



# RUSSIAN MARITIME REGISTER OF SHIPPING

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**CIRCULAR LETTER**

**No. 312-09-1799c**

dated 01.08.2022

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Re:

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

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Item(s) of supervision:

ships under construction, ships in service

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Entry-into-force date:

**01.09.2022**

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Cancel / amends / adds Circular Letter No.

dated

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Number of pages: 1 + 7

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Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Part I "Classification" and Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships" of the Rules for the Classification and Construction of Sea-Going Ships

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Director General

Konstantin G. Palnikov

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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.

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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 of conversion on or after 01.09.2022, in the absence of a contract, during review and approval of the technical documentation on ships requested for review on or after 01.09.2022.
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List of the amended and/or introduced paras/chapters/sections:

Part I: para 1.1.1, Table 2.5

Part XVII: Section 25

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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 1.1.1               | New definition "Deck carrier" has been introduced. Definition "Docklift ship" has been replaced by the definition "Semi-submersible ship (docklift ship)"   | 312-09-1799c of 01.08.2022             | 01.09.2022            |
| 2    | Part I, Table 2.5                | In item 1.18, descriptive notations <b>Deck carrier</b> , <b>Heavy cargo carrier</b> and <b>Semi-submersible (Docklift) ship</b> have been introduced. Descriptive notation <b>Docklift ship</b> has been deleted | 312-09-1799c of 01.08.2022             | 01.09.2022            |
| 3    | Part XVII, Section 25            | New Section has been introduced containing additional requirements for semi-submersible (docklift) ships and ships carrying heavy and/or bulky cargoes  | 312-09-1799c of 01.08.2022             | 01.09.2022            |

## RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SEA-GOING SHIPS, 2022,

### ND No. 2-020101-152-E

#### PART I. CLASSIFICATION

##### 1 GENERAL

1 **Para 1.1.1.** After the definition "Anchor handling vessel", the definition "Deck carrier" is introduced reading as follows:

"Deck carrier is a ship designed for the carriage of general cargoes on the open deck."

2 Definition "Docklift ship" is replaced by the definition "Semi-submersible ship (docklift ship)" reading as follows:

"Semi-submersible ship (Docklift ship) is a dry cargo ship designed for the carriage of heavy and/or bulky cargoes for loading/unloading of which the docking method (FLO/FLO - float-on/float-off) is used."

##### 2 CLASS OF A SHIP

3 **Table 2.5.** In **item 1.18**, before the descriptive notation **Docklift ship** the descriptive notation **Deck carrier** is introduced reading as follows:

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| <b>Deck carrier</b><br>The descriptive notation is assigned to ships designed for the carriage of general cargoes on the open deck. Assigning only a descriptive notation <b>Heavy cargo carrier (Deck-t/m<sup>2</sup>)</b> may be sufficient for a ship designed for the carriage of heavy and/or bulky cargoes on the open deck provided the applicable RS requirements are met | <b>Rules for the Classification and Construction of Sea-Going Ships</b><br>Part I "Classification", 1.1.1<br>Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 25 (as applicable) |
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4 **Table 2.5.** In **item 1.18**, the descriptive notation **Docklift ship** is deleted.

5 **Table 2.5.** In **item 1.18**, before the descriptive notation **Hopper barge** the descriptive notation **Heavy cargo carrier** is introduced reading as follows:

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| <b>Heavy cargo carrier</b><br>The descriptive notation is assigned to ships designed for the carriage of heavy and/or bulky cargoes on deck, hatch covers of cargo holds and/or in cargo holds.<br>Depending on the method of cargo carriage, the following distinguishing marks are added in brackets:<br>on deck — <b>(Deck)</b> ;<br>on hatch covers of cargo holds — <b>(Hatch cover)</b> ; | <b>Rules for the Classification and Construction of Sea-Going Ships</b><br>Part I "Classification", 1.1.1<br>Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 25 |
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| <p>in cargo holds — <b>(Hold)</b>.<br/> For distinguishing marks in brackets, the design uniformly distributed static load acting on the relevant structure, in t/m<sup>2</sup>, shall be additionally indicated, for example: <b>(Deck-15 t/m<sup>2</sup>)</b>.<br/> Combinations of distinguishing marks may be concatenated within one pair of brackets.<br/> At the shipowner's discretion, for ships intended for the carriage of project (non-standard) heavy cargoes, the descriptive notation <b>Project</b> may be added before the descriptive notation <b>Heavy cargo</b></p> |  |
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6 **Table 2.5.** In **item 1.18**, before the descriptive notation **Shipborne barge** the descriptive notation **Semi-submersible ship** is introduced reading as follows:

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| <p><b>Semi-submersible (Docklift) ship</b><br/> The descriptive notation is assigned to semi-submersible (docklift) ships designed for the carriage of heavy and/or bulky cargoes, for loading and unloading of which the docking method (FLO/FLO - Float-on/Float-off) is used.<br/> The descriptive notation <b>Heavy cargo carrier (Deck - t/m<sup>2</sup>)</b> is a mandatory for ships carrying heavy and/or bulky cargoes.<br/> From 1 September 2022, the exclusive descriptive notation <b>Semi - submersible ship</b> is added</p> | <p><b>Rules for the Classification and Construction of Sea-Going Ships</b><br/> Part I "Classification", 1.1.1<br/> Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 25</p> |
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## PART XVII. DISTINGUISHING MARKS AND DESCRIPTIVE NOTATIONS IN THE CLASS NOTATION SPECIFYING STRUCTURAL AND OPERATIONAL PARTICULARS OF SHIPS

7 **New Section 25** is introduced reading as follows:

### "25 ADDITIONAL REQUIREMENTS FOR SEMI-SUBMERSIBLE (DOCKLIFT) SHIPS AND SHIPS CARRYING HEAVY AND/OR BULKY CARGOS

#### 25.1 GENERAL PROVISIONS AND SCOPE OF APPLICATION

**25.1.1** Provisions of this Section cover semi-submersible (docklift) ships as well as ships carrying heavy and/or bulky cargoes.

**25.1.2** The descriptive notation **Heavy cargo carrier** may be added to the character of classification of ships designed for the carriage of heavy, bulky cargoes. Depending on the method of cargo carriage, the following distinguishing marks are added in brackets after the descriptive notation:

- on deck — **(Deck)**;
- on hatch covers of cargo holds — **(Hatch cover)**;
- in cargo holds — **(Hold)**.

For distinguishing marks in brackets, the design uniformly distributed static load for the relevant structure, in t/m<sup>2</sup>, shall be additionally indicated.

Distinguishing marks specifying method of cargo carriage may be concatenated within one pair of brackets, for example: **(Deck-t/m<sup>2</sup>, Hold-t/m<sup>2</sup>)**.

At the request of the shipowner, the descriptive notation **Project** may be added before the descriptive notation **Heavy cargo carrier** for ships intended for the carriage of project (non-standard) heavy cargoes.

**25.1.3** The descriptive notation **Heavy cargo carrier (Deck-t/m<sup>2</sup>)** is mandatory for semi-submersible (docklift) ships with descriptive notation **Semi-submersible (Docklift) ship**.

**25.1.4** Descriptive notation **Heavy cargo carrier** or **Heavy cargo carrier Semi-submersible (Docklift) ship** may be assigned to ships provided the applicable provisions of this Section as well as applicable provisions of these Rules are met.

**25.1.5** For semi-submersible (docklift) ships, requirements of the Flag State Maritime Administration (if any) shall be taken into account, including agreement on the necessity of drawing up and issuing an exemption certificate for the load line in accordance with the International Convention on Load Lines (request to MA is needed only for ships covered by the provisions of the International Convention on Load Lines).

## **25.2 DEFINITIONS**

**25.2.1** Definitions of terms used in this Section are given in the relevant Parts of these Rules.

## **25.3 TECHNICAL DOCUMENTATION**

**25.3.1** In addition to the documentation listed in Section 3 of Part I "Classification", the following documentation shall be submitted to the Register to assess fulfilment of provisions of this Section:

**.1** Cargo Securing Manual (A) developed in compliance with IMO resolution A.714(17) as amended by IMO circulars MSC/Circ.664, MSC/Circ.691, MSC/Circ.740, MSC/Circ.812, MSC/Circ.1026, MSC.1/Circ.1352, MSC.1/Circ.1352/Rev.1;

**.2** only for semi-submersible (docklift) ships:  
power supply and control system diagrams of the ballast system;  
description of the draught gauging system;  
description of the ballast tanks level gauging system.

## **25.4 TECHNICAL REQUIREMENTS**

In addition to the applicable requirements of these Rules, semi-submersible (docklift) ships and ships designed for the carriage of heavy/bulky cargoes shall meet the requirements of this Section.

**25.4.1 Hull structure of ships designed for the carriage of heavy/bulky cargoes.**

**25.4.1.1** The hull structure and strength of ships designed for the carriage of heavy/bulky cargoes shall meet the requirements of Part II "Hull".

**25.4.1.2** When calculating strength as regards the requirement of 1.3.4 in Part II "Hull", the minimum recommended design load on deck shall be  $5 \text{ t/m}^2$  (the product of cargo density and applicable design cargo height).

**25.4.1.3** The design load on hull structures of a ship carrying heavy/bulky cargoes shall be specified in the ship's technical documentation.

**25.4.1.4** When calculating strength of ro-ro ships as regards the requirement of 3.2.3.9 in Part II "Hull", the value ( $pc + pd$ ) shall not be less than  $6,3 \text{ kPa}$  ( $0,64 \text{ t/m}^2$ ).

**25.4.1.5** When calculating strength of deck framing members, it is necessary to consider the requirement of 3.6.5.5 in Part II "Hull".

**25.4.2 Hull structure of semi-submersible (docklift) ships.**

The hull structure of semi-submersible (docklift) ships shall comply with the applicable requirements of 3.6 and 3.12 in Part II "Hull".

**25.4.3 Stability of semi-submersible (docklift) ships.**

**25.4.3.1** Loading conditions.

**.1** The stability in maximum submerged condition shall be checked under the following loading conditions:

without cargo on the deck;

with cargo on the deck.

**.2** The stability of semi-submersible (docklift) ships shall be checked during submersion and emersion. This check shall be performed for such a number of intermediate stages that allows to confirm the safety of ship.

**.3** Buoyancy of deck cargo shall be taken into account during the check.

#### **25.4.3.2 Stability criteria.**

Trim and stability of the ship shall comply with the following criteria:

- .1 corrected initial metacentric height shall be not less than 0,3 m;
- .2 extent of positive part of righting lever curve shall be not less than 15°;
- .3 maximum righting lever shall be not less than 0,1 m within 15° from static heeling angle;
- .4 angle where the maximum of righting level curve  $\theta_{max}$  occurs shall be not less than 10°;
- .5 distance from the waterline to openings without watertight closures through which the ship may be flooded, shall be not less than 1 m or such that angle of down-flooding is not less than 5°, whichever is the greater.

#### **25.4.4 Subdivision of semi-submersible (docklift) ships.**

**25.4.4.1** Subdivision is considered to be in compliance with the requirements of this Part if in case of damage to the extent specified in 2.2 and 2.3 of Part V "Subdivision", located between any adjacent watertight bulkheads, damage trim and stability comply with the criteria given in 2.4 of Part V "Subdivision".

**25.4.4.2** The following extent of side damage shall be assumed when performing damage trim and stability calculations:

- .1 longitudinal extent: 5 m;
- .2 transverse extent measured inboard of ship side perpendicular to the centreline: 0,76 m;
- .3 vertical extent: from open deck upwards without limit.

**25.4.4.3** The following extent of open deck damage shall be assumed when performing damage trim and stability calculations:

- .1 longitudinal extent: 5 m;
- .2 transverse extent: 5 m;
- .3 vertical extent: 0,76 m.

#### **25.4.4.4 Damage trim and stability criteria.**

- .1 damage waterline in the final stage of flooding shall be below any opening without watertight closures through which progressive flooding may take place;
- .2 static heeling angle shall not exceed 15°;
- .3 extent of positive part of righting lever curve shall be not less than 7°;
- .4 maximum righting lever shall be not less than 0,05 m within the positive portion of the curve.

#### **25.4.5 Reserve buoyancy of semi-submersible (docklift) ships.**

**25.4.5.1** The watertight ship's volume above the waterline shall be not less than 4,5 % of its total volume.

The watertight volume of the fore end and aft end structures above the waterline considered separately shall be not less than 1,5 % of the total ship's volume.

**25.4.5.2** The criterion given in 25.4.5.1 may be dispensed with in the case if, in the event of flooding of any one watertight compartments, the following criteria are met:

- .1 heeling angle in the final stage of flooding does not exceed 25°;
- .2 all submersed openings are fitted with watertight closures;
- .3 extent of positive part of righting lever curve shall be not less than 7°.

#### **25.4.6 Ship's arrangements.**

Closures of semi-submergible (docklift) ships:

.1 on no account shall the side scuttles be fitted in the outer wall sides of semi-submersible (docklift) ships so that their sills are below the margin line. In the boundary bulkheads of the semi-submersible (docklift) ships installation of the side scuttles is not permitted;

.2 in the sides of the semi-submersible (docklift) ships the side scuttles, the sills of which are above the margin line by less than 300 mm or 0,025 times the ship's breadth, whichever is the greater, shall be of heavy type, fitted with hinged inside deadlights, and of non-opening type;

.3 openings that may be flooded during submersion shall be fitted with watertight closures and have strength equal to that of the bulkhead where they are installed. Watertightness shall be ensured by two independent means to maintain the watertight integrity if one of means fails.

The fitting of an inner door or hatch of equivalent strength and watertightness is an acceptable arrangement. A leakage detection device shall be provided in the compartment

between two doors. Drainage of this compartment controlled by a readily accessible shut-off valve shall be arranged. The outer door shall open outwards.

Closures may be weathertight if they have a distance above the final submersion waterline of not less than 1 m or at a distance corresponding to a heeling angle of 5 degrees, whichever is greater.

Openings which shall remain open during submersion, such as the engine room air intakes, shall be fitted with remote operated quick-closing appliances.

#### **25.4.7 Machinery installations.**

Semi-submersible (docklift) ships shall comply with the requirements set out in 3.2.9, 3.3.4 of Part VII "Machinery Installations".

#### **25.4.8 Systems and piping.**

##### **25.4.8.1 Ballast control and monitoring systems for semi-submersible (docklift) ships.**

###### **.1 General.**

**.1.1** Provisions shall be made for a central ballast control station containing all means necessary to perform submersion/emersion operations. The central ballast control station shall be located above the maximum submerged draught and in a space not within the assumed extent of damage.

**.1.2** Any equipment on the hull and submitted to the sea pressure shall withstand the pressure due to the maximum submerged draught.

**.1.3** Ballast tanks used for cargo handling operations shall be equipped with two independent remote level gauging systems that shall ensure continuous level measurement in each tank.

###### **.2 Ballast system.**

**.2.1** The Failure Mode and Effect Analysis (FMEA) shall be performed regarding the ballast system, including its control and monitoring systems.

###### **.2.2 Failure modes.**

The ballast system shall be so designed as to comply with the safety principles specified in 25.4.8.1.2.4 in the following operation modes:

normal conditions, refer to 25.4.8.1.2.3.1;

degraded conditions, refer to 25.4.8.1.2.3.2;

emergency conditions, refer to 25.4.8.1.2.3.3.

###### **.2.3 Operation modes.**

###### **.2.3.1 Normal ballast functions.**

The normal ballast functions mode means the operation of system for the intended purpose with design parameters, functioning of control and monitoring systems allowing to perform ballasting of ship regarding submersion/emersion operations.

###### **.2.3.2 Degraded (faulty) ballast functions.**

The degraded ballast functions mode is operation of the ballast system together with control and monitoring systems in case of a single failure on any active component of these systems as specified in 25.4.8.1.2.4. System functions that shall remain available in conditions of degraded functions shall be specified by the shipowner during FMEA.

###### **.2.3.3 Emergency ballast functions.**

The emergency ballast functions mode is operation of the system by using those components of the ballast system, control and monitoring systems that remain available and continue their functioning in case of main power source failure. System functions that shall remain available in emergency conditions shall be specified by the shipowner during FMEA.

###### **.2.3.4 Active component of the system.**

Active component of the system means any component of the ballast system, control and monitoring systems which is not a pipe, an electrical cable, a manually controlled valve or a tank. Active components include the machinery items (pumps, remote controlled valves, filters, etc.) and the control system items (gauges, sensors, switchboards).

###### **.2.4 Safety principles.**

**.2.4.1** Any single failure on an active component in the ballast system shall not lead to unintended flooding of any compartment or to a situation where the degraded ballast functions are not met. Thus, duplicate of components of the ballast control system may be required.

**.2.4.2** Failure of the main source of electrical power shall not lead to emergency flooding or unintended filling of any tank, uncontrolled ballast overflow between the tanks as well as to a situation where the emergency ballast functions are not met.

###### **.2.5 Air pipes.**

**.2.5.1** Air pipe shall be connected to the highest point of the ballast tank. During ballast operations the possibility of air pockets in ballast tanks shall be taken into account. If the system requires operational restrictions (i.e. no trim by the bow or the stern when submersing), this shall be specifically noted in the operating manual.

**.2.5.2** Installation of valves on ballast tank air pipes is allowed, subject to the following conditions:

when designing the lay-out of the air pipe system and of the control systems for the valves installed on them, both the risk of flooding and pressurisation in a tank shall be taken into account;

an interlock system is provided between the tank filling pumps and air pipes.

**.2.6** Overflow pipes.

**.2.6.1** Overflow during ballast operations shall be performed through the overflow pipes. Ballast tank air pipes may be simultaneously of an overflow design. The maximum pressurisation in a ballast tank during overflow shall be calculated based on capacity of the largest ballast pump. The value of pressurisation in the ballast tank at overflow shall be checked during mooring trials.

**.2.6.2** A sensor triggered on overflow shall be provided on the overflow or air pipe.

**.2.6.3** Overflow mode need not be considered provided that the following alarms are fitted:

high level alarm or overflow alarm;

high-high level alarm at maximum 98 % level with automatic shut-down of ballast pumps.

**.2.7** Valves and actuators.

Every ballast tank shall be provided with isolating shut-off valves for filling and/or emptying purposes. The valves shall be able to be operated from the central ballast control station.

An emergency system shall be provided to operate the isolating ballast valves. The isolating ballast tank valves shall be closed in case of loss of power.

The operating time shall be determined for remotely-controlled valves. The operating time of remotely-controlled valves shall be long enough to avoid any water hammering in the valve and pipe.

**.2.8** Pressurized ballast tanks.

Where compressed air systems are used to fill or empty the ballast tanks, adequate means to control and to mitigate the risks of overpressure shall be provided. A description of the air pressure system shall be submitted.

**.2.9** Control systems.

**.2.9.1** The central ballast control station shall include the following control systems:

ballast pump control system;

ballast pump status-indicating system;

ballast valves control system;

ballast valves position-indicating system;

ballast tank level indicating and monitoring system;

draught, heel and trim indicating system;

power availability indicating system (main and emergency);

ballast system hydraulic/pneumatic pressure-indicating system;

permanently installed means of communication, independent of the unit's main source of electrical power, between the control station and those spaces containing the ballast pumps and valves or their manual controls, or other spaces that may contain equipment necessary for the operation of the ballast system.

**.3** Ballast water and sediments treatment systems.

The ballast water treatment system shall comply with the requirements of 8.7 in Part VIII "Systems and Piping".

**25.4.8.2** Drainage system.

Drainage system of semi-submersible (docklift) ships shall comply with the requirements in 7.13 of Part VIII "Systems and Piping".