



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 313-68-1360c

dated 18.03.2020

Re:

amendments to the Rules for the Classification and Construction of Sea-Going Ships, 2020, ND No. 2-020101-124-E

Item(s) of supervision:

ships under construction

Entry-into-force date:

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Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Part VIII "Systems and Piping", Part X "Boilers, Heat Exchangers and Pressure Vessels" and Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships"

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 and during survey of ships contracted for construction or conversion on or after the entry-into-force date.
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List of the amended and/or introduced paras/chapters/sections:

Part VIII: paras 1.4.6.1 and 2.3.7, Table 2.4.5.11-1, paras 4.3.1.1, 4.3.1.2, 4.3.2.14, 7.4.4, 9.2.11, 9.3.7, 9.16.7.10, 9.16.7.11, 9.16.12.15, 11.3.2, 12.1.2, 12.1.7, 12.7.1, 12.7.3, 12.7.7 and 15.6.1

Part X: para 3.3.6.4

Part XVII: paras 11.1.3 and 11.2.2.1

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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 VIII, para 1.4.6.1	The requirements for oil tankers for protection against green sea forces have been deleted	313-68-1360c of 18.03.2020	18.03.2020
2	Part VIII, para 2.3.7	The obscure wording has been deleted	313-68-1360c of 18.03.2020	18.03.2020
3	Part VIII, Table 2.4.5.11-1 (for the Russian version of the Rules only)	The obscure wording has been deleted	313-68-1360c of 18.03.2020	18.03.2020
4	Part VIII, para 4.3.1.1	The requirements for openings in shell plating, devices for washing the sea chests and ice boxes have been specified	313-68-1360c of 18.03.2020	18.03.2020
5	Part VIII, para 4.3.1.2	The requirements for the heating of the sea chests and ice boxes in icebreakers and ice-class ships have been specified	313-68-1360c of 18.03.2020	18.03.2020
6	Part VIII, para 4.3.2.14	The requirements have been introduced for the heating of side valves installed above the load waterline in icebreakers and ice-class ships	313-68-1360c of 18.03.2020	18.03.2020
7	Part VIII, para 7.4.4	The obscure wording has been deleted	313-68-1360c of 18.03.2020	18.03.2020
8	Part VIII, para 9.2.11	The requirements have been introduced for piping in cargo area	313-68-1360c of 18.03.2020	18.03.2020
9	Part VIII, para 9.3.7	The para has been deleted	313-68-1360c of 18.03.2020	18.03.2020
10	Part VIII, paras 9.16.7.10 and 9.16.7.11	The requirements have been introduced for oxygen sensors of the inert gas system	313-68-1360c of 18.03.2020	18.03.2020
11	Part VIII, para 9.16.12.15	The requirements for independent audible alarm have been deleted	313-68-1360c of 18.03.2020	18.03.2020
12	Part VIII, para 11.3.2	The requirements for systems for reducing NO _x emissions have been specified considering IACS UR M77 (Rev.1 Aug 2019)	313-68-1360c of 18.03.2020	18.03.2020

Nos.	Amended paras/chapters/sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
13	Part VIII, para 12.1.2	The requirements have been specified considering regulation 16-1 of IMO resolution MSC.421(98)	313-68-1360c of 18.03.2020	18.03.2020
14	Part VIII, para 12.1.7	The requirements for inlets and outlets of the ventilation systems have been specified	313-68-1360c of 18.03.2020	18.03.2020
15	Part VIII, para 12.7.1	The requirements for ventilation of cargo spaces have been specified	313-68-1360c of 18.03.2020	18.03.2020
16	Part VIII, para 12.7.3	The requirements for ventilation of bulk cargoes have been specified	313-68-1360c of 18.03.2020	18.03.2020
17	Part VIII, para 12.7.7	The wording of carried goods has been specified	313-68-1360c of 18.03.2020	18.03.2020
18	Part VIII, para 15.6.1	The ice classes of ships have been specified on which the cooling systems fitted with keel sea coolers shall not be used	313-68-1360c of 18.03.2020	18.03.2020
19	Part X, para 3.3.6.4	The requirements for safety valves have been specified	313-68-1360c of 18.03.2020	18.03.2020
20	Part XVII, para 11.1.3	The definition "LNG bunkering station" has been specified	313-68-1360c of 18.03.2020	18.03.2020
21	Part XVII, para 11.2.2.1	The requirements have been specified considering IACS recommendation No. 142	313-68-1360c of 18.03.2020	18.03.2020

**RULES FOR THE CLASSIFICATION AND CONSTRUCTION
OF SEA-GOING SHIPS, 2020,**

ND No. 2-020101-124-E

PART VIII. SYSTEMS AND PIPING

1 GENERAL

- 1 **Para 1.4.6.1** is replaced by the following text:

"**1.4.6.1** The requirements of 1.4.6 are applicable to all ship types of sea-going service of length 80 m or more, where the height of the exposed deck over the forward $1/4L$ is less than 0,1L or 22 m above the summer load waterline, whichever is the lesser."

2 METAL PIPING

- 2 **Para 2.3.7.** The last paragraph is replaced by the following text:

"for media with low corrosivity, corrosion addition c may be reduced."

4 ELEMENTS OF THE SYSTEMS AND PIPING

- 3 **Para 4.3.1.1** is supplemented by a new paragraph reading as follows:

"For openings in shell plating, devices for washing the sea chests and ice boxes, the requirements of 4.3.2.3 shall be met. The requirements of this para are not applicable to the ships equipped with keel sea coolers according to 15.6."

- 4 **Para 4.3.1.2** is replaced by the following text:

"**4.3.1.2** In icebreakers and ice class ships, provision shall be made for the heating of the sea chests and ice boxes. For this purpose cooling water recirculation shall be used for ice boxes and sea chests. For ice boxes, the recirculated water pipes shall be laid to the upper and lower parts of the box, and the total sectional area of these pipes shall not be less than the area of the cooling water discharge pipe. For sea chests, the diameter of the water recirculating pipe shall not be less than 0,85 of the discharge pipe diameter."

- 5 **Chapter 4.3** is supplemented with **new para 4.3.2.14** reading as follows:

"**4.3.2.14** In icebreakers and ice class ships, provision shall be made for the heating of the ship side valves and fittings above the load waterline. For this purpose the ship side valves and fittings shall be supplied with heating medium through a non-return shut-off valve. The heating arrangements shall be so designed as to prevent the side valves and fittings and shell plating from being damaged under the influence of lowest temperatures. Electric heating systems with special heating cables may be used for valves heating. When using a heating cable, the requirements of 5.8 shall be complied with."

7 BILGE SYSTEM

6 **Para 7.4.4** is replaced by the following text:

"7.4.4 Where the machinery space is situated at the after end of the ship, bilge suctions shall be fitted in the forward wings of the space. One or two suctions shall be provided depending on the shape of the aft end."

9 SYSTEMS SPECIAL FOR CARRIAGE OF CARGOES IN BULK

7 **Chapter 9.2** is supplemented with **new para 9.2.11** reading as follows:

"9.2.11 Irrespective of purpose, piping laid through dangerous zones and intended for hose connection from shore or from another ship, shall be provided with the following facilities to ensure intrinsic safety:

.1 insulating flange connections or nonconducting pipe lengths;
.2 insulating mats, pads and railing to prevent the contact between the metal components of hoses and the hull.

The measured resistance between the metal components of hoses and the hull shall not be less than 25 kOhm."

8 **Para 9.3.7** is deleted.

9 **New paras 9.16.7.10 and 9.16.7.11** are introduced reading as follows:

"9.16.7.10 Two oxygen sensors shall be positioned at appropriate locations in the space or spaces containing the inert gas system. If the oxygen level falls below 19 %, these sensors shall trigger alarms, which shall be both visible and audible inside and outside the space or spaces and shall be placed in such a position that they are immediately received by responsible members of the crew.

9.16.7.11 For the purposes of 9.16.7.9, an independent alarm system means that a second pressure sensor, independent of the sensor serving the alarms for low pressure, high pressure and pressure indication/recorder shall be provided. Notwithstanding the above, a common programmable logic controller (PLC) is, however, accepted for the alarms in the control system. An independent sensor is not required for the system designed to shut down cargo pumps. If a system for shutdown of cargo pumps is arranged, an automatic system shutting down all cargo pumps shall be provided. Audible shutdown alarm shall be provided at the control station. The shutdown shall not prevent the operation of ballast pumps or pumps used for bilge drainage of a cargo pump room."

10 **Para 9.16.12.15** is replaced by the following text:

"9.16.12.15 Automatic stop of compressor shall take place if alarm turns on as specified in 9.16.12.14.1 – 9.16.12.14.5 and 9.16.12.14.8. Automatic compressor protection shall comply with the requirements of 4.5, Part XV "Automation"."

11 EXHAUST GAS SYSTEM

11 **Para 11.3.2** is replaced by the following text:

"11.3.2 Where urea based ammonia (e.g. 40 %/60 % urea/water solution) is introduced as a reductant, the following requirements shall be complied with:

.1 where aqueous urea solution based ammonia is introduced, the storage tank shall be arranged so that any leakage will be contained and prevented from making contact with heated surfaces. All pipes or other tank penetrations shall be provided with manual closing valves attached immediately to the tank;

- .2 storage tank may be located both on exposed deck areas and in closed spaces including the engine room;
- .3 to ensure that the contents of the aqueous urea tank are maintained to avoid any impairment of the urea solution during storage, the storage tank shall be protected from excessively high or low temperatures considering concentration of the solution.
Heating and/or cooling systems shall be fitted, if necessary;
- .4 if a urea storage tank is installed in a closed compartment, the area shall be served by an independent mechanical exhaust ventilation system providing at least 6 air changes per hour. The ventilation system shall be maintained in operation continuously and capable of being controlled from outside the compartment. A warning notice requiring the use of such ventilation before entering the compartment shall be provided outside the compartment adjacent to each point of entry;
- .5 each urea storage tank shall be provided with temperature and level monitoring arrangements. High and low level alarms together with high and low temperature alarms shall also be provided;
- .6 where urea based ammonia solution is stored in integral tanks, the following shall be considered during the design and construction:
- .6.1 these tanks may be designed and constructed as integral part of the hull (e.g. double bottom, wing tank);
- .6.2 these tanks shall be coated with appropriate anti-corrosion coating and shall not be located in closed proximity of fuel oil or fresh water tanks;
- .6.3 these tanks shall be designed and constructed in compliance with the structural requirements applicable to hull and primary support members for a deep tank construction;
- .6.4 these tanks shall be included in the ship's stability calculation;
- .7 the requirements in 11.3.2.4 also apply to closed compartments normally entered by persons:
- .7.1 when they are adjacent to the urea integral tanks and there are possible leak points (e.g. manhole, fittings) from these tanks; or
- .7.2 when the urea piping systems pass through these compartments, unless the piping system is made of steel or other equivalent material with melting point above 925 °C and with fully welded joints;
- .8 reductant piping and venting systems shall be independent of other ship service piping. Reductant piping systems shall not be located in accommodation, service spaces, or control stations. The vent pipes of the storage tank shall terminate in a safe location on the weather deck and the tank venting system shall be arranged to prevent entrance of water into the urea tank;
- .9 reductant storage tanks and piping systems shall be of steel and other equivalent material with a melting point above 925 °C except for downstream of the tank valve, provided this valve is metal seated and arranged as fail-to-closed or with quick closing from a safe position outside the space in the event of fire. In such case, type approved plastic piping may be accepted even if it has not passed a fire endurance test. Reductant tanks and piping systems shall be made with a material compatible with reductant or coated with appropriate anti-corrosion coating;
- .10 for the protection of crew members, the ship shall have on board suitable personnel protective equipment. Eyewash shall be provided, the location and number of eyewash stations shall be derived from the detailed installation arrangements;
- .11 urea storage tanks shall be arranged so that they can be emptied of urea and vented by means of portable or permanent systems."

12 VENTILATION SYSTEM

12 **Para 12.1.2** is supplemented by a new paragraph reading as follows:

"In ro-ro passenger ships, where a ventilation trunk passing through a structure penetrates a watertight area of the bulkhead deck, the trunk shall be capable of withstanding the water pressure that may be present within the trunk, after having taken into account the maximum heel angle during flooding."

13 **Para 12.1.7** is replaced by the following text:

"**12.1.7** The inlets and outlets of the ventilation systems shall be provided with closing appliances fitted with drives for closing them from positions outside these spaces. The closures shall be watertight in a closed position and the means of closing shall be easily accessible as well as prominently and permanently marked and shall indicate whether the shutoff is open or closed.

The ventilator heads of supply ducts and the air inlets of ventilation systems shall be so located that the risk of drawing in air contaminated by gas, oil vapours, etc., is minimized, and admission of sea water (including water splashing) into the ventilation ducts is precluded.

In icebreakers and ice class ships with ice strengthening precautions shall be taken to prevent admission of snow into the ventilation ducts. It is recommended to arrange the air intakes on both sides of the ship and to provide for heating arrangements."

14 **Para 12.7.1.** The last paragraph is replaced by the following text:

"The number of air changes may be reduced with regard to the method of transportation, provided that in cargo spaces with bulk cargo of Group B, IMO class MHB-SH, WF, WT, the inlet air shall not be supplied under the lower layer of the cargo (refer to Note 1 to Table 7.2.4-1, Part VI "Fire Protection")."

15 **Para 12.7.3** is supplemented by a new paragraph reading as follows:

"For bulk cargoes of IMO class MHB-SH, WF, WT, the inlet air shall not be directed through the cargo layer. The procedure for using ventilation to remove cargo vapours and gas/air mixtures shall comply with the requirements of Cargo Declaration."

16 **Para 12.7.7** is replaced by the following text:

"**12.7.7** During carriage of dust-forming goods capable of emitting vapours and/or gases producing explosive mixtures with air, dangerous goods in a package of subclasses 4.2 and 4.3, bulk cargoes of IMO class MHB-SH susceptible to ignition, provision shall be made for two fixed or portable fans of flameproof design with a total capacity sufficient to provide 6 air changes per hour."

15 WATER COOLING SYSTEM

17 **Para 15.6.1** is replaced by the following text:

"**15.6.1** Cooling systems fitted with keel sea coolers shall not be used in icebreakers and **Arc5 – Arc9** ice class ships (refer to Table 3.10.1.3.4, Part II "Hull").

Application of such cooling systems on **Arc4** ice class ships may be allowed if thickness of the used cooling ducts is not less than the side hull plating and the ship's speed is maintained in case of damage of any cooling duct."

PART X. BOILERS, HEAT EXCHANGERS AND PRESSURE VESSELS

3 BOILERS

18 **Para 3.3.6.4.** The first sentence is replaced by the following text:

"**3.3.6.4** In all cases the safety valve shall be so adjusted that at fully open position the pressure shall not exceed $1,1P_w$. The safety valves of steam boilers shall be adjusted at the following opening pressure:

$P_{op} \leq 1,05P_w$ for boilers with $P_w < 1\text{MPa}$;

$P_{op} \leq 1,03P_w$ for boilers with $P_w \geq 1\text{MPa}$.

When lifted, the safety valves of main and auxiliary boilers for essential services shall fully interrupt the outgoing steam flow in case of the pressure drop in the boiler not below 0,85 of the working pressure."

PART XVII. DISTINGUISHING MARKS AND DESCRIPTIVE NOTATIONS IN THE CLASS NOTATION SPECIFYING STRUCTURAL AND OPERATIONAL PARTICULARS OF SHIPS

11 REQUIREMENTS FOR LNG BUNKERING SHIPS

19 **Para 11.1.3.** The definition "LNG bunkering station" is replaced by the following text:

"LNG bunkering station means space fitted with the following equipment:
hoses and piping connections used for liquid and vapour return lines, including the isolation shut-off valves and the emergency shut-down valves;
automation and alarm systems;
drip tray with its draining arrangement and other arrangements and systems intended for the ship structure protection;
gas and LNG leak detection systems;
associated fire-fighting systems."

20 **Para 11.2.2.1** is replaced by the following text:

".1 risk analysis related to gas fuel bunkering operations and potential consequences of leakage according to the procedure agreed with the Register. The analysis shall consider risks of damage of hull structural members and failure of any equipment due to the accident related to gas fuel leakage. The results of risk analysis shall be included in the ship's Operating Manual. The risk analysis shall be carried out considering IACS recommendation No. 142."