



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 313-79-1477c

dated 02.12.2020

Re:

amendments to the Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk in connection with coming into force of IACS Unified Requirement (UR) G3 (Rev.7 Dec 2019)

Item(s) of supervision:
ships under construction

Entry-into-force date:
01.01.2021

~~Valid till:~~

~~Validity period extended till:~~

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

~~dated~~

Number of pages: 1+3

Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Part VI "Systems and Piping"

Director General

Konstantin G. Palnikov

Text of CL:

We hereby inform that the Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk, at their re-publication in 2021, 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, as well as interested persons and organizations 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 01.01.2021, in the absence of a contract, the keels of which are laid or which are at a similar stage of construction on or after 01.01.2021, as well as during survey of cargo piping fittings and cargo pumps requested on or after 01.01.2021.
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List of the amended and/or introduced paras/chapters/sections:

Part VI: paras 2.1.1, 2.1.5, 2.2.1.1, 2.2.2, 2.3.6, 8.1.6 and 12.1.1.1.1

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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 VI, para 2.1.1	A reference to another Part of the Rules has been specified	313-79-1477c of 02.12.2020	01.01.2021
2	Part VI, para 2.1.5	A new para with the requirements for selection of material for outer pipes and ducts of gas fuel system has been introduced considering IACS UR G3 (Rev.7 Dec 2019)	313-79-1477c of 02.12.2020	01.01.2021
3	Part VI, para 2.2.1.1	Requirements for design pressure of outer pipes and ducts of gas fuel system have been specified considering IACS UR G3 (Rev.7 Dec 2019)	313-79-1477c of 02.12.2020	01.01.2021
4	Part VI, para 2.2.2	Requirements for minimum pipe wall thickness system have been specified considering IACS UR G3 (Rev.7 Dec 2019)	313-79-1477c of 02.12.2020	01.01.2021
5	Part VI, para 2.3.6	Requirements for bellows have been specified considering IACS UR G3 (Rev.7 Dec 2019)	313-79-1477c of 02.12.2020	01.01.2021
6	Part VI, para 8.1.6	Requirements for ventilation exhaust ducts have been specified	313-79-1477c of 02.12.2020	01.01.2021
7	Part VI, para 12.1.1.1.1.1	Requirements for type tests of valves used at a working temperature above –55 °C have been specified	313-79-1477c of 02.12.2020	01.01.2021

RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SHIPS CARRYING LIQUEFIED GASES IN BULK, 2020,

ND No. 2-020101-131-E

PART VI. SYSTEMS AND PIPING

2 PIPING

1 **Para 2.1.1** is replaced by the following text:

"**2.1.1** The piping and valves used at a working temperature from 0 to –165 °C shall be made of the materials mentioned in Table 2.1-4, Part IX "Materials and Welding". The choice and testing of materials used in piping systems shall comply with the requirements of Section 2, Part IX "Materials and Welding", taking into account the minimum design temperature. However, some relaxation may be permitted in the quality of material of open-ended vent piping, provided that the temperature of the cargo at the pressure relief valve (PRV) setting is not lower than –55 °C, and that no liquid discharge to the vent piping can occur. Similar relaxations may be permitted under the same temperature conditions to open-ended piping inside cargo tanks, excluding discharge piping and all piping inside membrane and semi-membrane tanks."

2 A **new para 2.1.5** is introduced reading as follows:

"**2.1.5** For an outer pipe or duct equipped with mechanical exhaust ventilation having a capacity of at least 30 air changes per hour, the effects of both pressure and possible low temperature in the event of a high pressure line failure shall be taken into account."

3 **Para 2.2.1.1** is replaced by the following text:

"**2.2.1.1** p (design pressure) is the maximum pressure, to which the system may be subjected in service.

The greater of the following design conditions shall be used for piping, piping systems and components, based on the cargoes being carried:

for vapour piping systems or components that may be separated from their relief valves and which may contain some liquid, the saturated vapour pressure at a design temperature of 45 °C. Higher or lower values may be used (refer to 13.2, Part IV "Cargo Containment"); or

for systems or components that may be separated from their relief valves and which contain only vapour at all times, the superheated vapour pressure at 45 °C. Higher or lower values may be used (refer to 13.2, Part IV "Cargo Containment"), assuming an initial condition of saturated vapour in the system at the system operating pressure and temperature; or

the MARVS of the cargo tanks and cargo processing systems; or

the pressure setting of the associated pump or compressor discharge relief valve; or

the maximum total discharge or loading head of the cargo piping system; or

the relief valve setting on a pipeline system.

In any case, the design pressure p is not to be less than 1 MPa except for open-ended lines where it is to be not less than 0,5 MPa or 10 times that of the relief valve setting.

Those parts of the liquid piping systems that may be subjected to surge pressures shall be designed to withstand this pressure.

The design pressure of the outer pipe or duct of gas fuel systems shall not be less than the maximum working pressure of the inner gas pipe. Alternatively, for gas fuel piping systems with a working pressure greater than 1 MPa, the design pressure of the outer duct shall not be less

than the maximum built-up pressure arising in the annular space considering the local instantaneous peak pressure in way of any rupture and the ventilation arrangements."

4 **Para 2.2.2** is replaced by the following text:

"2.2.2 The minimum pipe wall thickness is to be taken in accordance with Table 2.3.8, Part VIII "Systems and Piping" of the Rules for the Classification or standards agreed with the Register.

Where necessary for mechanical strength to prevent damage of pipes resulted from excessive sag due to superimposed loads from supports, ship deflection or other causes, the wall thickness is to be increased over that required by 2.2.1. If this is impracticable or would cause excessive local stresses, these loads are to be reduced or eliminated completely by other design methods.

Such superimposed loads may be due to: supporting structures, ship deflections, liquid pressure surge during transfer operations, the weight of suspended valves, reaction to loading arm connections, or otherwise."

5 **Para 2.3.6** is supplemented with the following text:

"The design and installation of expansion bellows shall be in accordance with recognized standard, and they shall be fitted with means to prevent damage due to over-extension or compression."

8 VENTILATION SYSTEM

6 **Para 8.1.6** is replaced by the following text:

"8.1.6 Ventilation exhaust ducts from gas-dangerous spaces shall discharge upwards. The outlets shall be located in an open area which, in the absence of the considered outlet, would be of the same or lesser hazard than the ventilated space and they shall be located at least 10 m in the horizontal direction from ventilation intakes and openings to accommodation spaces, service spaces, control stations and other gas-safe spaces."

12 TESTING

7 **Para 12.1.1.1.1.1**. The last paragraph of the para is deleted.