the whole to be set out on a sheet of moderate dimensions, and the breadths being on the above-mentioned scale of 1 : 50.

The diagrams may be limited to the part at the stern and the part at the stem, without covering the central part, where the sections generally do not vary very considerably.

Japan.

Same observations as for Articles 16 to 20.

Yugoslavia.

The control curve of the transverse sections will be continuous—that is to say, will not be broken if the double bottom is continuous; but, should the double bottom not be continuous, there will be breaks in the control curve, even though the water-lines and the transverse sections are quite regular. Irregularities in the line of this control curve may also occur should the mould of the stem and of the stern of the ship be raised, as, for instance, in the type of ship in Figure 66, and when the transverse section meets such raised parts of the ship.

Norway.

§ 2 *(a)*.—In § 2 *(a)*, second and third lines, the expression " or on a regular continuous curve " should be deleted. The said expression may be theoretically correct, but presumably it is only when the lowest point of the tonnage depths are situated on a *straight* line that curves for the breadths will be of any value in practice.

§ 4.—Under § 4, fifth line from the top, the expression " on prend " occurs in the French text. This scarcely corresponds to the English text, where the expression, " it is advisable to take ", is used. The English text must be considered the correct one.

ARTICLE 45.

Japan.

It would be preferable not to regard it as necessary to measure the volume of the space situated in a double bottom (cf. Article 71).

Sweden.

There would not appear to be any objections to the provisions concerning internal measurement in certain cases of double bottoms, since it is essential to obtain an exact estimate of the cubic capacity of the compartments in question.

Yugoslavia.

First §.—As a result of a printer's error Article 70 is mentioned in the first paragraph instead of Article 71.

Third §.—On account of a printer's error, the word " extrêmes " should be added after the word " varangues " in the third paragraph (of the French text).

ARTICLE 46.

Yugoslavia.

The following should be added to this article :

> " All spaces between the decks above the tonnage deck shall be measured between two successive decks—that is to say, between the upper surface of the lower deck and the lower surface of the upper deck. For this reason, the thickness of the 'tween-deck space and that of the tonnage deck shall not be taken into account."

ARTICLE 48.

Norway.

Method 1 *(c)*.—According to the wording of this paragraph, three heights (one at each of the points of division of length 2) must be measured when dealing with the part of a 'tween-deck space situated aft of the fore side of the stern post. The mean of these heights shall be used for the calculation of the cubic capacity (see Article 49). In many cases, this procedure will give a wrong cubic capacity. This will clearly appear from the enclosed sketch (see Appendix I), which shows a case frequently met with.

It is true that, in paragraph *(c)*, it is also stated that the height shall be measured from the lower *deck* to the deck overhead, and that, consequently, it is not possible to apply the rule—that the height shall be measured at each point of division—to a case as shown in Appendix I. Nevertheless, there can be no doubt that a number of surveyors will measure the heights as indicated in the sketch.

In order to avoid this, and to obtain an as nearly as possible correct cubic capacity, the first sentence in paragraph *(c)* should be replaced by the following :

> " The heights of the part situated forward of the foreside of the stern post shall be measured in the middle plane at each point of division of length 1, and the height at the foreside of the stern post shall be the height of the after part."

Yugoslavia.

Method 3 *(a)*.—In point *(a)* of method 3, a note should be added to the effect that Figure 74 shows half of the deck.

There is a printer's error in connection with Figure 73 on page 25 of the Figures. The correction should be as follows :

> " The whole length of the 'tween-deck space $= A' B' + c d + e f =$ tonnage length $+ c d + e f =$ length 1 $+ gd =$ length 1 + length 2."

On page 25 of the Figures, in connection with Figure 74, the following should be added as a footnote :

> " The average surface of the 'tween-deck space is double, for the formula mentions only half-breadths."

On page 26 of the Figures, in connection with Figure 75, the following remark (or one to the same effect) should be added as a footnote :

> " The figure shows only half-breadths; for calculating the average capacity of the space between decks in the formulæ, the letters should show the actual breadths measured."

A second note should be added as follows :

> " The cubic capacity between decks shall be obtained by multiplying the average surface by the average depth, the latter to be obtained in accordance with the instructions of Article 49, 1. To find the tonnage of this space, it should be divided by 100 if the cubic capacity is in cubic feet, and multiplied by 0.353 if the cubic capacity is in cubic metres."

ARTICLE 49.

Norway.

As a consequence of the observations on Article 48, the words " mean " and " as defined above " on page 29, sixteenth and seventeenth lines from the top, must be deleted. After " height " in the sixteenth line must then be added, " at the foreside of the stern post ".

ARTICLE 50.

Sweden.

To determine what should be understood by superstructures of a permanent character, the nature of the superstructures not falling within this category should be indicated.

Yugoslavia.

In this article, which deals with superstructures, Article 57 should be mentioned as well as Article 58.

ARTICLE 51.

Sweden.

A clause should be inserted indicating how a superstructure should be fitted in order to be regarded as in use for the berthing or accommodation of passengers or crew.

ARTICLE 53.

Sweden.

§ 1.—It should be made clear what is to be understood by normally spaced stiffeners. Further, it does not appear logical to measure the height of superstructures up to the upper side of the beams and not to the lining.

Norway.

§ 2.—Under this article, immediately below the table entered on page 31, it is stated that, if length 1 or the whole length is divided into two equal parts only, then the height shall also be measured at the extreme points of these lengths. This rule, while being suitable in the case of forecastles (if the stem is vertical) and bridges, will in many cases be unsuitable for poops and breaks extending right aft to the stern (see observations under Article 48 and sketch referring to these) (Appendix I). In all conceivable cases *one* height measured at the middle of the length will give a sufficiently accurate cubic capacity of poops and breaks extending right aft as well as of forecastles and bridges.

It must be borne in mind that it is here only a question of superstructures with a length of 50 feet or less.

It is therefore suggested that the following be omitted in § 2, page 31 :

> " If length 1, or the whole length, has been divided into two equal parts only, the heights shall be measured also at the extreme points of these lengths."

§ 3.—In § 3, page 31, the sentence, " If the length has been divided into two equal parts only the heights shall be measured also at the extreme points of the length ", must, therefore, be replaced by, " The heights shall be measured at each point of division of the length ".

Japan.

§ 2.—" 15.24 metres " should be replaced by " 15 metres ", and " 68.58 metres " by " 69 metres ", for the same reasons as are given in Article 21.

§ 4.—The provisions of § 4 should be capable of application, not only to superstructures such as round-houses which do not extend to the side, but also for measuring the space of a comparatively regular form extending to the sides of the ship, such as a bridge.

Article 54.

Norway.

The wording of § 1 seems to indicate that, when calculating the cubic capacity of a pood or break extending right aft to the stern and whose *entire* length is 50 feet or less, it is only permissible to use the alternative method dealt with in Article 49, § 2, and shown in Figure 75 (note II)—*i.e.*, the aftermost breadth must be calculated. The formula of measurement (Appendix 1 A/B [1]) also indicates that the intention has been to use this procedure. It may be stated, however, that the meaning of this does not, perhaps, come out quite clearly in the drafting of § 1.

The question may also be put forward whether it would not be advisable to permit the method of calculation set down in note 1, Figure 75, in the case of, for instance, a poop, the *whole* length of which is 50 feet or less.

The Control Office will not make any proposal regarding the matter here touched upon, but wishes to draw attention to it. It is supposed that, if any alterations are decided on, the matter will be clearly illustrated by means of a figure of a poop.

As a result of the alterations suggested in Article 53 regarding the measurement of heights, the parenthesis in § 1 (" *i.e.*, in this case the arithmetic mean of the three measured heights ") should be deleted.

Article 55.

Japan.

First §.—Very small hatchways (the length or breadth of which is, for instance, less than a metre), with the exception of trunk hatchways, might be deducted from gross tonnage.

Italy.

Second §.—Since expansion trunks, properly so called, in tank vessels (see Figure 4) must be included in gross tonnage, the fact should be specified as follows :

> " Access and air trunks in tanks, closed at the top by bolted plates in which there are inspection hatchways, shall in tank vessels be assimilated to cargo hatchways."

Article 56.

Sweden.

The difference between hatch-coamings and trunks should be indicated.

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[1] To the Supplementary Report, document C.119.M.324.1931.VIII.

ARTICLE 57.

France.

§ 2.—Can laundries on passenger vessels, or vessels carrying passengers and cargo, which are used by the crew and passengers (persons drawing rations), be exempted?

Sweden.

§§ 2 *and* 4.—The treatment laid down for the spaces dealt with under §§ 2 and 4 would appear inconsistent. These spaces should be deducted or exempted, whether they be situated on the upper deck or below, provided that they are *exclusively* used for the purpose mentioned in this article.

With regard to the mention in the tonnage certificate of the spaces thus excluded, see remark on Article 4.

Italy.

§ 4.—In view of the developments in galleys and auxiliary services in large modern ships, it would appear necessary to insert the following clause :

> " Spaces fitted for, or necessary for, the passage of the galley staff employed in working apparatus or preparing beverages should be regarded as galley space. This category shall include sculleries, lockers containing galley utensils and crockery, lockers or tables for provisionals storage of foodstuffs or dishes which it is necessary to have at hand for culinary operations.
>
> " The galley coal-bunker, if it occupies a special space, shall not be regarded as part of the galley."

§ 7.—Not only the spaces occupied by water-closets and urinals, but also all spaces containing only hygienic and sanitary installations should be excluded. Should this principle appear too rigid as regards spaces for the use of passengers, it should at least be allowed in the case of spaces reserved for the crew.

Norway.

§ 7.—With reference to the rule given in Article 80 (2), last paragraph, for the measurement of spaces on or above the upper deck, designated as light and air spaces, the following must be added after " the measurements " in the fourteenth line from the top of page 34 : " of the spaces referred to in items 2-7 ".

Irish Free State.

§ 7, *paragraph* 2.—This paragraph provides that " the space occupied by the lavatory shall not be exempted unless its size is small as compared with the space occupied by the water-closets and urinals ". It would be more convenient if this space were definitely defined as, say, 25 per cent of the whole space.

ARTICLE 58.

France.

First §, *fifth line.*—For " lorsque de tels espaces ", read " lorsque ces espaces ". (Affects French text only.)

II (a).—For " s'il est demandé d'exempter ", read " si l'on demande d'exempter ". (Affects French text only.)

Japan.

II (a).—Since experience has shown that full use can be made of the space referred to under II *(a)* of this article for storing cargo, it would be unreasonable to deduct it from gross tonnage. Provisions of this kind should therefore be deleted.

Netherlands.

II (a).—The article prescribes a minimum clear surface of 64 square feet for openings in decks. Since this minimum surface is not prescribed at present, it is to be feared that difficulties may arise when existing small vessels are sold or reconstructed. The rules at present in force require only a length of 4 feet and a breadth not less than that of the aft hatchways. It would appear preferable that in Article 58, II *(a)*, the words " 64 square feet, or 5.946 square metres " should be replaced by " 4 feet or 1.219 metre, multiplied by 30 per cent of the ship's extreme breadth ".

Sweden.

II (a).—The minimum area of the tonnage openings in question should be determined by their relation to the dimensions of the vessel and their breadth in proportion to that of the vessel.

Norway.

II (a), 3.—It is stated that the mean height of the coamings of deck-openings shall not exceed 1 foot. Consequently, there can be no objection to a deck-opening as shown in the enclosed sketch (see Appendix II).

This shape of deck-opening is rather unusual and it is therefore desirable to draw attention to it.

The Control Office also desires to draw attention to the fact that, according to the wording of § II *(a)*, 3, guardrails and stanchions are not, as in the present rules, considered *conditional* for exemption from the gross tonnage of the space concerned.

Italy.

II (b).—This article states that the openings in the sides required for a superstructure to be regarded as open should be in corresponding positions on both sides of the ship.

A special clause should be inserted to make it clear that this corresponding position does not necessarily imply that the space between the two openings should be free—that is to say, that the centre should not be wholly or partly occupied by trunks or other constructions.

Norway.

II (b), 2.—The expression " closed thwartships bulkheads " in the first and second lines of § 2 seems vague, and should be made clear by means of a supplementary explanation or figure.

II (c), 1 *(ii)*.—It is probably an omission when no mention is made of coamings.

It is therefore suggested that after " (see Figures 94, 95 and 96) " be added : " If coaming is fitted, its minimum height shall not exceed 2 feet, or 0.610 metre ".

II (c), 2.—The Control Office recommends that it be permissible to close bulkhead openings *both* by shifting-boards and loose plates in conformity with the present practice. There seems to be no reason to depart from this.

Japan.

II (c).—Further, as a general rule, it would be best not to deduct from gross tonnage the spaces in thwartship bulkheads mentioned under II *(c)*, with the exception of spaces entirely open from one deck to another without means of closing (space mentioned under II *(c)*, 5. Nevertheless, these provisions apply even to spaces less than 3 feet wide, and also in cases in which the sides are hollow on only one side. In other words, a space is regarded as open if one side is entirely open from one deck to the other, even if there are bulkheads on the other three sides. Nevertheless, even where there are partial bulkheads on one side of the bridge-house or round-house, the latter shall be regarded as open, if the breadth of the open space exceeds three-quarters of the maximum length of the said bridge-house or roundhouse.

France.

II (c), 3.—The word " seuil " would appear more suitable than the term " hiloire " in the French text.

Last line.—(See Figure 85.)

Should not this be " (See Figure 97) "? (Affects French text only.)

Norway.

II (c), 4.—The Control Office, having met with several cases where the rule here stated has been very easily circumvented without the authorities being able to object, is of opinion that it is very difficult to maintain this rule, it being unlogical and not leading to the result aimed at.

Sweden.

II (c), 4.—The clause forbidding means of access to the deducted space other than tonnage openings provided for would hardly seem justified.

II (c), 5.—There is no reason to fix a minimum limit in respect of the breadth of spaces of any kind that are entirely open from one deck to the other and with no means of closing.

Norway.

II (d).—Attention is drawn to the fact that this paragraph has been omitted in the French text.

Sweden.

II (d), 1.—This clause should be made clear, since it would not seem that tonnage openings in bulkheads under the shelter deck could comply with the conditions laid down.

ARTICLE 59.

Japan.

This article should be brought into line with the observations on the previous article.

ARTICLE 60.

Japan.

This article should be deleted.

Sweden.

No objection to the provisions of this article.

Naturally, the right of each country to issue special regulations concerning its inland navigation should not be affected.

As regards the indication in the tonnage certificate of the cubic capacity of spaces deducted, see observation on Article 3.

ARTICLE 61.

France.

First paragraph.—The deductible master's spaces being enumerated in the second part of the article, it does not seem desirable to keep the condition laid down in the first paragraph : " to the extent of what is considered as reasonable ".

Japan.

Second paragraph.—In general, all spaces for the accommodation of the master may be deducted, and not merely those adjacent to his sleeping-room.

Norway.

Third paragraph.—In the third paragraph, wardrobes should also be added as deductible master's spaces.

When, according to Article 62, it is permitted to deduct chief engineer's and chief officer's office, it seems reasonable to mention office among the deductible master's spaces as well.

Sweden.

Third paragraph.—A saloon without direct communication with spare cabins (which as a rule on Swedish ships is exclusively used by the master, and on British ships in used as the officers' mess-room) should be exempted as master's space.

ARTICLE 62.

Italy.

Fourth §.—It would appear desirable to make express mention in Article 62, among the crew's spaces, of pantries, etc., which may be regarded as annexes of the dining-saloon.

Japan.

Last paragraph.—Same remark as on Article 61, as regards spaces for accommodation of the chief engineer and the chief officer.

Norway.

Last paragraph.—In a good many small Norwegian passenger ships the chief officer has adjacent to his sleeping-room an office which, *inter alia*, serves as booking-office for passengers. Such an office should not, of course, be deducted. The following should therefore be inserted after " stewards " in the last paragraph : " or offices serving as booking-offices for passengers ".

ARTICLE 63.

Norway.

First paragraph.—Several cargo ships have a medicine locker, situated outside the hospital, for the use of master and crew. There is no reason not to deduct such a locker. The words " where no hospital exists " in the first paragraph should therefore be deleted.

Italy.

Second paragraph.—It is proposed that the second paragraph of Article 63 should be replaced by the following, which would seem simpler and clearer, while having the same meaning :

> " Passages and stairways used for access to master's and crew's spaces, provided that they do not also constitute the only means of access to other non-deductible spaces, shall be deducted."

Norway.

Second paragraph.—The rules concerning passage-ways embodied in the second paragraph should be very carefully considered. The Control Office fears that these rules will give rise to considerable trouble for the tonnage measurement authorities. As the rules stand now, a passage-way will, in some cases, be granted deduction beyond all reasonable grounds. In other cases, the deduction must be cancelled, although all reason suggests that it should be allowed.

It should be considered whether it would not be advisable to re-adopt the rule contained in the main report of the Technical Committee.

This rule provided for the deduction of passage-ways and stairways only when they served exclusively as access to master's and crew's spaces, whether such spaces were deducted or exempted.

Sweden.

Second paragraph.—References to Figure 103 should be added to the main text. Furthermore, provisions should be inserted with regard to the exemption of spaces specially reserved for heating, lighting and ventilation plant for the use of the crew, and provisions specifying the treatment of sanitary tanks and fresh-water tanks not fitted in the hull of the vessel.

Yugoslavia.

Second paragraph.—It would not be superfluous to mention in this article, *inter alia*, that gangways used both for the crew and for passengers are not deducted from gross tonnage.

Japan.

Third paragraph.—It is not desirable to fix a limit to the tonnage exempted as spaces constructed for storage of liquid and solid stores. It would be preferable to deduct the whole of the spaces, if it is certain that such spaces are exclusively reserved for the master and crew. As regards Japanese ships, in view of the large size of the actual spaces used for storage of provisions by reason of their special character, it should be permissible, even should some restriction be necessary, to deduct spaces used for storage of provisions up to at least 20 per cent of the total of the other spaces allotted to the master and crew.

Article 64.

Italy.

General.—The International Convention on Safety of Life at Sea, signed in London on May 31st, 1929, in Article 2, paragraph 3 *(d)*, defines passenger ships as those which carry more than twelve passengers. A similar definition is given by the Italian safety regulations and by the laws of a large number of States.

On the other hand, Article 64 defines the expression " passenger ships " for the purposes of tonnage measurement as applicable to any ship having more than one spare room.

It would seem desirable that conventions, even if dealing with different matters, should not contradict each other, and furthermore that Article 64 should be in harmony with the rules in force in a number of maritime countries.

It is therefore considered necessary to amend this article so as to allow spare rooms up to a capacity of twelve, and to change the third sentence as follows :

> " On board passenger ships regarded as such under the terms of the International Convention on Safety of Life at Sea, signed in London on May 31st, 1929, having no dining-saloon, smoking-room, etc."

Furthermore, spaces exclusively intended for the accommodation of the crew, even if temporarily unoccupied, should not be included in gross tonnage. This proposal is justified both by the possibility of variation in the numbers of the crew and by the need to provide for the employment of extra hands and of a super-cargo for certain traffic.

As has been explained above, the last sentence of the article should be deleted.

Japan.

The expression " passenger ships " should be held to mean ships whose maximum number of passengers is more than twelve, within the meaning of the International Convention on Safety of Life at Sea, concluded in 1929.

Norway.

First paragraph.—It seems rather unjust that the existence of *two* spare rooms shall render a ship a passenger ship, whereby a good deal of fair deductions must be cancelled. It should be borne in mind that nearly all the larger cargo ships have two spare rooms. It is, therefore, a

question worth considering whether, for that reason, two spare rooms should not be allowed without the ship's being treated as a passenger one.

Second paragraph.—In the second paragraph, store rooms for provisions are not mentioned among the spaces, which shall be non-deductible, when, in conformity with the third paragraph, a ship is regarded as a passenger ship. This is understood to mean that, in a ship having more than one spare room, the provision room may be deducted as long as it fulfils the conditions indicated in the third paragraph of Article 63.

ARTICLE 65.

France.

Second paragraph.—This paragraph should read as follows :

" The spaces used for navigation and for working of the ship are the following : "

ARTICLE 66.

France.

First paragraph.—As in the case of Article 61, it would be desirable that the phrase " to the extent of what is considered reasonable " should be deleted.

ARTICLE 67.

Italy.

Second paragraph.—For the purposes of applying this article, the donkey-boilers, which on motor vessels are used only for heating fuel, should be treated essentially in the same way as other boilers connected with the main pumps. In any case, in view of the purpose for which they are used, they should at least be regarded as *navigation space*, and therefore a deduction should be made for them under the second paragraph of the article in question.

France.

Paragraph 5, second line.—The conditions in question being required only in the case of water-ballast pumps, it would seem that the text should read as follows : " . . . or water-ballast pump fulfilling the condition mentioned in the previous paragraph is situated ".

ARTICLE 68.

Japan.

It is unnecessary to retain the provisions concerning the maximum tonnage deductible as pump-room space.

Norway.

The limit of 60 tons for the deduction for pump-rooms in tankers is not reasonable for larger tankers with more than one room for cargo pumps. " 60 T. (169.80 m^3) " should, therefore, be deleted, so that there remains only a limit of 0.9 per cent of the gross tonnage for ships over 3,000 tons gross.

ARTICLE 69.

Italy.

Third §.—This paragraph refers to " Allowance for boatswain's store "; this should read : " for boatswain's stores ".

ARTICLE 70.

Japan.

§ 2.—On board ships propellable by both sails and engines, the maximum tonnage deductible for sail-room might be fixed at 2 per cent of the gross tonnage, whatever the proportion of the actual cubic capacity of space counted for propelling power and of gross tonnage.

ARTICLE 71.

Italy.

General.—In order to obtain the best conditions for stability, speed and handling of vessels in ballast, it is recommended that, outside the double bottoms, there should be a reasonable number of spaces (water-ballast tanks, deep tanks, settling-tanks, etc.) for water ballast. For the sake of the safety of shipping and of human life at sea, the application of this criterion should be supported and encouraged. The rule proposed is, on the contrary, in flagrant contradiction with the lessons of good maritime practice, because, for purposes of deduction or exemption, it allows for only a limited and frequently inadequate number of water-ballast spaces.

The clause should therefore be amended so as to make deductible *all spaces which are shown by maritime technique* to be intended for *water-ballast*, subject, of course, to the possibility of occasionally including in tonnage such of those spaces as might be used for cargo.

Japan.

General.—There is no need to fix a limit to the tonnage deductible as water-ballast space. It would further be desirable to delete from the present Regulations the details concerning pumping installations in water-ballast spaces.

Norway.

General.—As a final observation on Article 71, the Control Office would like to emphasise that it is very doubtful whether the restrictions embodied in this article are fair. These restrictions will greatly increase the tonnage of several ships built for carrying heavy cargo, as for instance, ore. It seems to be unjust that a special class of ships shall be penalised by an eventual adoption of International Regulations for tonnage measurement.

Sweden.

General and second §.—The deduction for water-ballast spaces should not be conditional on application from the owner, nor should they be limited.

France.

Ad (a).—The last sentence of the paragraph should be made more precise—*i.e.*, openings existing between the frames at the height of the top of the water-ballast tanks.

Italy.

Ad (a).—The text reads : " The filling of the openings in the tank-top round the frames at the sides with cement is not permissible ".

The reason for this clause is not clear. It seems to relate to the passages concerning the suitability of the water-ballast tanks; it would not appear to correspond to anything in the rules for construction. The reason for it is all the less evident since, from the practical point of view as regards maintenance, it is obviously convenient to allow the filling with cement of spaces between frames in the narrower parts of the vessel (fore and aft peaks) and inside double-bottoms, up to the necessary height for covering rivetings.

Sweden.

Ad (a) and *Ad (b).*—The provisions under *(a)*, *Ad (a)* and *Ad (b)* are not suitable for tonnage measurement regulations. The tonnage surveyor should not be responsible for testing water-ballast spaces.

The clause concerning the minimum diameter of suction and delivery pipes should be deleted.

Italy.

Ad (b).—The text reads : " The means for filling and emptying water-ballast tanks (*e.g.*, pumps, pipes, etc.) must be . . . and independent of the *installations for water for feed or domestic purposes*, oil fuel or cargo ".

It does not seem possible in practice for pumps and accessories for water ballast to be completely independent of pumps and accessories for water for feed or domestic purposes. Further, this distinction is not advisable, since interchangeable pumps and accessories might constitute a useful reserve in an emergency.

It is therefore suggested that the words underlined be deleted and the following sentence added :

> " The tonnage surveyor must ascertain that, in the double-bottom or elsewhere, there are spaces of sufficient cubic capacity for containing water for feed and domestic purposes."

Norway.

Ad (b).—It is advisable to give a more complete detailing of the installations of which the means for filling and emptying shall be independent.

It is therefore proposed that in the fourth line the phrase " for feed or domestic purposes, oil fuel or cargo " be replaced by : " or oil for motor cooling, water for feed or domestic purposes, oil fuel or cargo ".

Ad (c).—With reference to the proposed alteration to paragraph *Ad (b)*, the following corrections should be made in the seventh line from the top of page 46 : After the word " water ", insert " or oil ", and after " cooling ", insert " water for ".

Italy.

Ad (c).—The clause concerning the oval or circular shape of manholes would seem to be too drastic and involves needless interference for the sake of tonnage measurement, with methods of construction, which should be left to the shipbuilder and depend on the principles laid down

in the rules for construction. It would therefore seem desirable, while limiting the area of the openings for access, not to impose conditions with regard to their shape or method of closing, since rectangular openings closed by bolts with finger-nuts, for example, are eminently satisfactory. Furthermore, the following rule might be added :

" Manholes in movable plates should not be allowed."

Sweden.

Ad (c).—It would appear sufficient to lay down that manholes should have a given maximum surface area; their shape is of no consequence.

Italy.

Ad (c), second paragraph.—In the case of coffer-dams, the desirability for such a rule would seem even more evident in view of their purpose, which is closely bound up with conditions of safety and by reason of the definite rule which forbids their use for cargo. Thus, on account of their very character, which makes it impossible to confuse them with water-ballast tanks, they should be dealt with separately, in the following clause :

" Coffer-dams shall be deducted from gross tonnage, provided they cannot be used for cargo or stores. If necessary, it should be ascertained that it is not possible to fill such coffer-dams with liquid cargo by means of the loading-pumps and that the vessel has sufficient storage room for fuel (when liquid fuel is used) and fresh water."

Since there is thus no possibility of placing cargo or solid stores in coffer-dams, it is necessary not to insist, as regards access, on conditions which would be needless for tonnage measurement purposes, and might dangerously impair the working of other conditions necessary for coffer-dams such as facilities for ventilation, inspection, etc.

The following clause should therefore be added to the proposed rule :

" The regulations concerning access to water-ballast tanks shall not apply to coffer-dams."

The second paragraph of *Ad (c)* should accordingly be deleted.

Norway.

It does not clearly appear how the graph indicated on page 47 is to be used. If the meaning is that the deduction for water-ballast spaces may be determined by a scale laid on the graph, this should be drawn to a much larger scale. The deduction may also be determined by interpolation, although this procedure is hardly mathematically correct. At all events, the procedure must be clearly indicated in the Regulations.

ARTICLE 73.

Italy.

First §.—Complete measurements (that is to say, total length and total breadth) should be taken from side to side outside linings.

It would therefore seem unfair to adopt different criteria for partial measurement of spaces to be deducted when calculating tonnage, especially since the rule laid down in the article in question would involve a difference for each partial measurement, and thus the space to be deducted or exempted would be appreciably less.

It is therefore proposed that such partial measurements should be made by the same criterion as those adopted for complete measurements.

Sweden.

First §.—This paragraph should be made clearer. This method of measurement should be applied to deductible spaces only provided that, for purposes of determining the gross tonnage of a superstucture, its length and breadth should be measured to the stiffeners.

Yugoslavia.

First §.—This paragraph should be amended in the sense that surfaces deducted from gross tonnage should be measured between the inner sides of bulkhead plates or between the inner sides of wooden partitions; otherwise such surfaces would not be wholly deducted. Accordingly, Figure 106 should be altered as shown in Fig. B, annexed hereto,[1] with a note that this measurement on the sides of ships is limited to the inner edges of the sides.

It would be by no means desirable to limit the amount of water-ballast, for the important reason that, in certain cases, the water-ballast is indispensable for the safety of the ship. For this reason, and in order that this limitation should not tend to cause new vessels to be constructed in an unsafe manner, it is desirable that water-ballast be not limited and that in the case of water-ballast only conditions *(a)*, *(b)* and *(c)* of Article 71 be required, with which tanks must comply in order to be recognised as exclusively usable for water-ballast.

[1] Figure 106 has been modified as shown in Annex 3.

Japan.

Fourth paragraph.—" 9.14 metres " should be replaced by " 9 metres ", for the reasons given in the case of Article 21.

Netherlands.

It would seem preferable to replace the graph showing the maximum percentage of gross tonnage allowed for water-ballast by a table regularly fixing the various allowances shown in the graph, so that the insertion of intermediate terms would be quite simple and not give rise to differences.[1]

ARTICLE 75.

Italy.

§ 1.—The regulations in Italy and in other States, while adopting for the deduction of propelling-machinery spaces rules similar to those of Article 75 of the draft, give the central administrations in special cases power to allow a deduction of 32 per cent, even when the cubic capacity of the above space is equal to or less than 13 per cent of the gross tonnage.

Article 75 on the other hand does not permit the exercise of such latitude, so that, in the case of certain vessels—for instance, motor ships—in which less space is required for the engines and where the proportion, though never over 13 per cent, reaches that figure or is very near it, the second rule would have to be applied—that is to say, a deduction equivalent to 22.75 per cent (should the proportion be 13 per cent) or less than that figure.

There would be an obvious danger in applying this rule strictly to such vessels : their owners would be led to waste space in order to come within the prescribed limits so as to get the 32 per cent reduction which would diminish the capacity of the holds and therefore the possibilities of commercial utilisation of the said vessels.

It would therefore seem more logical and equitable to add to the first paragraph of the article in question the following sentence :

> " The administration of the State to which the vessel belongs may nevertheless in special cases grant the deduction of 32 per cent of gross tonnage, even when the cubic capacity of the propelling-machinery space is equal to or less than 13 per cent of gross tonnage."

Footnote 2.—In note 2 to this article, where it is said that " a ship shall not cease to be regarded as a tug because of the fact that she is equipped with a fire-pump ", it would be desirable to specify that what is meant is a pump *specially* intended for extinguishing fire.

Japan.

§§ 1 and 2.—The tonnage deductible for propelling-machinery space should be for screw-steamers 175 per cent of the real cubic capacity of the space used for propelling machinery and 150 per cent for paddle-steamers, whatever the proportion of the real cubic capacity space used for propelling machinery to the gross tonnage. Nevertheless, the real cubic capacity of the space used for propelling machinery—including fuel bunkers—might be deducted, should the shipowner make a special request to that effect. In such cases, only the permanent fuel bunkers should be taken into account, reserve fuel stores being excluded.

Sweden.

§§ 1 and 2.—The deduction allowed for propelling-machinery space should follow a regular uninterrupted curve between 13 and 20 per cent.

Yugoslavia.

§§ 1 and 2.—This article gives the usual percentage for deductions from gross tonnage for propelling-machinery space.

In certain cases, both in steamships and motor ships, this percentage by no means corresponds to the deduction justified by the requirements of steam or motor propelling power; and this is almost a deliberate error. It would therefore be reasonable to abandon this usual but erroneous principle and allow the deduction which really meets the requirements of motor or steam propelling power—that is to say, that for these requirements the spaces really used be deducted; those used for boilers, fuel, engines, shafts, feed-water tanks, liquid-fuel tanks and lubricating-spaces for auxiliary machinery, and light and air spaces, for engine-rooms, in so far as the latter have not been deducted. The introduction of the system in question would have the difficulty of necessitating a more detailed measurement than usual of the spaces reserved for fuel and feed-water, but only of those spaces which are above the double-bottom. This difficulty, which is a very slight one in certain cases, is countered by the fact that the technical work is perfect. The State would also benefit as regards taxation, since, under this system, the net tonnage in the case of most ships will be greater than when the deduction is fixed according to a percentage.

[1] These observations seem to refer to Article 11.

Japan.

§ 3.—The provisions of this clause, which reduce the tonnage deductible as propelling-machinery space to 55 per cent of the tonnage obtained by deducting from the gross tonnage the deductible tonnage other than that allowed for propelling-machinery space, should also apply to ships used as tugs or as ice-breakers.

ARTICLE 76.

Italy.

First paragraph.—Instead of " the propelling-machinery space *may* include ", it would be better to say : " the propelling-machinery space includes ".

Japan.

(d).—The clauses should be deleted which prescribe the sides of the engine-room and boilers above the upper deck, as referred to in *(d)* of this article, may, on application from the owner be added wholly or partly to the gross tonnage or to the tonnage allowed for propelling-machinery space. These spaces should always be deducted from the gross tonnage, and therefore Article 77 should be deleted.

France.

Ad (a), (b) and *(c).*— At the end of *Ad (a), (b)* and *(c)* should not the figures be 108 and 109 instead of 98 and 99?

Yugoslavia.

In paragraphs *Ad (a), (b)* and *(c)* of this article, there is a printer's error. For figures " 98 and 99 " read " 108 and 109 ".

ARTICLE 77.

(See observation under Article 76 made by the Japanese Government.)

ARTICLE 78.

Italy.

A (6) *(a).*—This article lays down that settling-tanks for oil in steamships (not including motor ships), if situated within the boundaries of the machinery space, or in adjacent spaces, shall be regarded as part of the propelling-machinery space unless (as added in a footnote) such settling apparatus really constitutes fuel-bunker space.

It seems difficult to determine exactly when the tanks in question cease to be settling apparatus and become fuel bunkers, since any settling-tank is more or less utilisable for storage of liquid fuel.

A clause such as this will therefore only inconvenience the tonnage surveyors and will not ensure the necessary uniformity of decisions.

Unless, therefore, it is found possible (which does not seem easy) to lay down precise rules making the above-mentioned distinction, it would be better to delete the footnote and replace it by the following rule : " Settling tanks may not be used as liquid fuel bunkers ". Any breach of this rule would involve the penalties prescribed in the Regulations.

It is further proposed that a deduction should be made even for settling tanks on motor ships. Indeed, the reason for the exclusion is not clear, since, in view of the increasingly widespread use of heavy oils on motor ships, such tanks are absolutely indispensable for the working of the motors, and obviously much difficulty will be caused in the use of such motors by the presence of water in the liquid fuel; this difficulty will be greater than those (more or less negligible) caused by the same defect in steamships in respect of the free combustion of boilers.

Japan.

A (6) *(a).*—The settling tanks (tanks for lubricating) might be regarded as forming part of the engine room and boilers, provided that they are within the limits of the engine-room and boilers.

Settling apparatus should be treated in the same way in motor ships as in oil-burning ships.

Netherlands.

A (6) *(a).*—Settling-tanks are included under propelling-machinery space, (6) (*a*). This clause as it stands might give the impression that *all* settling-tanks on steamships would be included. Probably, however, it was only intended to include in propelling-machinery space the part of the settling-tanks containing the heating pipes, such space being necessary for the proper working of the engine. The fact that, under the draft Regulations, this does not extend to motor ships was probably due to the supposition that it is never necessary to heat fuel oil for motors. It seems not inconceivable, however—certainly not in the future—that motor fuel-oil will have to be heated beforehand. For this reason, it would be preferable to change the wording of Article 78, 6 (*a*), in such a way as to show clearly, both in the case

of steamships and motorships, that the spaces in the settling-tanks in which heating pipes are placed should be regarded as propelling-machinery space, since they are necessary for the proper working of the propelling machinery.

France.

A (6) *(n)*.—Fuel-oil pumps : By reason of its position, the transfer pump which is situated forward of the coffer-dam in the forward part of oil tankers and is used for emptying and filling the deep tank for fuel oil adjacent to the fore peak cannot be regarded as forming part of the propelling-machinery space. Since, however, the cargo pumps on vessels of this kind are deducted, it would seem somewhat harsh to refuse the transfer pump the deduction granted to cargo pumps. This deduction would be made after limitation of space.

Should this suggestion be adopted, Article 68 should be completed accordingly.

Sweden.

B.—The provisions of this article seem too detailed.

ARTICLE 81.

Yugoslavia.

General.—In connection with the remarks made on Article 75, it would be desirable, if the principle of the deduction of the space actually used for motors or steam engines is accepted, not to limit in any way the boiler rooms or engines or tunnels, as provided in Article 81, but to lay down as a condition that these spaces cannot also be used for cargo.

Japan.

(a) (1).—The restriction of the length of propelling-machinery space is carried out only in cases recognised to be particularly unreasonable, the decision being left to the competent authority.

France.

(a) (5).—It would not appear that any exception to the conditions laid down in (*a*) (2) (i) and (ii) could be allowed without some danger being involved, unless the responsibility for granting it be entrusted to an international body.

Sweden.

(b) (4).—The existence of platforms should not affect in any way the question whether trunks should or should not be included in the cubic capacity of space reserved for propelling machinery.

Norway.

(c) (2).—The Control Office is in doubt as regards the understanding of the expression : " Their total length should not *exceed* the length of the machinery space underneath ". If the meaning is that, for instance, a part of a light and air casing situated, say, forward of the foremost machinery bulkhead shall not be regarded as part of the propelling-machinery space, even if the *total* length of the light and air casings is *less* than the length of the machinery space underneath, this should be clearly indicated in the Regulations.

With reference to this example, the question of how to treat the part situated forward of the foremost machinery bulkhead may also arise. Shall it be included in the gross tonnage as an *ordinary superstructure*? If it is neither to be regarded as an ordinary superstructure nor as part of the propelling-machinery space, shall then the cubic capacity of the said part be included in the cubic capacity which is to be stated in the tonnage certificates (Appendices 2 and 3 [1]) under the heading : " The cubic capacity of spaces on or above the upper/uppermost deck capable of . . . etc.".

With regard to inclusion in the gross tonnage, it may be said that a light and air casing, or part of it, is not, in most cases, available for cargo or stores, etc. (see Article 51), and that therefore it should not be included in the gross tonnage, but the question of what is to be stated in the tonnage certificates remains unsolved.

The observations here made as regards inclusion in the gross tonnage, and what is to be stated in the tonnage certificates, will also apply when it has been necessary to limit the breadth of a light and air casing.

The matters touched upon above should be cleared up by one or more figures.

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[1] To the Supplementary Report, document C.719.M.324.1931.VIII.

ARTICLE 82.

Yugoslavia.

The last paragraph of this article lays down that, if more than one breadth is measured, a mean of the breadths should be used in the calculation. The same method is used for depths.

Should the sides of the engine-room and boiler-room not be straight but curved, which is the case on oil tankers and on a fairly large number of other vessels, the method in question is not accurate; this text should therefore be modified and its application made conditional by means of the following wording :

Should the sides of the engine-room and boiler-room be straight, measurement would then be taken at the middle of the depth of the two end breadths; their mean would then be taken and multiplied by the length of the room. In this way, the mean horizontal surface of the room will be obtained. By multiplying the mean surface thus obtained by the mean depth, the mean cubic capacity of the room will be found.

Should, however, the sides of the engine-room and boiler-room be curved, a measurement should then be taken of the mean depths of at least three breadths at equal distances, and the mean horizontal surface calculated according to Simpson's rule. The mean cubic capacity of the room measured will be found by multiplying the mean surface then arrived at by the mean depth.

ARTICLE 83.

France.

Table on Page 58.—Column A : Before " under deck tonnage " read " 1630 " for " 1650 ".

Column B : Second square, fifth line.—For " 429.88 + 752.29 tons ", read " 429.88 × 1.75 = 752.29 tons "; first line—For " 1215.56 ", read " 1216.56 ".

Norway.

The scheme of calculation indicated on page 59 is not quite correct; 13 per cent of 1,617, 24 = 210,24 and the basis for the deduction for the machinery space is 160 + 50.24 = 210.24. Consequently, the deduction for the machinery space is not 32 per cent of the gross tonnage.

The error is due to the fact that, when calculating 13 per cent of the preliminary gross tonnage (1567.25) the decimals have been omitted (see sixth line from the top of page 59).

The calculations must be corrected, and the last line : " Gross registered tonnage : 13 per cent of . . . ", which is not clear, should be replaced by the cubic capacity corresponding to 13 per cent of the gross tonnage and the cubic capacity of the machinery spaces, which must be taken as the basis for the calculation of the deduction for the machinery space.

Further, it is desired to point out that the various cubic capacities have not been stated in cubic metres.

Japan.

As a result of the simplification of the provisions concerning propelling-machinery space, mentioned in the previous articles, the examples of calculations given in this article would become useless.

ARTICLE 90.

Japan.

General.—It would be desirable to fix the registered length, breadth and depth as follows :

(1) The registered length is that measured from the fore side of the upper end of the stem on the level of the upper deck to the after side of the end of the stern-post.

Should there be no stern-post, the length is measured to the centre of the rudder-stock.

(2) The registered breadth is that measured from the outer surface of one side of the ship to the other at the broadest part of the ship.

(3) The registered depth is the vertical distance measured in the median plane of the ship at half the registered length between the upper surface of the keel and the upper surface of the upper deck at side.

France.

(3) *Registered Depth.*—In view of the vagueness of the last sentence, the definition of this measurement should be amended.

TABLE V B.

France.

Should it not be " hundreds " instead of " twentieths "?

FIGURES ANNEXED TO THE DRAFT REGULATIONS.

France.

Page 23, *Figure* 68.—Curve c.d. The letter " d" has been omitted.

Page 37.—In accordance with the remark made on Article 58, II (*c*), 3, of the draft Regulations, it would appear desirable to replace the word " hiloires " by " seuils " in Figure 97. (This does not affect the English text.)

Appendix I.

Appendix II.