



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 315-23-1635c

dated 30.09.2021

Re:

amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2021, ND No. 2-020101-139-E

Item(s) of supervision:

static electrical power sources

Entry-into-force date:

01.11.2021

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

~~dated~~

Number of pages: 1+4

Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Section 10 of Part IV "Technical Supervision during Manufacture of Products"

Director General

Konstantin G. Palnikov

Text of CL:

We hereby inform that the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for 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, 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 products as well as when performing technical supervision during manufacture of products, when the requests for service rendering listed above are received on or after 01.11.2021.

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

Part IV: paras 10.4.6.3.2, 10.7.4.11 and 10.7.7.7, Appendix 18 to Section 10

Person in charge: Alexey Yu. Bessonov 315

+7 (812) 605-05-17

"Thesis" System No. 21-197993

**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 10.4.6.3.2	New para 10.4.6.3.2 has been introduced concerning tests of lithium-ion accumulator batteries, lithium-ion battery systems, solar batteries and heating units	315-23-1635c of 30.09.2021	01.11.2021
2.	Para 10.7.4.11	New para 10.7.4.11 has been introduced concerning tests of lithium-ion accumulator batteries, lithium-ion battery systems, solar batteries and heating units	315-23-1635c of 30.09.2021	01.11.2021
3.	Para 10.7.7.7	New para 10.7.7.7 has been introduced concerning tests of supercapacitors and supercapacitor systems	315-23-1635c of 30.09.2021	01.11.2021
4.	Appendix 19 to Section 10	Appendix 19 has been introduced containing requirements for tests of static electrical power sources	315-23-1635c of 30.09.2021	01.11.2021

RULES FOR TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS AND MANUFACTURE OF MATERIALS AND PRODUCTS FOR SHIPS, 2021,

ND No. 2-020101-139-E

PART IV. TECHNICAL SUPERVISION DURING MANUFACTURE OF PRODUCTS

10 ELECTRICAL EQUIPMENT

1 New **para 10.4.6.3.2** is introduced reading as follows:

"10.4.6.3.2 Lithium-ion accumulator batteries, lithium-ion battery systems, solar batteries and heating units may be tested in accordance with Appendix 18."

2 New **para 10.7.4.11** is introduced reading as follows:

"10.7.4.11 Lithium-ion accumulator batteries, lithium-ion battery systems, solar batteries and heating units may be tested in accordance with Appendix 18."

3 New **para 10.7.7.11** is introduced reading as follows:

"10.7.7.7 Supercapacitors and supercapacitor systems may be tested in accordance with Appendix 18."

4 New **Appendix 18** (recommended) is introduced reading as follows:

"APPENDIX 19 (recommended)

TESTS OF STATIC ELECTRICAL POWER SOURCES

1. Tests of Lithium-ion accumulator batteries (LIAB) and lithium-ion battery systems (LIBS).

Table 1.1

List of tests of LIAB openings/meshes/cells

No.	Test	Prototype sample	Serial specimens	Normative document/ comments
1	External short-circuit	+	-	Standard IEC 62619, p. 7.2.1
2	Dynamic shock/Drop test	+	-	Standard IEC 62619, p. 7.2.2
3	Heat treatment/Thermal abuse	+	-	Standard IEC 62619, p. 7.2.4
4	Forced discharge	+	-	Standard IEC 62619, p. 7.2.6

Table 1.2

List of tests of LIBS openings

No.	Test	Prototype sample	Serial specimens	Normative document/ comments
1	Fire/ignition propagation	+	-	Standard IEC 62619, p. 7.3.3
2	Overcharge control of voltage	+	-	Standard IEC 62619, p. 8.2.2
3	Overcharge control of current	+	-	Standard IEC 62619, p. 8.2.3
4	Overheat control	+	-	Standard IEC 62619, p. 8.2.4

No.	Test	Prototype sample	Serial specimens	Normative document/ comments
5	Sensor failure	+	-	In compliance with technical requirements of the firm (manufacturer)
6	Mesh/cell balancing	+	-	In compliance with technical requirements of the firm (manufacturer)
7	Charge check	+	-	In compliance with technical requirements of the firm (manufacturer)
8	Capacity check	+	-	Standard IEC 62620, p. 6.3.1
9	Functional protection	+	+	Check of control system performance. Check of protection actuation.
10	Functional safety	+	+	Emergency shutdown/stop. Independent temperature or voltage shutdown
11	Switchboard insulation/insulation electrical strength	+	+	In compliance with RS Rules/TS
12	Insulation resistance	+	+	In compliance with RS Rules/TS
13	Cooling system failure	+	-	The cooling system response to failure, loss or replenishing cooling agent leaks is checked
14	Hydraulic tests of cooling system	+	+	In compliance with RS Rules/TS

2. Tests of supercapacitors (SC) and supercapacitor systems (SCS).

Table 2.1

Kinds of tests of SC meshes

No.	Test	Prototype sample	Serial specimens	Normative document/ comments
1	Termination test	+	-	UL 810A 11.1 or 11.2
2	Short circuit test at 55 °C	+	-	UL 810A 13
3	Abnormal charge test	+	-	UL 810A 14
4	Heating test	+	-	UL 810A 16
5	Dielectric voltage-withstand test	+	-	UL 810A 17
6	Crush test	+	-	UL 810A 18.2
7	Impact test	+	-	UL 810A 18.3

Table 2.2

Kinds of tests of SCS

No.	Test	Prototype sample	Serial specimens	Normative document/ comments
1	Fire/ignition propagation	+	-	
2	Short circuit test at 55 °C	+	-	UL 810A 13
3	Abnormal charge test	+	-	UL 810A 14
4	Temperature rise	+	-	UL 810A 15 at 45 °C
5	Sensor failure	+	-	Checking of all possible of all sensors' failures
6	Mesh/cell balancing	+	-	In compliance with technical requirements of the firm (manufacturer)
7	Functional protection	+	+	Check of control system performance. Check of protection actuation.

8	Functional safety	+	+	Emergency shutdown/stop.
9	Switchboard insulation/insulation electrical strength	+	+	In compliance with RS Rules/TS
10	Insulation resistance	+	+	In compliance with RS Rules/TS
11	Cooling system failure	+	-	The cooling system response to failure, loss or replenishing cooling agent leaks is checked
12	Hydraulic tests of cooling system	+	+	In compliance with RS Rules/TS
"+" - Tests are carried out; "-" - Tests are not carried out.				

3. Tests of heating units (HU).

3.1 Tests of heating units (HU) shall be carried out in compliance with the requirements of IEC standards (IEC) – IEC 62282.

4. Tests of solar batteries (SB).

4.1 Tests of solar batteries (SB) shall be carried out in compliance with the requirements of IEC standards (IEC) – IEC 61646, IEC 61215, IEC 61730, IEC 61853 and IEC 62548.

5. Documents drawn-up after tests.

5.1 With satisfactory results of tests, a report on survey of the specimen according to the established form is drawn up. The Report shall contain a conclusion as to the possibility of permitting the product to be used on board ship."