RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER **No. 313-13-1531c** dated 24.03.2021

Re:

amendments to the Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk, 2021, ND No. 2-020101-140-E

Item(s) of supervision:

ships under construction

Entry-into-force date: ~~Valid till:~~ ~~Validity period extended till:~~
01.05.2021

~~Cancels / amends /~~ adds Circular Letter No. 313-14-1424c dated 04.08.2020

Number of pages: 1 + 7

Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Part I "Classification", II "Ship Arrangement", VI "Systems and Piping", X "Special Requirements" and Appendix 1

Director General Konstantin G. Palnikov

Text of CL:

We hereby inform that Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk 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 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 technical documentation on ships contracted for construction or conversion on or after 01.05.2021, in the absence of a contract, on ships the keels of which are laid or which are at a similar stage of construction on or after 01.05.2021.

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

Part I: para 1.2.1;

Part II: paras 1.5 - 1.7, 1.20 and 1.21;

Part VI: para 10.1;

Para X: Sections 6 and 7, para 15.5.1 and para 29;

Appendix 1

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"Thesis" System No. 21-47701

Appendix 1 to Circular Letter
No. 313-13-1531c dated 24.03.2021

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 1.2.1	A new definition "Separate systems" has been introduced considering the provisions of the International Code of the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code)	313-13-1531c of 24.03.2021	01.05.2021
2	Part II, para 1.5	Requirements for the location of accommodation spaces, service spaces and control stations, as well as entrances, air intakes and other openings thereto have been specified considering the provisions of the IGC Code	313-13-1531c of 24.03.2021	
3	Part II, para 1.6	Requirements for access from open weather deck to non-hazardous areas have been specified considering the provisions of the IGC Code	313-13-1531c of 24.03.2021	01.05.2021
4	Part II, paras 1.7	Requirements for number of access/egress means to/from turret compartments have been specified considering the provisions of the IGC Code	313-13-1531c of 24.03.2021	01.05.2021
5	Part II, para 1.20	Requirements for airlocks have been specified considering the provisions of the IGC Code	313-13-1531c of 24.03.2021	01.05.2021

Nos.	Amended paras/chapters/sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
6	Part II, para 1.21	Requirements for access between non-hazardous and hazardous area have been specified considering the provisions of the IGC Code	313-13-1531c of 24.03.2021	01.05.2021
7	Part VI, para 10.1	Requirements for cargo control rooms have been specified considering the provisions of the IGC Code	313-13-1531c of 24.03.2021	01.05.2021
8	Part X, Section 6	Section has been revised; requirements for separate systems of piping have been specified considering the provisions of the IGC Code	313-13-1531c of 24.03.2021	01.05.2021
9	Part X, Section 7	Section has been revised considering the provisions of the IGC Code	313-13-1531c of 24.03.2021	01.05.2021
10	Part X, para 15.5.1	Requirements for the space intended for personnel protection against major cargo release have been specified considering the provisions of the IGC Code	313-13-1531c of 24.03.2021	01.05.2021
11	Part X, Section 29	A new Section has been introduced considering the provisions of the IGC Code	313-13-1531c of 24.03.2021	01.05.2021
12	Appendix 1, Explanatory note 10	Description of column 10 has been specified	313-13-1531c of 24.03.2021	01.05.2021
13	Appendix 1, Table of Technical Requirements	References of column 10 have been specified	313-13-1531c of 24.03.2021	01.05.2021

RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SHIPS CARRYNG LIQUEFIED GASES IN BULK, 2021

ND 2-020101-140-E

PART I. CLASSIFICATION

1 GENERAL

1 **Para 1.2.1**. After the definition "Insulation space", a new definition is introduced reading as follows:

"Separate systems are those cargo piping and vent systems that are not permanently connected to each other.".

PART II. SHIP ARRANGEMENT

1 GENERAL

2 **Para 1.5**. The text of the requirements of **existing paras 1.5 — 1.7** is replaced by the following text:

"**1.5 Accommodation, service and machinery spaces and control stations.**

1.5.1 No accommodation space, service space or control station shall be located within the cargo area. The bulkhead of accommodation spaces, service spaces or control stations that face the cargo area shall be so located as to avoid the entry of gas from the hold space to such spaces through a single failure of a deck or bulkhead on a ship having a containment system requiring a secondary barrier.

1.5.2 Entrances, air inlets and openings to accommodation spaces, service spaces, machinery spaces and control stations shall not face the cargo area. They shall be located on the end bulkhead not facing the cargo area or on the outboard side of the superstructure or deckhouse or on both at a distance of at least 4 % of the length (*L*) of the ship but not less than 3 m from the end of the superstructure or deckhouse facing the cargo area. This distance, however, need not exceed 5 m.

1.5.3 Windows and sidescuttles facing the cargo area and on the sides of the superstructures or deckhouses within the distance mentioned above shall be of the fixed (non-opening) type. Wheelhouse windows may be non-fixed and wheelhouse doors may be located within the above limits so long as they are designed in a manner that a rapid and efficient gas and vapour tightening of the wheelhouse can be ensured.

1.5.4 For ships dedicated to the carriage of cargoes that have neither flammable nor toxic hazards, the Register may approve relaxations from the above requirements.

1.5.5 Accesses to forecastle spaces containing sources of ignition may be permitted through a single door facing the cargo area, provided the doors are located outside hazardous areas as defined in 1.2.1, Part VII "Electrical Equipment".

1.5.6 Windows and sidescuttles facing the cargo area and on the sides of the superstructures and deckhouses shall comply with the requirements of 2.1.1, Part V "Fire Protection".

1.5.7 All air intakes, outlets and other openings into the accommodation spaces, service spaces and control stations shall be fitted with closing devices. When carrying toxic products, they shall be capable of being operated from inside the space. The requirement for fitting air

intakes and openings with closing devices operated from inside the space for toxic products need not apply to spaces not normally manned, such as deck stores, forecastle stores, workshops. In addition, the requirement does not apply to cargo control rooms located within the cargo area.

1.5.8 Control rooms and machinery spaces of turret systems may be located in the cargo area forward or aft of cargo tanks in ships with such installations. Access to such spaces containing sources of ignition may be permitted through doors facing the cargo area, provided the doors are located outside hazardous areas or access is through airlocks.".

3 **Para 1.6** is replaced by the following text:

"**1.6** Access from the open weather deck to non-hazardous areas shall be located outside the hazardous areas as defined in 1.2.1, Part VII "Electrical Equipment", unless the access is by means of an airlock in accordance with 1.20.".

4 **Para 1.7** is replaced by the following text:

"**1.7** Turret compartments shall be arranged with two independent means of access/egress.".

5 **Para 1.20** is replaced by the following text:

"**1.20** Access between hazardous area on the open weather deck and non-hazardous spaces shall be by means of an airlock. This shall consist of two self-closing, substantially gastight, steel doors, capable of maintaining the overpressure, at least 1,5 m but no more than 2,5 m apart. The airlock door sill shall not be less than 300 mm in height.

The airlock space shall be artificially ventilated from a non-hazardous area and maintained at an overpressure to the hazardous area on the weather deck.

Requirements for alarm, electrical equipment, ventilation and cargo vapours monitoring are specified in 8.3.3, Part VI "Systems and Piping", in Part VII "Electrical Equipment" and in Section 6, Part VIII "Instrumentation and Automation".

For the purpose of these Rules, watertight doors may be considered gastight.".

6 **Para 1.21** is replaced by the following text:

"**1.21** Access through doors, gastight or otherwise, shall not be permitted from a non-hazardous area to a hazardous area except for access to service spaces forward of the cargo area through airlocks, as provided in 1.20, when accommodation spaces are aft.".

PART VI. SYSTEMS AND PIPING

10 CARGO CONTROL ROOMS

7 **Part 10.1** is replaced by the following text:

"**10.1** Any cargo control room shall be above the weather deck and may be located in the cargo area. The cargo control room may be located within the accommodation spaces, service spaces or control stations, provided the following conditions are complied with:

.1 the cargo control room is considered a gas-safe space;

.2 if the entrance complies with the requirements of 1.5.2, Part II "Ship Arrangement" and 8.3.1 of this Part, the control room may have access to the spaces described above; and

.3 if the entrance does not comply with 1.5.2, Part II "Ship Arrangement", the cargo control room shall have no access to the spaces described above, air inlets and openings shall comply with 1.5.7 and 1.12, Part II "Ship Arrangement" and 8.3.1 of this Part, the boundaries for such spaces shall be insulated to "A-60" class.".

PART X. SPECIAL REQUIREMENTS

8 **Section 6** is replaced by the following text:

"6 SEPARATE PIPING SYSTEMS

6.1 Separate piping systems shall be provided in accordance with the definition in 1.2.1, Part I "Classification".".

9 **Section 7** is replaced by the following text:

"7 CARGOES REQUIRING TYPE 1G SHIP

7.1 All butt-welded joints in cargo piping exceeding 75 mm in diameter shall be subject to 100 % radiography.

7.2 Gas sampling lines shall not be led into or through non-hazardous areas. Alarms referred to in 6.3, Part VIII "Instrumentation and Automation Systems" shall be activated when the vapour concentration reaches the threshold limiting value.

7.3 The alternative of using portable gas detection equipment in accordance with 6.10, Part VIII "Instrumentation and Automation Systems" shall not be permitted.

7.4 Cargo control rooms shall be located in a gas-safe space and, additionally, all instrumentation shall be of the indirect type.

7.5 Personnel shall be protected against the effects of a major cargo release by the provision of a space within the accommodation area that is designed and equipped to the satisfaction of the Register.

7.6 Notwithstanding the requirements of 1.5.4, Part II "Ship Arrangement", access to forecastle spaces shall not be permitted through a door facing the cargo area, unless airlock in accordance with 1.20, Part II "Ship Arrangement" is provided.

7.7 Notwithstanding the requirements of 1.5.8, Part II "Ship Arrangement", access to control rooms and machinery spaces of turret systems shall not be permitted through doors facing the cargo area.".

15 CHLORINE

10 **Para 15.5.1** is replaced by the following text:

"**15.5.1** The enclosed space required by 7.5 shall meet the following requirements:

.1 the space shall be easily and quickly accessible from the weather decks and from accommodation spaces by means of air locks, and shall be capable of being rapidly closed gastight;

.2 one of the decontamination showers required by 2.2 shall be located near the weather deck airlock to the space;

.3 the space shall be designed to accommodate the entire crew of the ship and be provided with a source of uncontaminated air for a period of not less than 4 h; and

.4 one set of oxygen therapy equipment shall be carried in the space.".

11 **Part X** is supplemented with the **new Section 29** reading as follows:

"29 CARGO PUMPS AND DISCHARGE ARRANGEMENTS

29.1 The vapour space of cargo tanks equipped with submerged electric motor pumps shall be inerted to a positive pressure prior to loading, during carriage and during unloading of flammable liquids.

29.2 The cargo shall be discharged only by deepwell pumps or by hydraulically operated submerged pumps. These pumps shall be of a type designed to avoid liquid pressure against the shaft gland.

29.3 Inert gas displacement may be used for discharging cargo from type C independent tanks, provided the cargo system is designed for the expected pressure.".

12 **Explanatory note 10** to the Table of Technical Requirements is replaced by the following text:

"**10.** Special requirements (column 10), unless otherwise specified, see chapters and sections of Part X "Special Requirements".".

13 **Table of Technical Requirements** is replaced by the following text:

"

Product name	Chemical formula	Density (kg/m^3) at temperature in brackets	Ship type	Type C independent tank required	System for control of vapour space within cargo tanks	Cargo vapour detection system	Gauge type	MFAG table No.	Special requirements
Acetaldehyde	CH_3CHO	780 (20,8 °C)	2G/2PG	–	Inert	F+T	C	300	2.1, 4.7.1 of Part V, 5.1, Section 8
Ammonia Anhydrous	NH_3	771 (–33,4 °C)	2G/2PG	–	–	T	C	725	Section 2, Section 3, Section 19
Butadiene	$CH_2CHCHCH_2$	646 (0 °C)	2G/2PG	–	–	F+T	R	310	Section 2, 3.2, 5.2, 5.3, Section 8, Section 10
Butane	C_4H_{10}	600 (0 °C)	2G/2PG	–	–	F	R	310	
Butane/Propane mixture (LPG)	–	–	2G/2PG	–	–	F	R	310	
Butylenes	$CH_3CH_2CHCH_2$	670 (0 °C)	2G/2PG	–	–	F	R	310	
Chlorine	Cl_2	1560 (–34 °C)	1G	Yes	Dry	T	I	740	Section 2, 4.2, 5.1, Section 7, Section 9, Section 15, Section 22
Diethyl Ether*	$(C_2H_5)_2O$	640 (34,6 °C)	2G/2PG	–	Inert	F+T	C	330	2.1, 3.6, 4.1, Section 8, Section 22, Section 23, 29.2, 29.3
Dimethylamine	$(CH_3)_2NH$	680 (0 °C)	2G/2PG	–	–	F+T	C	320	Section 2, Section 3
Ethane	CH_3CH_3	550 (–88 °C)	2G	–	–	F	R	310	
Ethyle Cloride	CH_3CH_2Cl	921 (0 °C)	2G/2PG	–	–	F+T	R	340	
Ethylene	C_2H_4	560 (–104 °C)	2G	–	–	F	R	310	
Ethylene Oxide	CH_2CH_2O	882 (10°C)	1G	Yes	Inert	F+T	C	365	Section 2, 3.2, 4.2, 5.1, Section 7 Section 8, Section 12
Ethylene Oxide/Propylene Oxide mixture with Ethylene Oxide content of not more than 30 % by weight*	–	–	2G/2PG	–	Inert	F+T	C	365	2.1, 4.1, 5.1, Section 8, Section 18, Section 22, Section 23
Isoprene*	$CH_2CHC(CH_3)CH_2$	680 (34 °C)	2G/2PG	–	–	F	R	310	2.1, Section 10, Section 22, 29.1
Isopropylamine*	$(CH_3)_2CHNH_2$	710 (34 °C)	2G/2PG	–	–	F+T	C	320	2.1, 3.4, Section 6, Section 22, Section 23, 29.1
Methane (LNG)	CH_4	420 (–164 °C)	2G	–	–	F	C	620	
Methylacetylene/ Propadiene mixture			2G/2PG	–	–	F	R	310	Section 13
Methyl Bromide	CH_3Br	1730 (0 °C)	1G	Yes	–	B+T	C	345	Section 2, 3.3, 4.2, 5.1, Section 7
Methyl Chloride	CH_3Cl	920	2G/2PG	–	–	F+T	C	340	3.3

Product name	Chemical formula	Density (kg/m^3) at temperature in brackets	Ship type	Type C independent tank required	System for control of vapour space within cargo tanks	Cargo vapour detection system	Gauge type	MFAG table No.	Special requirements
Monoethylamine* (Ethylamine)	$C_2H_5NH_2$	706 (0 °C)	2G/2PG	–	–	F+T	C	320	Section. 2, Section 3, 4.1, Section 6, Section 22, Section 23, 29.1
Nitrogen	N_2	808 (–196 °C)	3G	–	–	O	C	620	Section 14
Pentanes (all isomers)*	$CH_3(CH_2)_3CH_3$	626 (0 °C)	2G/2PG	–	–	F	R	310	Section 22, Section 29
Pentene (all isomers)*			2G/2PG	–	–	F	R	310	Section 22, Section 29
Propane	$CH_3CH_2CH_3$	590 (–42,3 °C)	2G/2PG	–	–	F	R	310	
Propylene	CH_3CHCH_2	860	2G/2PG	–	–	F	R	310	
Propylene Oxide*	CH_3CHOCH_2	830	2G/2PG	–	Inert	F+T	C	365	2.1, 4.1, 5.1, Section 8, Section 18, Section 22, Section 23
Refrigerant gases:			3G	–	–	–	R	350	
Dichlodifluoromethane	CCl_2F_2	1490 (–30 °C)							
Dichloromonofluoromethane	$CHFCl_2$	1480 (8,9 °C)							
Dichlorotetrafluoroethane	$C_2F_4Cl_2$	1510 (3,8 °C)							
Monochlorodifluoromethane	$CHClF_2$	1420 (–42 °C)							
Monochlorotetrafluoroethane	C_2HF_4Cl								
Monochlorotrifluoromethane	CF_3Cl	1520 (–81,4 °C)							
Sulphur Dioxide	SO_2	1460 (–10 °C)	1G	Yes	Dry	T	C	635	Section 2, 4.2, 5.1, Section 7, Section 9
Vinyl Chloride*	CH_2CHCl	970 (–13,9 °C)	2G/2PG	–	–	F+T	C	340	2.1, 3.2, 3.3, 4.1, Section 8, Section 16
Vinyl Ethyl Ether	$CH_2CHOC_2H_5$	755	2G/2PG	–	Inert	F+T	C	330	2.1, 3.2, 4.1, Section 8, Section 10, Section 22, Section 23, 29.2, 29.3
Vinylidene Chloride*	$C_2H_2Cl_2$	1250	2G/2PG	–	Inert	+T	П	340	2.1, 3.5, Section 8, Section 10, Section 22, Section 23
Dimethyl Ether	C_2H_6O	1,716	2G/2PG	–	–	F+T	C	–	
Mixed Cargoes C_4	–		2G/2PG	–	–	F+T	C	–	Section 2, 3.2, 5.2, 5.3, Section 8, Section 26
Carbon dioxide (high purity)	CO_2	771	3G	–	–	O	C	–	Section 27
Carbon dioxide (low purity)	CO_2	771	3G	–	–	O	C	–	Section 28

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