RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER **No. 314-15-1775c** dated 25.05.2022

Re:

amendments to the Rules for the Equipment of Sea-Going Ships, 2022, ND No. 2-020101-153-E

Item(s) of supervision:

installation of rescue boats on cargo ships under 500 gross tonnage, passenger ships under 30 m in length and fishing vessels of less than 75 m in length

Entry-into-force date:
01.06.2022

~~Cancels / amends / adds Circular Letter No.~~ ~~dated~~

Number of pages: 1 + 7

Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Part II "Life-Saving Appliances"

Director General Konstantin G. Palnikov

Text of CL:

We hereby inform that the Rules for the Equipment 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 01.06.2022*, in the absence of a contract, during review and approval of the technical documentation on ships requested for review on or after 01.06.2022.

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

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

Part II: paras 2.5.2, 3.1.2.4, 4.1.3.2, 5.1.1.4.2 and Appendix 2

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Appendix 1 to Circular Letter
No. 314-15-1775c dated 25.05.2022

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	Para 2.5.2	Additional conditions for exemption of harbor, roadsted and coastal ships, cargo ships under 500 gross tonnage, passenger ships of less than 30 m in length and fishing vessels of less than 75 m in length from the carriage of a rescue boat have been introduced based on the performed R&D as well as practice in application of the RS requirements	314-15-1775c of 25.05.2022	01.06.2022
2	Para 3.1.2.4	Reference to new para 2.5.2 has been introduced	314-15-1775c of 25.05.2022	01.06.2022
3	Para 4.1.3.2	Reference to new para 2.5.2 has been introduced	314-15-1775c of 25.05.2022	01.06.2022
4	Para 5.1.1.4.2	Conditions of the possibility to accept a lifeboat as a rescue boat have been specified. The reference to new para 2.5.2 has been introduced	314-15-1775c of 25.05.2022	01.06.2022
5	Appendix 2	New Appendix 2 "Decision-making algorithm for the possibility of exemption from the carriage of a rescue boat" has been introduced	314-15-1775c of 25.05.2022	01.06.2022

RULES FOR THE EQUIPMENT OF SEA-GOING SHIPS, 2022,

ND No. 2-020101-153-E

PART II. LIFE-SAVING APPLIANCES

2.5 STOWAGE OF RESCUE BOATS

1 **New para 2.5.2** is introduced reading as follows:

"**2.5.2 Conditions for exemption from the carriage of a rescue boat.**

2.5.2.1 If requirements of this Chapter are met, carriage of rescue boats may be exempted on:

.1 harbor, roadsted and coastal cargo ships under 500 gross tonnage (considering 4.1.3.2) as well as on tugs under 500 gross tonnage and of less than 30 m in length regardless of navigation area;

.2 passenger ships under 30 m in length considering 3.1.2.4 and not engaged in international voyages;

.3 fishing vessels of less than 75 m in length considering 5.1.1.4.2.

2.5.2.2 Exemption from the carriage of a rescue boat may be granted if applicable provisions of 2.5.2.3 — 2.5.2.7, 3.1.2.4, 4.1.3.2 and 5.1.1.4.2 as well as the following conditions are met:

.1 provided level of safety is equal to the level with carried rescue boat;

.2 ship has sufficient maneuverability (circulation and return to the MOB place according to the methodology in 2.5.2.6), possibility of safe approach to the man overboard and ship positioning for his/her recovery onboard;

.3 ship is fitted with appliances to recover the person from water such as:

cargo handling gear equipped with a special net, basket or cradle, provided the special net, basket or cradle, as well as the cargo handling gear meet the requirements in 5.8 of the Rules for the Cargo Handling Gear of Sea-Going Ships with outreach located in easy-to-access place, ready for use and designed for static load at least 200 kg;

means of rescue that meets the requirements of 6.20.9;

rescue net that meets the requirements of 6.23.

.4 fixed arrangements for towing of liferafts and lifeboats (reels, winches, etc.) and buoyant rope with length ensuring conditions of safe towing, but not less than 50 m, with sea anchor of sufficient strength to tow liferafts and lifeboats, shall be provided on board the ship.

2.5.2.3 Assessment criteria for exemption from the carriage of a rescue boat are specified in Appendix 2. The estimated time for water exposure shall be considered as the main criterion for efficiency comparison between primary (with the use of a rescue boat) and alternative means.

2.5.2.4 When assessing the possibility for ships specified in 2.5.2.1 to exempt from carrying a rescue boat, the ship shall fit for realization of main functions of the rescue boat: detection, MOB retrieval and delivery of a person on board.

2.5.2.5 In accordance with 3.1.2.3, 4.1.2 and 5.1.1.4.2 where a ship carries a lifeboat complying with the requirements of 6.19, carriage of a rescue boat is not required.

2.5.2.6 Methodology for calculation of ship' manoeuvring characteristics.

.1 estimated time for rescue operation concerning the return of a ship to the MOB place shall not exceed 5 min. The estimated time t_m may be extended (but not more than 10 minutes) if it can be documented that when a ship operates in the specified waters in the worst navigation period, minimum sea water temperature exceeds 10 °C.

.2 estimated time in minutes is determined by formula:

$$t_m = \frac{S}{V_{av} \cdot 0{,}514 \cdot 60} \qquad (2.5.2.6.2\text{-}1)$$

where V_{av} = a mean manoeuvring speed, in knots, determined by the formula:

$$V_{av} = V_0 \cdot (1 - 0{,}0117 \cdot \alpha) \qquad (2.5.2.6.2\text{-}2)$$

where α = hard-over angle (α = 35° when putting the rudder on one side),
V_0= speed before manoeuvring, in knots,

S = full distance traveled to the return to the MOB place, in m, being determined by formula:

$$S = 4{,}5 \cdot D_т \qquad (2.5.2.6.2\text{-}3)$$

where $D_т$= tactical circulation diameter (distance between ship's centre line before circulation and after changing the heading to 180°), in meters, being determined by the formulae:

for ship in load condition:

$D_т = 0{,}263 \cdot L \cdot (C_b \cdot B/L)^{-1{,}14}$

for ship in ballast condition:

$D_T = 0{,}353 \cdot L \cdot (C_b \cdot B/L)^{-1{,}08}$,

where B = ship breadth, in m;
C_b = block coefficient of the ship;
L = ship length, in meters.

2.5.2.7 When taking the decision on exemption from the carriage of a rescue boat, the following documents shall be submitted to the Register for review:

.1 for agreement — engineering analysis of evaluation of the alternative design which contains design substantiation of time for a rescue operation regarding return of the ship to the MOB place developed by the methodology in 2.5.2.6 with the description of safe approach to the survivor, ship positioning for his/her retrieval, instruction for safe recovery (including unconscious person).

.2 for approval — projects involving outfitting/minor conversion/modernization related to the installation of required additional equipment (if applicable).".

3.1 REQUIREMENTS FOR PASSANGER SHIPS. SURVIVAL CRAFT AND RESCUE BOATS

2 **Para 3.1.2.4** is replaced by the following text:

"**3.1.2.4** Passenger ships under 30 m in length may be exempted from the requirement to carry a rescue boat provided their dimensions and manoeuvrability, vicinity of search and rescue services and hydrometeorological conditions in the area of navigation do not dictate necessary fulfilment of this requirement and provided the provisions of 2.5.2 are met.".

4.1 REQUIREMENTS FOR CARGO SHIPS. SURVIVAL CRAFT AND RESCUE BOATS

3 **Para 4.1.3.2** is replaced by the following text:

"**.2** harbor, roadstead and coastal ships (**R3**) as well as tugs under 500 gross tonnage and under 30 m in length regardless of their navigation area may be exempted from the requirement of 4.1.2, provided their dimensions and manoeuvrability do not dictate necessary fulfillment of this requirement and provided the provisions of 2.5.2 are met.".

5.1 FISHING VESSELS

4 **Para 5.1.1.4.2** is replaced by the following text:

"**.2** the rescue boat complying with the requirements of 6.19. The lifeboat may be accepted as a rescue boats provided that it and arrangements ensuring its lifting and lowering, comply with the requirements for a rescue boat and its launching device. The ship may be exempted from carriage of a rescue boat, provided it carries any other survival craft or appliances for rescuing persons from water, which shall be used in rescue operations and provided the provisions of 2.5.2 are met. Means of rescue that meets the requirements of 6.20.9 or a cargo handling gear equipped with a special net, basket or cradle, provided the special net, basket or cradle, as well as the cargo handling gear meet the requirements of 5.8 of the Rules for the Cargo Handling Gear of Sea-Going Ships or rescue net that meets the requirements of 6.23.

.".

5 **New Appendix 2** "Decision-making algorithm for the possibility for exemption from the carriage of a rescue boat" is introduced reading as follows:

"*APPENDIX 2*

DECISION-MAKING ALGORITHM FOR THE POSSIBILITY OF EXEMPTION FROM THE CARRIAGE OF A RESCUE BOAT

1 EVALUATION CRITERIA FOR THE POSSIBILITY OF EXEMPTION FROM THE CARRIAGE OF A RESCUE BOAT

1.1 Evaluation criteria for the possibility of exemption from the carriage of a rescue boat shall apply to ships specified in 2.5.2.1 of these Rules.

1.2 Evaluation criteria for the possibility of exemption from the carriage of a rescue boat are related to the possibility to perform its functions (recovery of survivors from water and towing of liferafts) by alternative means. Exemption from the rescue boat may be granted if one of the following conditions is met:

.1 recovery of survivors and towing of liferafts shall be performed by the ship itself at the equal level of safety related to the time for rescue operations (refer to 2) and rescue method (refer to 3).

.2 the ship is fitted with a lifeboat which complies with the requirements of 6.19.

1.3 The estimated allowable time for a man being in water shall be considered as the main criterion for efficiency comparison between primary (with the use of a rescue boat) and alternative (with the use of the ship itself) means.

1.4 The duration of rescue operation of a man overboard is affected by the following factors:

.1 manoeuvrability of the ship;

.2 weather conditions (temperature, sea state, wind, etc.);

.3 experience and training level of the crew;

.4 area of accident;

.5 rescue method;

.6 possibility of assistance by other ships.

1.5 The leading cause of people's death in water is the loss of heat. The volume of heat lost by the organism depends on the following factors: water temperature, duration of water exposure, thermal insulation properties of clothes, physical and psychological state of a person, motion activity of a person.

1.6 In order to perform the second task of the rescue boat — to muster and tow lifeboats and liferafts, — the ship shall be fitted with fixed arrangements for towing of liferafts and lifeboats (reels, winches, etc.) and buoyant rope not less than 50 m in length, with sufficient strength to tow liferafts and lifeboats.

2 EVALUATION OF CONDITIONS FOR PERSON SURVIVAL IN WATER

2.1 The sea water temperature is an important factor defining reaction of the human organism. For a person provided with a personal life-saving appliance, danger to life at low water temperature remains. Influence of hypothermia on the person depending on water temperature and in-water duration is presented in a general form in Fig. 2.1.

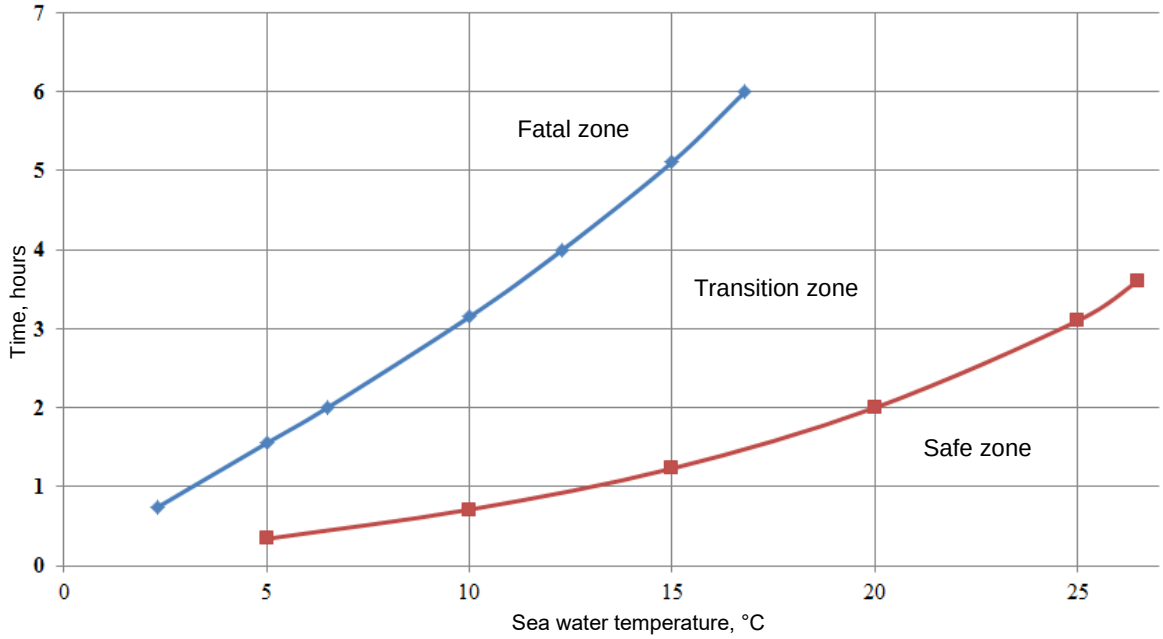

Fig. 2.1

2.2 Maximum possible duration of a rescue operation is determined based on the analysis of water temperature in the areas where the ship is operated within the navigation period. Table 2.1 contains reference data on allowable time for person being in water without any consequences if special clothing is unavailable.

Table 2.1

Allowable time for a person being in water at different temperatures

Water temperature, °C	Time in hours (without special clothing and appliances) up to:		Method for being in water	Allowable time, min
	loss of consciousness	Probable death		
10	0,25–0,5	0,25–1,5	Swimming without lifejacket	3–5
10–12	0,5–1	1–2	Swimming in lifejacket	10
13–15	2–4	6–8	Being in static condition and wearing lifejacket	20
16–18	2–4	6–8	Wearing lifejacket (the knees are drawn up to the chest)	30
19–21	3–7	8–10	Group of people being in water and wearing lifejackets closely squeezed to each other	40
26	12	Safe		-

3 RESCUE METHODS AND ARRANGEMENTS

3.1 Procedure for rescue operation "man overboard".

3.1.1 When a person falls overboard, the ship shall generate "man overboard" alarm. Ship control shall be switched to the manual mode and a manoeuvre shall be commenced;

herewith life buoy with self-igniting light and self-activating smoke signal shall be thrown, a person in water shall be surveyed.

3.1.2 When choosing primary manoeuvre to return to the MOB place, the ship's master shall be guided by weather condition, visibility from the ship and possibility to stop.

3.1.3 The ship shall perform a manoeuvre to approach the survivor considering due-time stop of the ship from the windward side.

3.1.4 When recovering the survivor, the following shall be prepared:

stretchers;

arrangements to lift the person on board;

ship's hospital.

3.2 Arrangements for recovery of persons from water.

3.2.1 Where a rescue boat is not available to recover a person from water, other equipment and arrangements may be used including ship's cargo handling gears. A person figured at water may be recovered by different methods:

.1 lifebuoys with attached line – if the person is not far from the ship providing that he/she steadily remains afloat, can swim and grip the lifebuoy or line himself/herself;

.2 from the lifeboat – it allows to reach the person staying with long distance from the ship. This method requires special skills because lifeboats are low-manoeuvred that makes the approach in distress difficult even at light seas;

.3 by means of inflatable liferaft on line. This method is applied if it is impossible to launch the boat on water. The liferaft launched from the windward side due to its windage rapidly drifts to the MOB place and after embarkation, it is pulled alongside the ship using the line;

.4 by using means of rescue and rescue nets;

.5 by means of outreached derricks and crane booms and mounted horizontally, perpendicularly to the ship's centre line. They act like a boom where rescue strops with knotted ropes and lifting nets can be attached.

3.3 Methods and arrangements to marshal survival craft on water.

3.3.1 Organization of rescue operation starts from determination of coordinates of the accident. Sea anchors are installed in order to reduce wind drift from the survival craft. Drift speed of the survival craft (υ_{dr}), in knots, is determined considering the wind speed (υ_{wind}) by the formula:

for survival craft without anchor:
$v_{dr} = 0{,}0715 \cdot v_{wind} - 2{,}1 \cdot 10^{-3}$

with sea anchor:
$v_{dr} = 0{,}0334 \cdot v_{wind} + 2{,}2 \cdot 10^{-3}$
with enhanced ballast system:
$v_{dr} = 0{,}044 \cdot v_{wind} - 5{,}0 \cdot 10^{-5}$

with sea anchor, canopy is not installed:
$v_{dr} = 0{,}0231 \cdot v_{wind} - 3{,}1 \cdot 10^{-3}$.

Wind speed of force on the Beaufort scale, in m/s, may be obtained by the following formula:
$v_{wind} = 0{,}836 \cdot {B_{B.s}}^{3/2}$

where $B_{B.s}$ is the force on the Beaufort scale.

Dependency diagram of drift speed of the survival craft on wind speed is represented in Fig. 3.3.1.

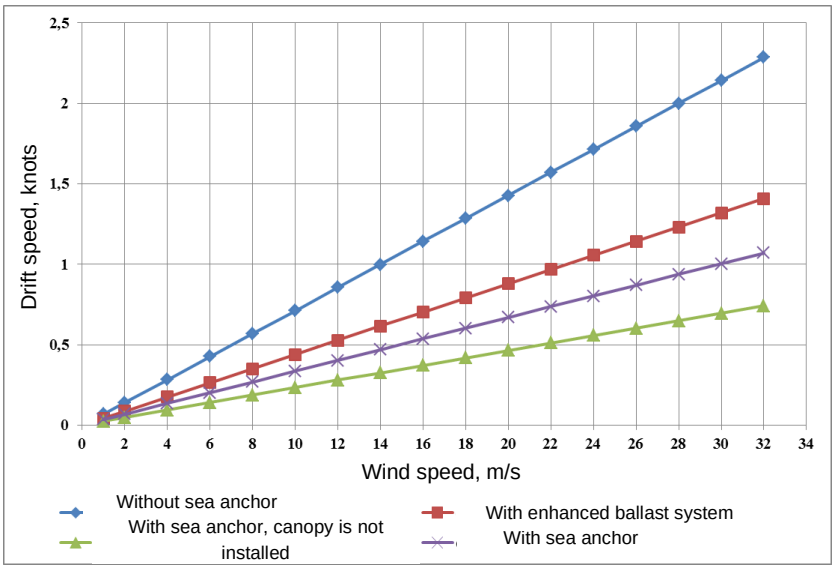

Fig. 3.3.1

3.3.2 Distance between survival craft shall be sufficient to avoid their collisions in waves; as a rule, this distance shall not be less than 12 m.

4 DECISION-MAKING ALGORITHM FOR THE POSSIBILITY OF EXEMPTION FROM THE CARRIAGE OF THE RESCUE BOAT

4.1.1 Algorithm for possibility substantiation to apply alternative designs that provide exemption from the carriage of a rescue boat, may be presented as follows:

4.1.1.1 Determination to which reviewed nomenclature the ship formally relates (harbor, roadsted and coastal cargo ships under 500 gross tonnage, passenger ships under 30 m in length and fishing vessels of less than 75 m in length).

4.1.1.2 Determination of water area where the ship is operated. Assessment of rescue facilities of the water area: number, features, installation of life-saving appliances and their delivery. Response time, dimensions of the covered water area, critical time for survivor's recovery.

4.1.1.3 Assessment of the possibility to use the ship as a rescue boat:

.1 assessment of sufficient manoeuvrability of a ship – time for circulation and return to the place, possibility of safe approach to the survivor and positioning of ship for recovery of person;

.2 check of availability on board the ship of arrangements for person recovery, convenience of their arrangement and deployment speed;

.3 consideration of weather conditions (wind, sea state, current), their influence on the possibility to recover the person onboard and duration;

.4 assessment of physiological possible time of water exposure.

4.1.1.4 Assessment of the possibility to use a lifeboat as a rescue boat for compliance with the requirements of 6.19 for a rescue boat.".