



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 314-26-1765c

dated 19.05.2022

Re:

amendments to the Rules for the Classification and Construction of Sea-Going Ships, 2022, ND No. 2-020101-152-E considering the experience in application of the Rules

Item(s) of supervision:

ships under construction

Entry-into-force date:

01.07.2022

Cancel / amends / adds Circular Letter No.

dated

Number of pages: 1+9

Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Parts I "Classification" and IV "Stability"

Director General

Konstantin G. Palnikov

Text of CL:

We hereby inform that the Rules for the Classification and Construction of Sea-Going Ships shall be amended as specified in the Appendices to the Circular Letter.

It is necessary to do the following:

1. Bring the content of the Circular Letter to the notice of the RS surveyors, interested organizations and persons in the area of the RS Branch Offices' activity
2. Apply the provisions of the Circular Letter during review and approval of the technical documentation on ships contracted for construction or conversion on or after 01.07.2022*, in the absence of a contract – during review of the technical documentation on ships requested for review on or after 01.07.2022.

* The definition "Date of contract for construction of a ship (series of ships)" is given in 1.1.2 of Part I "Classification" of the Rules for the Classification and Construction of Sea-Going Ships.

List of the amended and/or introduced paras/chapters/sections:

Part I: paras 2.2.5.4, 2.2.51 and 2.4.3, Table 2.5

Part IV: paras 1.4.7.1, 1.4.7.7, 1.4.8.2 and 1.4.8.5, Formulae (2.1.4.1-1) and (2.1.4.1-2), paras 2.2.5, 2.4, 3.4, 3.7.3.1 and 3.10

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**Information on amendments introduced by the Circular Letter
(for inclusion in the Revision History to the RS Publication)**

Nos.	Amended paras/chapters/ sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
1	Part I, para 2.2.5.4	Para has been deleted due to transfer of the requirements into 2.4.3	314-26-1765c of 19.05.2022	01.07.2022
2	Part I, para 2.2.51	New para has been introduced containing requirements for assignment of distinguishing marks IcingSTAB(full) and IcingSTAB(half)	314-26-1765c of 19.05.2022	01.07.2022
3	Part I, para 2.4.1	References to the applicable requirements have been specified	314-26-1765c of 19.05.2022	01.07.2022
4	Part I, para 2.4.3	List of restrictions to be introduced into the Classification Certificate has been specified – transferred from 2.2.5.4	314-26-1765c of 19.05.2022	01.07.2022
5	Part I, Table 2.5	New item 1.32 has been introduced containing requirements for assignment of distinguishing marks IcingSTAB(full) and IcingSTAB(half)	314-26-1765c of 19.05.2022	01.07.2022
6	Part IV, para 1.4.7.1	Requirements have been specified considering 3.1.1 and 3.1.2 of Part B of the International Code on Intact Stability, 2008	314-26-1765c of 19.05.2022	01.07.2022
7	Part IV, para 1.4.7.7	Requirements have been specified considering 3.1.12 of Part B of the International Code on Intact Stability, 2008	314-26-1765c of 19.05.2022	01.07.2022
8	Part IV, para 1.4.8.2	Requirement regarding the accounting for water ballast has been specified – transferred from 1.4.8.5	314-26-1765c of 19.05.2022	01.07.2022
9	Part IV, para 1.4.8.5	Requirement regarding the accounting for water ballast has been specified	314-26-1765c of 19.05.2022	01.07.2022
10	Part IV, Formula (2.1.4.1-1)	In the explication, the definition of windage area lever has been specified	314-26-1765c of 19.05.2022	01.07.2022
11	Part IV, Formula (2.1.4.1-2)	In the explication, the definition of wind gustiness addition has been specified	314-26-1765c of 19.05.2022	01.07.2022
12	Part IV, para 2.2.5	Para has been deleted due to transfer of the requirements into 1.4.7.1	314-26-1765c of 19.05.2022	01.07.2022
13	Part IV, Chapter 2.4	Chapter has been revised considering the introduction of new distinguishing marks IcingSTAB(full) and IcingSTAB(half)	314-26-1765c of 19.05.2022	01.07.2022

Nos.	Amended paras/chapters/ sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
14	Part IV, Chapter 3.4	Chapter has been revised considering IACS UI LL59 (Corr.1 Feb 2022), and repeated requirements have been deleted	314-26-1765c of 19.05.2022	01.07.2022
15	Part IV, para 3.7.3.1	Para has been supplemented with Figure 3.7.3.1	314-26-1765c of 19.05.2022	01.07.2022
16	Part IV, para 3.10	Chapter has been revised considering applicability of requirements	314-26-1765c of 19.05.2022	01.07.2022

RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SEA-GOING SHIPS, 2022,
ND No. 2-020101-152-E

PART I. CLASSIFICATION

2 CLASS OF A SHIP

1 **Para 2.2.5.4** is deleted.

2 **New para 2.2.51** is introduced reading as follows:

"2.2.51 Distinguishing mark for a ship complying with the requirements for stability under icing.

2.2.51.1 Ships whose stability has been checked at full ice weight allowance in compliance with the requirements of 2.4.6 of Part IV "Stability" are assigned the distinguishing mark **IcingSTAB(full)** added to the character of classification.

2.2.51.2 Ships whose stability has been checked at ice weight allowance reduced by half in compliance with the requirements of 2.4.7 of Part IV "Stability" are assigned the distinguishing mark **IcingSTAB(half)** added to the character of classification."

3 **Para 2.4.1** is replaced by the following text:

"2.4.1 When complying with definite requirements of the RS rules stipulated by the structural features or operational characteristics of the ship the fulfilment of which is not reflected by distinguishing marks and descriptive notation in the class notation, the confirmation of compliance of the ship with such requirements is certified by the entry in Section "Other characteristics" of the Classification Certificate stating, for example, that the ship is equipped for occasional loading/unloading of cargoes in a horizontal direction — by a roll-on/roll-off; the ship is suitable for escort operations, towing and serving oil tankers and/or oil recovery ships; the ship may operate in oil harbour water areas; the ship may occasionally carry bulk cargoes; the ship may carry heavy bulk cargoes (with indication of bulk cargo density), and other entries stipulated by the RS rules (refer also to 1.1.4.8, 1.1.5.1, 1.1.5.2, 3.3.1.5, 3.10.4.1 and 3.12.1.4.3 of Part II "Hull", 1.1.1.2, 1.1.1.3, 1.1.1.6, 1.1.3.1, 2.4.3, 10.3.2.1 and 13.3.10.3 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships" of these Rules; 2.2.3.1, 3.2.4.1 and 4.2.3.2 of Part II "Life-Saving Appliances" of the Rules for the Equipment of Sea-Going Ships)."

4 **Para 2.4.3** is replaced by the following text:

"2.4.3 In section "Permanent restrictions" of the Classification Certificate, if necessary, the following information is recorded:

instructions on strengthening for navigation in ice at a certain draught (record example: "For navigation in ice conditions, the ship's draught shall not exceed m");

instructions on restrictive properties of ships determined in accordance with the RS rules under which the ships were constructed, and in accordance with the project approved by the Register;

instructions on restricted speed ranges of the main machinery;

restrictions on the area of navigation with explanations to them in accordance with the RS rules (for example, in accordance with 2.2.5). For berth-connected ships, anchorage location coordinates and, if applicable, geographical service area according to Fig. 4.3.3.5 in Part IV "Stability" shall be indicated;

instructions on impossibility of the ship to navigate in the water areas and seasonal periods specified in 2.4.1 of Part IV "Stability", for ships whose stability does not comply with the requirements of 2.4 of Part IV "Stability".

5 **Table 2.5. New item 1.32** is introduced reading as follows:

1.32 Distinguishing mark for a ship complying with the requirements for stability under icing		
1.32.1 Distinguishing mark for a ship complying with the requirements for stability at full ice weight allowance		
IcingSTAB(full)	Ship's stability has been checked at full ice weight allowance. The distinguishing mark is mandatory for ships operating: to the north of latitude 66°30'N; to the south of latitude 60°00'S; in winter ¹ in the Bering Sea the Sea of Okhotsk and in the Tatar Strait	Rules for the Classification and Construction of Sea-Going Ships Part IV "Stability", 2.4
1.32.2 Distinguishing mark for a ship complying with the requirements for stability at ice weight allowance reduced by half		
IcingSTAB(half)	Ship's stability has been checked at ice weight allowance reduced by half. The distinguishing mark is mandatory for ships operating: in winter ¹ within seasonal winter zones ² , except for water areas specified in 1.32.1 of this Table	Rules for the Classification and Construction of Sea-Going Ships Part IV "Stability", 2.4
¹ Start and end of winter period is determined in accordance with the International Convention on Load Lines or the Load Lines Rules, whichever is applicable to the ship. ² Boundaries of seasonal winter zones are determined in accordance with the International Convention on Load Lines or the Load Lines Rules, whichever is applicable to the ship.		

PART IV. STABILITY

1 GENERAL

6 **Para 1.4.7.1** is replaced by the following text:

"1.4.7.1 When calculating stability for all loading conditions, the initial metacentric height and righting levers shall be corrected for the effect of free surfaces of liquids in tanks:

.1 free surface effects shall be considered whenever the filling level in a tank is less than 98 % of full condition;

.2 free surface effects need not be considered where a tank is nominally full, i.e. filling level is 98 % or above.

But nominally full cargo tanks shall be corrected for free surface effects at 98 % filling level. In doing so, the correction to initial metacentric height shall be based on the inertia moment of liquid surface at 5° of heeling angle divided by displacement, and the correction to righting lever is suggested to be on the basis of real shifting moment of cargo liquids;

.3 free surface effects for small tanks may be ignored under the condition specified in 1.4.7.7."

7 **Para 1.4.7.7** is replaced by the following text:

"**1.4.7.7** The tanks which satisfy the following condition need not be included in the calculation

$$\Delta M_{30} < 0,01\Delta_{\min}. \quad (1.4.7.7-1)$$

Usual residues of liquids in emptied tanks need not be taken into account in the calculations provided, that the total of such residues shall not constitute a significant effect on ship's stability."

8 **Para 1.4.8.2** is replaced by the following text:

"**1.4.8.2** For the types of ships which are not covered by special provisions of Section 3, the loading conditions to be examined shall be as follows:

- .1 ship in the fully loaded condition with full stores, with water ballast tanks empty;
- .2 ship in the fully loaded condition with 10 % of stores;
- .3 ship without cargo, with full stores;
- .4 ship without cargo, with 10 % of stores."

9 **Para 1.4.8.5** is replaced by the following text:

"**1.4.8.5** The weight of water ballast may be included in the deadweight of the ship, unless stated otherwise."

2 GENERAL REQUIREMENTS FOR STABILITY

10 **Formula (2.1.4.1-1)**. The explication is replaced by the following text:

"where p_v — wind pressure, in Pa, to be determined from Table 2.1.4.1 proceeding from the area of navigation;
 z_v — windage area lever to be determined from 1.4.6.3;
 A_v — windage area, in m², to be determined in accordance with 1.4.6;
 Δ — ship displacement, in t;
 g — gravitational acceleration, equal to 9,81 m/s²."

11 **Formula (2.1.4.1-2)**. The explication is replaced by the following text:

"where m — wind gustiness addition to be determined from Table 2.1.4.1."

12 **Para 2.2.5** is deleted.

13 **Chapter 2.4** is replaced by the following text:

"2.4 ICING

2.4.1 The requirements of this Chapter apply to ships operating:

- .1 to the north of latitude 66°30'N;
- .2 to the south of latitude 60°00'S;
- .3 in winter¹ in the Bering Sea, the Sea of Okhotsk and in the Tatarski Strait;
- .4 in winter¹ within seasonal winter zones² except for water area specified in 2.4.1.1 — 2.4.1.3.

2.4.2 Ships complying with the requirements of this Chapter may be assigned the distinguishing mark **IcingSTAB(full)** or **IcingSTAB(half)** in accordance with 1.32 of Table 2.5 of Part I "Classification".

¹ Start and end of winter period is determined in accordance with the International Convention on Load Lines or the Load Lines Rules, whichever is applicable to the ship.

² Boundaries of seasonal winter zones are determined in accordance with the International Convention on Load Lines or the Load Lines Rules, whichever is applicable to the ship.

2.4.3 A ship not complying with the requirements of this Chapter may be permitted to sail a voyage within the water area specified in 2.4.1, provided the background with the voyage seasonal restriction that excludes the possibility of icing is submitted to the Register.

2.4.4 The stability under icing shall be checked for the worst design loading condition regarding stability.

2.4.5 In the ice accretion calculation, account shall be taken of increase in displacement, height of the centre of gravity and windage area due to icing.

When checking stability under icing, the mass of ice is not included in the ship's deadweight and is considered as an overload.

2.4.6 The ice weight allowances for ships operating in the water area specified in 2.4.1.1 — 2.4.1.3, shall be assumed as follows:

.1 the mass of ice per square metre of the total area of horizontal projection of exposed weather decks shall be assumed to be 30 kg.

The total horizontal projection of decks shall include horizontal projections of all exposed decks and gangways, irrespective of the availability of awnings. The vertical moment due to this loading is determined for heights of the centre of gravity of the corresponding areas of decks and gangways.

The deck machinery, arrangements, hatch covers, etc. are included in the projection of decks and not taken into account separately.

For ships with framing fitted above open deck sections, allowance shall be made for an additional mass of ice having the thickness equal to the main framing height;

.2 the mass of ice per square metre of the windage area shall be assumed to be 15 kg. In this case, the windage area and the height of the centre of gravity shall be determined for a draught d_{\min} as specified in 1.4.6, but without the allowance for icing.

2.4.7 The ice weight allowances for ships operating in the water area specified in 2.4.1.4, shall be assumed to be equal to half of those specified in 2.4.6.

2.4.8 The mass of ice and vertical moment calculated for draught d_{\min} cover all loading conditions.

2.4.9 For ships of restricted area of navigation, the righting lever plotted with the allowance for icing shall be at least 0,20 m at an angle of heel $\theta_{\max} \geq 25^\circ$.

3 ADDITIONAL REQUIREMENTS FOR STABILITY

14 **Chapter 3.4** is replaced by the following text:

"3.4 TANKERS

3.4.1 Stability of tankers shall be checked for the following loading conditions:

.1 ship having draught to summer load line¹, fully loaded with cargo, with full stores and with water ballast tanks empty;

.2 ship fully loaded, but with 10 % of stores;

.3 ship without cargo, but with full stores;

.4 ship in the same loading condition as in 3.4.1.3, but with 10 % of stores.

3.4.2 Stability of refuelling tankers, bilge water removing ships and oil recovery ships shall be checked for additional loading condition:

a ship with 75 % of cargoes and free surfaces in tanks for each kind of cargo, and 50 % of stores with water ballast tanks empty.

3.4.3 Where coamings are fitted on the tanker's decks for prevention of spillage of cargo over 0,3 m in height, forming an enclosed space (well), such space shall be considered as filled with liquid and it shall be taken into account in calculation of correction to the initial metacentric height in accordance with 2.3.2.

For tankers having cargo tank breadths more than 60 % of the ship's breadth, correction shall be taken into account irrespective of the height of coamings fitted on the deck.

3.4.4 All oil tankers shall be fitted with an onboard software for stability calculations approved by the Register, capable of verifying compliance with intact and damage stability requirements.

¹ In case the tanker is assigned with a tropical load line, the stability shall be checked at draught up to the tropical load line.

3.4.5 Stability of oil tankers of deadweight 5000 and more as well as of tankers having cargo tanks breadths more than 60 % of the ship's breadth shall comply with the requirements of 3.4.5.1 and 3.4.5.2 at any possible operational draught, loading and ballasting conditions, including intermediate stages of operations with liquids.

Implementation of the requirements shall be ensured by design measures.

3.4.5.1 In port, the corrected initial metacentric height shall be not less than 0,15 m and the extent of positive part of righting lever curve shall be not less than 20°.

3.4.5.2 At sea, the ship's stability shall comply with the requirements of 2.2 and 2.3.

3.4.6 To confirm compliance with the requirements in 3.4.5, stability shall be checked for loading conditions given in 3.4.6.1 or 3.4.6.2.

3.4.6.1 The tanker is loaded in such a way that each cargo tank is filled up to the level, at which the sum of the cargo volume moment in relation to the main plain and the inertia moment of free surface at the heel of 0° reaches its maximum.

The density of cargo shall correspond to the available cargo deadweight at the displacement at which the transverse metacentre over the main plain reaches its minimum at 100 % of stores and 1 % of the total water ballast capacity.

Free surface inertia moment in all ballast tanks shall be taken as the maximum.

In calculations of the initial metacentric height, the correction for free surface of liquids shall be based on the respective inertia moments of the free surfaces at upright ship position.

The righting levers may be corrected on the basis of actual corrections due to liquid overflow in tanks.

3.4.6.2 Stability shall be checked at all possible combinations of cargo and ballast tank loading.

In so doing, the following shall be suggested:

.1 the mass, centre of gravity co-ordinates and heeling moments due to liquid overflow shall correspond to the real contents of all tanks;

.2 the calculations shall be made considering the following assumptions:

the draughts shall be varied between the light-ship draught and maximum permissible draught;

consideration shall be given to the ship loading condition with 97 %, 50 % and 10 % of stores;

for all draughts and amount of the ship's stores, the available deadweight shall comprise water ballast and cargo in such combinations that all loading conditions between the maximum ballast and minimum cargo and vice versa are covered.

In all loading conditions, the list of loaded ballast and cargo tanks shall be chosen to check the worst combination of centre of gravity applicate and correction for free surfaces regarding stability.

Operational limits on the number and list of tanks, simultaneously having free surfaces, or exclusion of specific tanks are not permitted.

All ballast tanks shall have at least 1 % content;

consideration shall be given to cargo densities between the lowest and highest values intended to be carried;

the interval of the parametric variation shall be such that the worst conditions regarding stability shall be checked. A minimum of 20 intervals for the range of cargo and ballast content, between 1 % and 99 % of total capacity, shall be examined. More closely spaced intervals near critical parts of the range may be necessary.

3.4.7 For combination carriers of deadweight 5000 and more as well as for oil tankers having cargo tank breadths more than 60 % of the ship's breadth, in cases where the implementation of the requirements of 3.4.5 cannot be ensured by design measures, operating instructions shall be developed to ensure compliance with the criteria specified in 3.4.5.

The instructions shall be included into the Stability Booklet, taken into account in onboard software for stability calculations and kept at the cargo operations control station.

The instructions shall:

contain the list of cargo and ballast tanks which can simultaneously have free surfaces;

be easily understandable for the officer responsible for cargo loading/unloading operations;

include typical sequences of cargo loading/unloading operations;

enable to compare stability criteria with the required values presented in graphics and tables;

exclude necessity of complicated mathematical calculations;

contain description of actions to be taken by the officer responsible for cargo loading/unloading operations in case of deviations from recommended values and in case of accidents."

15 **Para 3.7.3.1** is supplemented with Fig. 3.7.3.1:

"

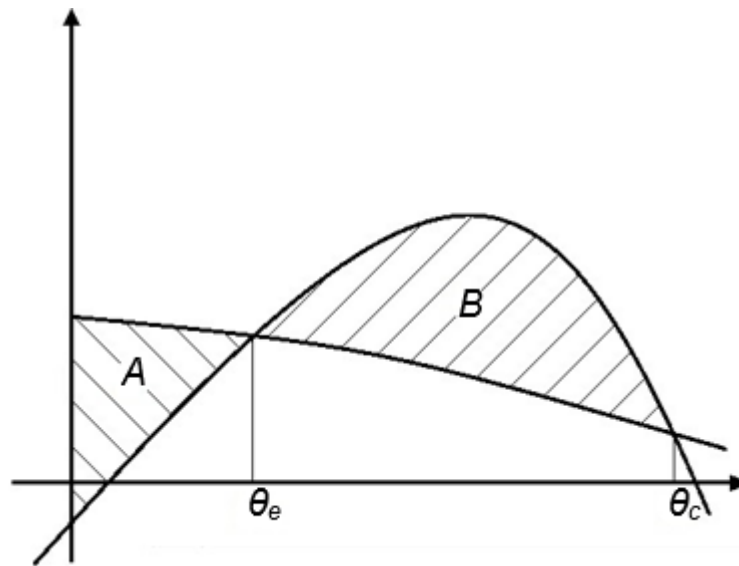


Fig. 3.7.3.1."

16 **Chapter 3.10** is replaced by the following text:

"3.10 SHIPS CARRYING CONTAINERS

3.10.1 This Chapter applies to ships with descriptive notation **Container ship** or distinguishing mark **CONT** in the class notation, as well as to other ships carrying containers.

3.10.2 Stability shall be checked for the following loading conditions:

- .1 ship with maximum number of containers, each loaded container having the mass equal to one and the same part of the maximum gross mass for each type of containers, with full stores at the draught up to the summer load line;
- .2 ship in the same loading condition as in 3.10.2.1, but with 10 % of stores;
- .3 ship with maximum number of containers, each loaded container having the mass equal to 0,6 of the maximum gross mass for each type of containers, with full stores;
- .4 ship in the same loading condition as in 3.10.2.3, but with 10 % of stores;
- .5 ship with containers, each loaded container having the mass equal to the maximum gross mass for each type of containers, with full stores at the draught up to the summer load line;
- .6 ship in the same loading condition as in 3.10.2.5, but with 10 % of stores;
- .7 ship with maximum number of empty containers, but with full stores;
- .8 ship in the same loading condition as in 3.10.2.7, but with 10 % of stores;
- .9 ship with no cargo, but with full stores;
- .10 ship in the same loading condition as in 3.10.2.9, but with 10 % of stores.

When determining the arrangement of containers on board under the loading conditions mentioned above, the allowable loads upon the hull structures shall be considered.

3.10.3 If, in addition to the conditions specified in 3.10.2, other loading conditions with containers are envisaged, stability shall also be checked for such loading conditions with full stores and 10 % of stores.

3.10.4 If, when checking stability of ships without descriptive notation **Container ship** in the class notation, it is not possible to load the ship to the summer load line in the loading conditions specified in 3.10.2.1 and 3.10.2.5, the ship may be considered in such loading conditions at the maximum draught possible.

3.10.5 The vertical position of the centre of gravity of each container shall be taken equal to half the height of the container of the type concerned.

3.10.6 The angle of heel on account of turning or angle of static heel due to steady wind as determined from the righting lever curve shall not exceed 16° or half the angle at which the upper deck immerses, whichever is less.

Where the deck cargo of containers is located on cargo hatch covers only, the angle at which the hatch coaming edge or a container is immersed, whichever angle is less, may be adopted instead of the angle at which the upper deck edge is immersed (provided the containers protrude beyond the coaming in question).

3.10.7 The heeling lever due to wind pressure used to determine the heeling angle according to 3.10.6 shall be determined by Formula (2.1.4.1-1) in which p_v is taken equal to that for ships of unrestricted area of navigation given in Table 2.1.4.1.

3.10.8 All calculations of angle of static heel due to steady wind or angle of heel on account of turning shall be made with no regard for icing, but having regard for the correction for free surfaces of liquid cargoes as required by 1.4.7.

3.10.9 The heeling moment on turning, in kN·m, is determined by the formula

$$M_R = 0,2 \frac{v_0^2 \cdot \Delta}{L_{wl}} \left(z_g - \frac{d}{2} \right) \quad (3.10.5)$$

where v_0 = ship's operational speed, in m/s;
 Δ = displacement, in t.

3.10.10 Where the requirement of 3.10.9 for the value of the angle of heel on account of turning at operational speed is not complied with, the Stability Booklet shall contain the maximum permissible ship speed before steady turning, determined at a condition of compliance with 3.10.9."