



# RUSSIAN MARITIME REGISTER OF SHIPPING

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**CIRCULAR LETTER**

**No. 311-05-1958c**

dated 18.07.2023

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Re:

amendments to the Rules for the Classification and Construction of Sea-Going Ships, 2023, ND No. 2-020101-174-E

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Item(s) of supervision:

electrical equipment

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Entry-into-force date:

**01.08.2023**

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

~~dated~~

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Number of pages: 1 + 4

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Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Part XI "Electrical Equipment"

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Director General

Sergey A. Kulikov

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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, 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 the technical documentation on ships (or products installed on board the ships) contracted for construction or conversion on or after 01.08.2023, in the absence of a contract, during review and approval of the technical documentation on ships (or products installed on board the ships) requested for review on or after 01.08.2023.
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List of the amended and/or introduced paras/chapters/sections:

Part XI: paras 1.2.1, 3.1.6, 6.2.4, 6.3.1, 10.6.1.2, 13.1.7, 13.2.1, 14.1.2.1 — 14.1.2.10 and 16.8.9.4

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"Thesis" System No. 23-111764

**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 1.2.1	New definition "Valve-regulated sealed type battery (sealed battery)" has been introduced	311-05-1958c of 18.07.2023	01.08.2023
2	Para 3.1.6	Requirements for accumulator battery charge have been specified	311-05-1958c of 18.07.2023	01.08.2023
3	Para 6.2.4	Requirements for supply of local lighting fixtures and socket outlets have been specified	311-05-1958c of 18.07.2023	01.08.2023
4	Para 6.3.1	Requirements for illumination of emergency lighting have been specified	311-05-1958c of 18.07.2023	01.08.2023
5	Para 10.6.1.2	Requirements for alternating current generators have been specified	311-05-1958c of 18.07.2023	01.08.2023
6	Para 13.1.7	Requirements for sealed batteries have been specified	311-05-1958c of 18.07.2023	01.08.2023
7	Para 13.2.1	Requirements for arrangement of sealed batteries have been specified	311-05-1958c of 18.07.2023	01.08.2023
8	Paras 14.1.2.1 — 14.1.2.10	New para 14.1.2.1 has been introduced containing requirements for terms <i>I<sub>cs</sub></i> , <i>I<sub>cu</sub></i> , <i>I<sub>cw</sub></i> , <i>I<sub>cm</sub></i> , etc.; existing paras 14.1.2.1 — 14.1.2.9 have been renumbered 14.1.2.2 — 14.1.2.10 accordingly	311-05-1958c of 18.07.2023	01.08.2023
9	Para 14.1.2.3	Requirements for nominal making capacity of electric switch apparatus intended for interrupting short-circuit currents have been specified	311-05-1958c of 18.07.2023	01.08.2023
10	Para 14.1.2.7	Requirements for rated short-time withstand current for electric switch apparatus in circuits with selective action of protective devices have been specified	311-05-1958c of 18.07.2023	01.08.2023
11	Para 16.8.9.4	Definition of cable transposition has been specified	311-05-1958c of 18.07.2023	01.08.2023

## **RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SEA-GOING SHIPS, 2023,**

**ND No. 2-020101-174-E**

### **PART XI. ELECTRICAL EQUIPMENT**

#### **1 GENERAL**

1 **Para 1.2.1.** After the definition "Emergency switchboard" a new definition "Sealed battery" is introduced reading as follows:

"Valve-regulated sealed type battery (sealed battery) is a sealed unattended accumulator battery with recombination of issued gases giving off no gases in operation outside the case."

#### **3 MAIN ELECTRICAL POWER SOURCE**

2 **Para 3.1.6** is replaced by the following text:

**"3.1.6** Where accumulator batteries are the main source of electrical power, their capacity shall be sufficient to satisfy the requirements of 3.1.2.1 for 8 h without recharging; provision shall be made for charging of accumulator batteries from the source of electrical power installed on board. For ships of restricted area of navigation **R3** with limited voyage duration, lack of access to the source of electrical power installed on board the ship to charge the accumulator batteries may be permitted, provided the voyage duration does not exceed 8 h.

For ships of restricted area of navigation **R3** with charging of accumulator battery of the main source between the voyages, the battery capacity may be reduced but not more than to triple energy consumption for the period of the longest design voyage."

#### **6 LIGHTING**

3 **Para 6.2.4** is replaced by the following text:

**"6.2.4** Local lighting fixtures, as well as socket outlets shall take power from the lighting switchboard by a separate feeder, other than that intended for supplying the common lighting fixtures."

4 **Para 6.3.1** is replaced by the following text:

**"6.3.1** The illumination obtained from the emergency lighting fixtures in separate spaces, locations and zones listed in 9.3.1.1 and 20.1.2.1.1 shall at least be equal to 10 % of the general illumination obtained from the main lighting fixtures (refer to 6.7). It is permitted that the illumination from the emergency lighting fixtures in the machinery space is equal to 5 % of the main illumination if the socket outlets fed from the emergency lighting circuit are provided. The illumination shall be sufficient to easily find one's way to the means of escape (or shall be equal to 0,5 lx).

Where lighting fixtures with built-in accumulator batteries are used in the networks of emergency illumination, such fixtures shall provide the minimum illumination level 1 lx

during 30 min on escape routes in case of power loss from the main and emergency source of electrical power except for places specified in 20.3.3.1."

## 10 ELECTRICAL MACHINES

5 **Para 10.6.1.2** is replaced by the following text:

"**10.6.1.2** Alternating current generators with rated power not exceeding 1200 kVA shall possess sufficient excitation capacity to maintain the rated voltage with an accuracy of 10 % for 30 s at generator overcurrent equal to 150 % of the rated value and at a power factor 0,6. For generators with rated power above 1200 kVA, the duration of the above-stated overcurrent shall be 15 s."

## 13 ACCUMULATOR BATTERIES

6 **Para 13.1.7** is replaced by the following text:

"**13.1.7** Where vented type battery shall replace sealed battery at its location, the requirements of the Rules relevant to the location and ventilation of the batteries shall be met."

7 **Para 13.2.1** is replaced by the following text:

"**13.2.1** Batteries having a voltage in excess of the safety voltage, as well as batteries having a capacity over 2 kW computed from the maximum charging current and the rated voltage, shall be located in special battery compartments accessible from the deck, or in appropriate boxes installed on deck.

Batteries having a charge capacity of 0,2 kW up to 2 kW may be installed in boxes or cabinets located inside the ship's hull.

In ships with low-power electrical installation, except passenger ships, the above batteries may be installed in the machinery space in such a way that their upper section is at least above the margin line in case the ship is flooded.

Accumulator batteries intended for the electric starting of internal combustion engines except for emergency units may be installed in machinery spaces in special cabinets with sufficient ventilation.

Batteries having a charge capacity less than 0,2 kW and sealed batteries are allowed to be installed in any space, other than accommodation spaces, provided they are protected from the action of water and mechanical damage and do not harmfully affect the surrounding equipment."

## 14 ELECTRICAL APPARATUS AND ACCESSORIES

8 **New para 14.1.2.1** is introduced reading as follows:

"**14.1.2.1** For the purposes of this Chapter, the terms *Ics*, *Icu*, *Icw*, *Icm*, etc. applicable to the switch apparatus comply with IEC 60947-2."

9 **Existing paras 14.1.2.1 — 14.1.2.9** are renumbered **14.1.2.2 — 14.1.2.10** accordingly.

10 **Existing para 14.1.2.2** is replaced by the following text:

"**14.1.2.3** The nominal breaking capacity (*Icn*) of electrical switch apparatus designed to break short circuit currents shall be not less than:

maximum actual value of the periodic component of the prospective short-circuit current at the first half-cycle (*Iac*) for alternating current;

the prospective short-circuit current at the specified time constant of the direct current apparatus at the place of their installation at disconnection."

11 Existing para 14.1.2.6 is replaced by the following text:

"14.1.2.7 Rated short-time withstand current ( $I_{cw}$ ) for electric switch apparatus in circuits with selective action of protective devices shall be not less than the maximum r.m.s. periodic component of the prospective short circuit current at the first half-cycle ( $I_{cw} > I_{ac}$ ).".

## 16 CABLES AND WIRES

12 Para 16.8.9.4 is replaced by the following text:

"16.8.9.4 When single-core cables of a conductor cross-section of 185 mm<sup>2</sup> or over are installed, a transposition (mutual position changing of cable line phases) of phases shall be effected at intervals not exceeding 15 m. Where cable length is below 30 m, no transposition is necessary.".