



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 312-11-1377c

dated 15.04.2020

Re:

amendments to the Rules for the Classification and Construction of Sea-Going Ships, 2020, ND No. 2-020101-124-E

Item(s) of supervision:

ships under construction and in service

Entry-into-force date:

01.06.2020

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Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Parts I "Classification" and XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships"

Director General

Konstantin G. Palnikov

Text of CL:

We hereby inform that the Rules for the Classification and Construction of Sea-Going Ships, 2020 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, interested organizations and persons in the area of the RS Branch Offices' activity.
2. Apply the provisions of the Circular Letter (except for paras 3 and 4) to ships contracted for construction or conversion on or after 01.06.2020.
3. Amendments related to specification of the geographical restrictions and navigation season in the Black Sea for ships of restricted area of navigation **R3-RSN** shall be applied to the ships under construction and in service. As regards ships in service, the RS Branch Offices for in-service supervision of ships of restricted area of navigation **R3-RSN** shall provide necessary amendments to the appropriate RS ship's documents, where restrictions under consideration are mentioned, during the nearest periodical survey of the ship carried out on or after 01.06.2020.
4. Apply the provisions of the Circular Letter related to assignment of area of navigation **R3** during initial surveys of ships under construction, as well as during initial surveys of ships in service subject to assignment of the relevant RS class, carried out on or after 01.06.2020.

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

Part I: paras 1.1.1, 2.2.3.3.5 and 2.2.5.1.6, Table 2.2.5.3, paras 2.2.21, 2.2.22, 2.2.45.4, 3.1.2, 3.1.3 — 3.1.8, 3.2.1, 3.2.2.4, 3.2.2.11, 3.2.2.12, 3.2.2.16 — 3.2.2.24, 3.2.3.16, 3.2.3.18, 3.2.5.7, 3.2.6.2, 3.2.6.9 — 3.2.6.12, 3.2.7.6, 3.2.10, 3.2.12, 3.2.13, 3.3.1.3 — 3.3.1.8, 3.3.5.6, 3.3.10.12, 3.3.10.23, 3.3.12, 3.3.13, 3.4.4.2, 3.4.13, 4.1.1.3 and Chapter 4.3

Part XVII: paras 4.1.3, 5.1.3.1.12, 6.1.3.1.14, 7.1.3, 8.3.1.4, 8.3.2, 12.3.1, 12.3.2 and 18.1.3.2

Person in charge: Kazimir A. Dobrzhinsky, Department 312
Elena V. Baskakova

+7 (812) 312-24-28

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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	The definition "A bulk carrier" has been harmonized with SOLAS-74 Chapter XII. In the definition "a special tanker" the reference has been specified	312-11-1377c of 15.04.2020	01.06.2020
2	Part I, para 2.2.3.3.5	The minimum conditions of addition of the distinguishing mark DAS (ice class mark) to the character of classification have been specified	312-11-1377c of 15.04.2020	01.06.2020
3	Part I, para 2.2.5.1.6	The definition of area of navigation R3 has been amended	312-11-1377c of 15.04.2020	01.06.2020
4	Part I, Table 2.2.5.3	The geographical restrictions and navigation area in the Black Sea have been specified	312-11-1377c of 15.04.2020	01.06.2020
5	Part I, para 2.2.21	The conditions of assigning the distinguishing mark for a ship complying with ballast water management requirements have been specified	312-11-1377c of 15.04.2020	01.06.2020
6	Part I, para 2.2.22	The conditions of assigning the distinguishing mark for ships fitted with ballast water management system have been specified	312-11-1377c of 15.04.2020	01.06.2020
7	Part I, para 2.2.45.4	The information in the class notation with regard to operation conditions of berth-connected ship has been specified	312-11-1377c of 15.04.2020	01.06.2020
8	Part I, para 3.1.2	The method of documentation submission to the Register has been amended	312-11-1377c of 15.04.2020	01.06.2020
9	Part I, paras 3.1.3 - 3.1.8	New para 3.1.3 has been introduced regarding necessary reference to the name and version of software used for calculations. Existing paras 3.1.3 — 3.1.7 and, where applicable, references thereto have been renumbered 3.1.4 — 3.1.8, accordingly	312-11-1377c of 15.04.2020	01.06.2020
10	Part I, para 3.1.4	The para has been renumbered 3.1.5.	312-11-1377c of 15.04.2020	01.06.2020

Nos.	Amended paras/chapters/sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
		The references to the Rules for the Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships have been specified		
11	Part I, para 3.2.1	The requirements for the scope of technical documentation to be submitted have been specified	312-11-1377c of 15.04.2020	01.06.2020
12	Part I, para 3.2.2.4	The requirements for deck and platform plans have been specified	312-11-1377c of 15.04.2020	01.06.2020
13	Part I, paras 3.2.2.11 and 3.2.2.12	The requirements for drawings of seatings have been specified	312-11-1377c of 15.04.2020	01.06.2020
14	Part I, paras 3.2.2.16 — 3.2.2.24	Para 3.2.2.16 has been deleted. Paras 3.2.2.17 — 3.2.2.24 and, where applicable, references thereto have been renumbered 3.2.2.16 — 3.2.2.23 accordingly	312-11-1377c of 15.04.2020	01.06.2020
15	Part I, para 3.2.2.17	The para has been renumbered 3.2.2.16. The amendments regarding drawings of seatings for mooring, anchor and towing equipment have been introduced	312-11-1377c of 15.04.2020	01.06.2020
16	Part I, para 3.2.2.20	The para has been renumbered 3.2.2.19. The amendments regarding hull typical structural details have been introduced	312-11-1377c of 15.04.2020	01.06.2020
17	Part I, para 3.2.2.24	The para has been renumbered 3.2.2.23. The Note has been introduced regarding the scope of documentation for oil tankers and bulk carriers to be submitted	312-11-1377c of 15.04.2020	01.06.2020
18	Part I, para 3.2.3.16	Requirements have been specified for the scope of documentation for ships carrying liquefied gases in bulk to be submitted	312-11-1377c of 15.04.2020	01.06.2020
19	Part I, para 3.2.3.18	Requirements have been specified for the scope of documentation for ships carrying liquefied gases in bulk to be submitted	312-11-1377c of 15.04.2020	
20	Part I, para 3.2.5.7	Requirements have been specified for the scope of documentation on the installation of flooding detection sensors of water ingress to be submitted	312-11-1377c of 15.04.2020	01.06.2020

Nos.	Amended paras/chapters/sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
21	Part I, para 3.2.6.2	Requirements have been specified for the scope of documentation on fire extinguishing systems and smoke detection system to be submitted	312-11-1377c of 15.04.2020	01.06.2020
22	Part I, para 3.2.6.9 — 3.2.6.12	Paras 3.2.6.9 — 3.2.6.11 have been deleted. Para 3.2.6.12 has been renumbered 3.2.6.9	312-11-1377c of 15.04.2020	01.06.2020
23	Part I, para 3.2.7.6	Requirements have been specified for the scope of documentation on the propeller to be submitted	312-11-1377c of 15.04.2020	01.06.2020
24	Part I, para 3.2.10	Requirements have been specified for the scope of documentation on electrical equipment to be submitted	312-11-1377c of 15.04.2020	01.06.2020
25	Part I, paras 3.2.12 and 3.2.13	New paras have been introduced containing requirements for documentation on cargo handling gear and refrigerating plants to be submitted	312-11-1377c of 15.04.2020	01.06.2020
26	Part I, paras 3.3.1.3 — 3.3.1.8	Para 3.3.1.3 has been deleted. Paras 3.3.1.4 — 3.3.1.8 have been renumbered 3.3.1.3 — 3.3.1.7 accordingly	312-11-1377c of 15.04.2020	01.06.2020
27	Part I, para 3.3.5.6	Requirements have been specified for the scope of documentation on the installation of flooding detection sensors of water ingress to be submitted	312-11-1377c of 15.04.2020	01.06.2020
28	Part I, para 3.3.10.12	Requirements have been specified for the scope of technical documentation to be submitted	312-11-1377c of 15.04.2020	01.06.2020
29	Part I, para 3.3.10.23	New para has been introduced containing requirements for the scope of documentation on electrical equipment to be submitted	312-11-1377c of 15.04.2020	01.06.2020
30	Part I, paras 3.3.12 and 3.3.13	New paras have been introduced containing requirements for documentation on cargo handling gear and refrigerating plants to be submitted	312-11-1377c of 15.04.2020	01.06.2020
31	Part I, para 3.4.4.2	Requirements have been specified for the scope of documentation on installation of	312-11-1377c of 15.04.2020	01.06.2020

Nos.	Amended paras/chapters/sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
		flooding detection sensors of water ingress		
32	Part I, para 3.4.13	New para has been introduced containing requirements for documentation on refrigerating plants	312-11-1377c of 15.04.2020	01.06.2020
33	Part I, para 4.1.1.3	Requirements regarding refrigerating plants have been specified	312-11-1377c of 15.04.2020	01.06.2020
34	Part I, Chapter 4.3	Requirements for technical documentation on refrigerating plant have been specified	312-11-1377c of 15.04.2020	01.06.2020
35	Part XVII, para 4.1.3,	Requirements have been specified for the scope of technical documentation to be submitted	312-11-1377c of 15.04.2020	01.06.2020
36	Part XVII, para 5.1.3.1.12	Requirements have been specified for the scope of technical documentation to be submitted	312-11-1377c of 15.04.2020	01.06.2020
37	Part XVII, para 6.1.3.1.14	Requirements have been specified for the scope of technical documentation to be submitted	312-11-1377c of 15.04.2020	01.06.2020
38	Part XVII, para 7.1.3	Requirements have been specified for the scope of technical documentation to be submitted	312-11-1377c of 15.04.2020	01.06.2020
39	Part XVII, para 8.3.1.4	The para has been deleted	312-11-1377c of 15.04.2020	01.06.2020
40	Part XVII, para 8.3.2	Requirements have been specified for the scope of technical documentation to be submitted	312-11-1377c of 15.04.2020	01.06.2020
41	Part XVII, para 12.3.1	The references have been specified	312-11-1377c of 15.04.2020	01.06.2020
42	Part XVII, para 12.3.2	The references have been specified	312-11-1377c of 15.04.2020	01.06.2020
43	Part XVII, para 18.1.3.2	Requirements have been specified for the scope of technical documentation to be submitted	312-11-1377c of 15.04.2020	01.06.2020

RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SEA-GOING SHIPS, 2020

ND No. 2-020101-124-E

PART I. CLASSIFICATION

1 GENERAL

1.1.1 Definitions.

1 **Definition "Bulk carrier"** is replaced by the following text:

"A bulk carrier is a ship which is intended primarily to carry dry cargoes in bulk, including such types as ore carriers and combination carriers. To apply the term "bulk carrier" correctly, one should be guided by the provisions of IMO resolution MSC.277(85)."

2 In the **definition "a special tanker"** the reference to 2.2.32 is replaced by the reference to 2.2.45.3.

2 CLASS OF A SHIP

3 **Para 2.2.3.3.5** is replaced by the following text:

"**2.2.3.3.5** Double acting ships (DAS) are ice navigation ships fitted with podded propulsion units designed to operate stern first in ice.

If double acting ships comply at least with the requirements of Section 19, Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", the distinguishing mark **DAS (ice class mark)** may be added to the character of classification, where the RS ice class is indicated in brackets according to 2.2.3.3.1 or 2.2.3.3.4 in case of stern-first operation."

4 **Para 2.2.5.1.6** is replaced by the following text:

".6 **R3** — harbor, roadstead and coastal navigation in a 20-mile coastal zone with a wave height up to 2,5 m with 3 % probability of exceeding level with ships proceeding from the place of refuge in accordance with Table 2.2.5.1.6 or assigned on the basis of the justifications submitted to the Register, taking into consideration the wind and wave conditions in specific restricted sea areas.

Particular restrictions for operation of floating cranes (cargo-handling operations and navigation with carriage of cargoes on deck and/or in the hold) shall be imposed by the Register in each particular case.

Table 2.2.5.1.6

Nos.	Basin, geographical restrictions	Permissible distance from place of refuge, in miles ¹
1	The Adriatic Sea, the Sea of Azov, the White Sea, the East Siberian Sea, the Black Sea, the Laptev Sea	50
2	The Baltic Sea	20 (50)
3	The Barents Sea (except para 3.1)	(20)

Nos.	Basin, geographical restrictions	Permissible distance from place of refuge, in miles ¹
3.1	The Barents Sea to the south of 70°30'N, to the east of 45°E	(30)
4	The Bering Sea (except para 4.1)	(10)
4.1	The Bering Sea to the north of 63°N, to the west of 173°40'W	10(25)
5	The Ionian Sea, the Aegean Sea	15 (45)
6	The Kara Sea	35 (50)
7	The Caspian Sea	20 (50)
8	The Sea of Okhotsk (except paras 8.1 and 8.2)	(25)
8.1	The Sea of Okhotsk to the west of 142°E	10 (40)
8.2	The Sea of Okhotsk to the north of 56°N, to the west of 147°30'E	10 (50)
9	The Mediterranean Sea	
9.1	The Mediterranean Sea to the east of 28°30'E	30 (50)
9.2	Northwestern part of the Mediterranean Sea to the north of 39°30'N, to the west of 9°30'E	(45)
10	The Tyrrhenian Sea	10(45)
11	The Sea of Japan	(40)

¹Permissible distances from the place of refuge assigned subject to confirmation of the stability of a ship of restricted area of navigation **R3** under weather criterion in accordance with the requirements of Part IV "Stability" for river-sea navigation ships **R3-RSN** are given in brackets.

5 **Table 2.2.5.3. The line "the Black Sea"** is replaced by the following text:

The Black Sea	20-mile coastal area along the northern, western and eastern coasts from the port of Batumi to the Strait of Bosphorus	Throughout the year
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6 **Para 2.2.21** is replaced by the following text:

"2.2.21 Distinguishing mark for a ship complying with ballast water management requirements.

If a ship performs ballast water management through ballast water exchange at sea and, as appropriate, carries the Guidelines for Safe Ballast Water Exchange at Sea, which complies with the requirements of 1.4.13, Part IV "Stability" of these Rules and is a part of the approved Ballast Water Management Plan, which complies with the requirements of regulation B-1 of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention), 2004, and the ship ballast system complies with the requirements of 8.7, Part VIII "Systems and Piping" of these Rules, one of the following distinguishing marks is added to the character of classification: **BWM (E-S)**, **BWM (E-F)**, **BWM (E-D)**, **BWM (E-SF)**, **BWM (E-SD)**, **BWM (E-FD)** or **BWM (E-SFD)**. **BWM** means that the ship performs ballast water management; **E** means that ballast water management is performed through ballast water exchange at sea; **S** means that sequential method is used; **F** means that flow-through method is used; **D** means that dilution method is used; **SF**, **SD**, **FD** and **SFD** mean that combined ballast water exchange method is used being a combination of the above methods."

7 **Para 2.2.22** is replaced by the following text:

"2.2.22 Distinguishing mark for ships fitted with ballast water management system.

If a ship performs ballast water management through the ballast water management system (BWMS) having the Type Approval Certificate of Ballast Water Management System issued in accordance with IMO resolution MEPC.174(58), MEPC.279(70) or Code for Approval of Ballast Water Management Systems (BWMS Code, IMO resolution MEPC.300(72)), as applicable, and carries the approved operations, technical and safety manual for the BWMS

specific to the ship, a distinguishing mark **BWM (T)** is added to the character of classification. **BWM** means that the ship performs ballast water management in accordance with the approved Ballast Water Management Plan, which complies with the requirements of regulation B-1 of the BWM Convention, and **T** means that ballast water management through treatment of the ballast water within the BWMS is carried out in compliance with the ballast water performance standard in regulation D-2 of the BWM Convention."

8 **Para 2.2.45.4** is replaced by the following text:

"**2.2.45.4** For ships with the descriptive notation **Berth-connected ship**, operation conditions (aground (**G**) or moored at quay (**S**), or when at a water area distanced from the shore (**W**)) are indicated in brackets, the descriptive notation **Berth-connected ship** is followed by the statement of ship or floating facility purpose from those listed in the definition of the berth-connected ship (refer to 1.1.1), or otherwise.

Note. G — ground, S — shore, W — waters."

3 TECHNICAL DOCUMENTATION

9 **Para 3.1.2** is replaced by the following text:

"**3.1.2** Prior to the commencement of a ship construction, technical documentation proving that all requirements of the Register applicable to the ship concerned are complied with, shall be submitted to the Register for review. The documentation for review shall be submitted to the Register in electronic form in PDF format, providing its autonomous timeless storage and stamping with the results of documentation review.

Basically two practical alternatives of documentation submission and approval are allowed:

.1 submission of plan approval documentation in a scope specified in 3.2, taking into account the peculiarities and type of a ship without further approval of detailed design documentation;

.2 submission of technical design documentation in a scope specified in 3.3, taking into account the peculiarities and type of a ship with further approval of detailed design documentation.

In such case, the technical design documentation approved by the Register does not constitute grounds for assignment of class to the ship. This documentation is considered by the Register exclusively as the basis for further design."

10 **New para 3.1.3** is introduced reading as follows:

"**3.1.3** Documentation, containing the results of calculations, performed using software, shall contain the reference on the name and version of such software."

11 **Existing paras 3.1.3 — 3.1.7** and, where applicable, references thereto are renumbered **3.1.4 — 3.1.8** accordingly.

12 **Existing para 3.1.4 (new para 3.1.5)** is replaced by the following text:

"**3.1.5** In the lists specified in 3.2 — 3.4, documentation marked with (*) is the documentation, which review results are documented by stamping in accordance with 8.2.1 or 8.2.7 (in case of dual classification), Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.

Documentation marked with (**) is the documentation, which review results are documented by stamping in accordance with 8.2-3 or 8.2-9 (in case of dual classification), Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships."

13 **Para 3.2.1** is replaced by the following text:

"3.2.1 General:

- .1 ship specification (to be submitted for information);
- .2 general arrangement plan (to be submitted for information);
- .3 plan showing the position of the IMO number on board a ship in compliance with the requirements of regulation XI-1/3 of SOLAS-74/04 (for all passenger ships of 100 gross tonnage and above and for all cargo ships of 300 gross tonnage and above) (*);
- .4 list of deviations from the RS rules with references to the relevant RS letters of their approval (refer to 1.3.4 of the General Regulations for the Classification and Other Activity), if any (**);
- .5 an engineering analysis of the alternative design and arrangements — if any (**);
- .6 report on qualitative failure analysis for propulsion and steering in compliance with Section 11, Part VII "Machinery Installations" (for passenger ships) (**);
- .7 engineering analysis of the capability of a ship to return to port in case of an accident in accordance with 2.2.6 and 2.2.7, Part VI "Fire Protection", considering interpretations of IMO circular MSC.1/Circ.1369 (for passenger ships having length of 120 m and above or having three or more main vertical zones) (**);
- .8 tonnage calculations in accordance with the International Convention on Tonnage Measurement of Ships, 1969 (for ships of 24 m in length and above) or the Rules for the Tonnage Measurement of Sea-Going Ships (for ships of less than 24 m in length) (**);
- .9 tonnage calculations in accordance with the Regulations for the Measurement of Tonnage for the Suez Canal and/or the Rules for Measurement of Vessels for the Panama Canal (if necessary, issue of appropriate tonnage certificates);
- .10 evacuation analysis for passenger ships carrying more than 36 passengers and special purpose ships carrying more than 240 persons confirming compliance with regulation II-2/13.3.2.7 of SOLAS-74, as amended, based on the guidelines in IMO circular MSC.1/Circ. 1533 (**)."

14 **Para 3.2.2.4** is replaced by the following text:

".4 deck and platform plans with indication of design loads (including the loads induced by lift trucks, containers and mooring, towing and anchor equipment), positions and dimensions of openings, their strengthening, end structures of the side coamings² (*);".

15 **Paras 3.2.2.11 and 3.2.2.12** are replaced by the following text:

".11 drawings of seatings for the main machinery (main engine, main diesel engine) and boilers, including bottom construction¹ (*); the drawings shall be provided with indication of type and model of the equipment and that the seating complies with the requirements of the supplier's conditions on the equipment or that no special requirements are placed by the supplier on the equipment;

.12 drawings of seatings for equipment (arrangements, machinery) with statical load on deck, exceeding 50 kN, or resulting statical bending moment on deck, exceeding 100 kN·m, deck mechanisms with breaking load of a rope or chain exceeding 150 kN or safe working load (SWL), exceeding 30 kN (drawing of seatings for other equipment are not included in the set of project plans for ships under construction); the drawings shall be provided with indication of type and model of equipment and that the seating complies with the requirements of the supplier's conditions on the equipment or that no special requirements are placed by the supplier on the equipment; the design load and loading scheme; accepted corrosion.

Note. The drawings shall be reviewed by the RS Branch Office for supervision during construction¹ (*);".

16 **Para 3.2.2.16** is deleted.

17 **Paras 3.2.2.17 — 3.2.2.24** and, where applicable, references thereto are renumbered **3.2.2.16 — 3.2.2.23** accordingly.

18 **Existing para 3.2.2.17 (new para 3.2.2.16)** is replaced by the following text:

".16 drawings of seatings for mooring, anchor and towing equipment; the drawings shall be provided with indication that seatings comply with the requirements of the supplier's conditions on the equipment or that no special requirements are placed by the supplier on the seatings.

Note. The drawings shall be reviewed by the RS Branch Office for supervision during construction¹ (*);".

19 **Existing para 3.2.2.20 (new para 3.2.2.19)** is replaced by the following text:

".19 hull typical structural details (*).

Note. Listed typical details shall comply to those shown on structural drawings given in 3.2.2.2 — 3.2.2.10. The remaining information shall comply to the shipbuilding quality standards for the hull structure during new construction agreed at the kick-off meeting with the shipyard (refer to 2.7 of the Guidelines on Technical Supervision of Ships under Construction) and shall be reviewed by the RS Branch Office for supervision during construction;".

20 **Existing para 3.2.2.24 (new para 3.2.2.23)** is supplemented with the Note reading as follows:

"Note. For oil tankers having length 150 m and above and bulk carriers having length 90 m and above, the scope of documentation shall take consider the provisions of the IACS Common Structural Rules."

21 **Para 3.2.3.16** is replaced by the following text:

".16 arrangement plan with essential parts and assemblies of catwalk on oil tankers and ships carrying liquefied gases in bulk (*);".

22 **Para 3.2.3.18** is replaced by the following text:

".18 arrangement plans with essential parts and assemblies of means of access for inspections of spaces in cargo area and other spaces on oil tankers, bulk carriers and ships carrying liquefied gases in bulk (*);".

23 **Para 3.2.5.7** is replaced by the following text:

".7 documentation on installation of flooding detection sensors of water ingress into compartments of passenger ship and bulk carrier, as specified in Part V "Subdivision". The documentation, as a minimum, shall include:

flooding detection system specification (**);

single-line diagrams of the flooding detection system (*);

documents with indication of the location of the flooding detection system equipment (*).".

24 **Para 3.2.6.2** is replaced by the following text:

".2 diagrams of fire extinguishing systems and smoke detection system by air sampling with associated description, calculations and other data, which confirm the fulfillment of the requirements of Part VI "Fire Protection" (*);".

25 **Paras 3.2.6.9 — 3.2.6.11** are deleted.

26 **Para 3.2.6.12** is renumbered 3.2.6.9.

27 **Para 3.2.7.6** is replaced by the following text:

- .6** documentation on propeller^{1, 2};
- .6.1** general view of propeller (**);
- .6.2** strength calculation of propeller blade, and for detachable-blade propellers and controllable-pitch propellers (CP-propellers), also calculation of fastening of blades to the boss (**);
- .6.3** drawings of blade, boss and cone, as well as items for their securing (for detachable-blade propeller and CP-propeller) (*);
- .6.4** drawing of propeller attachment to propeller shaft (*);
- .6.5** description of pitch actuating mechanism (PAM) and its control system (**);
- .6.6** diagrams of pitch actuating mechanism (PAM) (*);
- .6.7** pitch control unit as assembled (**);
- .6.8** drawings of the main parts of the pitch control unit, including shaft of the pitch control unit, hydraulic cylinders, push-pull rods, pistons, slides, oil distribution boxes, lubricating oil supply tube to hydraulic cylinder in hub (*).

Note. The documentation listed in 3.2.7.6 may be submitted together with the documentation required by Section 7, Part IV "Technical Supervision during Manufacture of Products" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships;".

28 **Para 3.2.10** is replaced by the following text:

"3.2.10 Documentation on electrical equipment.

3.2.10.1 General documentation:

- .1** diagrams of power generation and distribution from the main and emergency sources of electrical power: power networks, lighting networks (up to section distribution switchboards) and navigation lights (*);
- .2** single-line diagrams and general view of the main and emergency switchboards, control desks and other switchboards of non-standard design (*);
- .3** calculation results of necessary output of the ship's electric power plant providing for the operating conditions specified in 3.1.5, Part XI "Electrical Equipment", substantiation of the choice of the number and power output of generators, as well as calculation of capacity of emergency sources of electrical power (**);
- .4** detailed diagrams of the main current, excitation, control, pilot, signalling, protection and interlocking of the electric propulsion plant (*);
- .5** calculation results of necessary power output of the propulsion generators to ensure normal operation under all operating conditions (**);
- .6** results of short-circuit current calculations and analysis of selective properties of protective devices for rated current of the generators or the generators operating in parallel in excess of 1000 A (**);
- .7** calculation results of illumination intensity for areas and spaces (**);
- .8** diagrams of internal communication and signalling according to Section 7, Part XI "Electrical Equipment" (*);
- .9** documentation on fixed electrical measuring instruments and alarm systems for ultimate concentration of dangerously explosive and noxious gases (*);
- .10** diagrams of the protective, lightning protection and antistatic earthing (*);
- .11** arrangement diagram of cable runs with indication of spaces which they pierce, including information on power supply cables for services required for operation under fire conditions in case of their transit routing through high fire risk spaces (refer to 16.8.1.9 and 16.8.1.11, Part XI "Electrical Equipment") (*);
- .12** capacity calculation results for accumulator batteries of emergency lighting, navigation lights, general alarm system, fire alarm system and fire smothering appliances, starting arrangements of the emergency diesel generators (**);
- .13** results of calculation of the expected total harmonic distortions for different parts of the ships mains when using power semiconductor units, as well as harmonic distortion calculation results following the harmonic filters failure during their installation in the ship's electrical distribution system (**);

- .14 calculation of expected efficiency of overload protection of generator sets by means of disconnection of the part of consumers with explanations of the number of disconnection steps and the list of disconnected consumers in every step (**);
- .15 diagram and drawing of disconnection and blocking system of electrical equipment, which is not used in the oil recovery ship operations on elimination of oil spills (*);
- .16 instructions on preparation and application of electrical equipment of oil recovery ship for elimination of oil spills. It is to determine the procedure of compulsory disconnection of power consumers having no Certificates on Safe Type Electrical Equipment (**);
- .17 list of electrical equipment installed in dangerous zones, containing information on spaces and areas where it is installed with indication of zones and spaces according to 19.2.3.1, Part XI "Electrical Equipment", and information on this equipment with indication of type of explosion protection (**);
- .18 calculation of voltage drop when a consumer with the maximum starting power is switched on (**);
- .19 list of measures to ensure the electromagnetic compatibility of a ship equipment (**);
- .20 drawings of cable runs and their penetrations through watertight, gastight and fire-fighting divisions with indication of measures taken to suppress radio interferences (*);
- .21 diagrams of the main and emergency lighting in the spaces and places of arrangement of essential appliances, escape routes, survival craft embarkation stations on the deck and outboard (supplying from distribution switchboards) (*);
- .22 drawings of layout and installation of essential electrical equipment (*);
- .23 diagrams and installation and layout drawings of electrical apparatus and facilities for measuring non-electric values (level, pressure, temperature gauges, etc.) (*);
- .24 technical background containing substantiation of distinguishing mark **EPP** (if applicable) in the class notation (**);
- .25 drawing of dangerous spaces and zones (only for oil tankers, oil recovery ships, ships carrying liquefied gases in bulk and ships carrying compressed natural gas, chemical tankers, ships other than liquefied gas carriers utilizing gas or other low flash point fuels and ships carrying dangerous goods) (*);
- .26 when the ship is equipped with a refrigerating plant to be surveyed in accordance with 4.1.1, documentation stated in 3.2.10.1 and 3.2.10.2 shall contain the data on electrical equipment of the refrigerating plant.
- 3.2.10.2** Documentation on individual types of electric equipment:
- .1 diagrams of electric connections (for systems and equipment specified in 3.2.10.1.1, 3.2.10.1.2, 3.2.10.1.4, 3.2.10.1.8, 4.3.1.1.10) with indication of cable types and places of installation of all elements of the diagrams (*);
- .2 diagrams of essential electric drives (according to 1.3.2.1 and 1.3.2.2, Part XI "Electrical Equipment") with indication of cable types and places of installation of all elements of the diagrams (*);
- .3 diagrams of lubrication systems for electrical machines and air cooling systems for the main electrical machines (*);
- .4 documents on portable electrical measuring instruments and alarm systems for ultimate concentration of dangerously explosive and noxious gases (*);
- .5 failure mode and effects analysis (FMEA) for all electric and hydraulic components of the podded azimuth thrusters used as the rudder and steering gear (**);
- .6 assembly drawings of the main and emergency switchboards, electric propulsion plant switchboards, control stations and panels, special switchboards, power and lighting switchboards (*);
- .7 calculation results of cross-sections of cables with indication of their types, currents and protection (**).

Note. Technical documentation listed in 3.2.10.2 shall be submitted by the designer or alternative organization (contracted manufacturer, supplier, shipyard or system integrator). In the latter case, the documentation shall be developed taking into account the solutions adopted in technical documentation listed in 3.2.10.1, and shall be submitted for approval at the stage of delivery and installation to the RS Branch Office for supervision during construction, together with the documentation according to 1.4.2 of Part XI "Electrical Equipment" of these Rules, approved under technical supervision of electrical equipment as required by Section 10 of Part IV "Technical Supervision during Manufacture of Products" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships."

29 **Chapter 3.2** is supplemented with **new paras 3.2.12 and 3.2.13** reading as follows:

"3.2.12 Documentation on cargo handling gear:

.1 general view of cargo handling gear with indication of its principal characteristics, arrangement on board the ship and securing of the cargo handling gear in "stowed for sea" position (to be submitted for information).

3.2.13 Documentation on refrigerating plants:

.1 cooling capacity calculation with indication of cooling load from each refrigerated cargo space and cold consumer (**);

.2 general arrangement plans of a refrigerating plant with indication of refrigerating equipment and piping arrangement on board the ship, places for installation of temperature and atmosphere control devices (*);

.3 circuit diagrams of main and emergency ventilation systems in the refrigerating machinery spaces and other spaces containing equipment under a refrigerant pressure with indication of the watertight and fire-resisting bulkheads, as well as the number of air changes per hour (*);

.4 air cooling diagram with indication of watertight and fire-resisting bulkheads (*);

.5 arrangement plans of equipment in refrigerating machinery spaces with indication of escape routes (*);

.6 circuit diagram of water screen system of refrigerating machinery space (for Group II refrigerant) (*);

.7 tables of the values of the bounding surface areas of the refrigerated cargo spaces with data on calculated heat-transfer coefficient for each surface and averaged heat-transfer coefficient for the insulating structure of refrigerated spaces (**);

.8 drawings of cargo cooling air ducts in thermoinsulated containers with an indication of the layout on board (*);

.9 drawings of air duct insulation with technical data of insulating materials (*);

.10 arrangement plan of emergency discharge system of refrigerant (*).

Note. In case of unclassified refrigerating plant, only drawings in accordance with 3.2.13.2 – 3.2.13.3 (for refrigerant only), 3.2.13.5 and 3.2.13.10 shall be submitted."

30 **Para 3.3.1.3** is deleted.

31 **Paras 3.3.1.4 — 3.3.1.8** are renumbered **3.3.1.3 — 3.3.1.7** accordingly.

32 **Para 3.3.5.6** is replaced by the following text:

".6 documentation on installation of flooding detection sensors of water ingress into compartments of passenger ship and bulk carrier as specified in Part V "Subdivision". The documentation, as a minimum, shall include:

flooding detection system specification (**);

documents with indication of the location of the flooding detection system equipment (*)."

33 **Para 3.3.10.12** is replaced by the following text:

".12 diagrams of the protective, lightning protection and antistatic earthing (*);"

34 **New para 3.3.10.23** is introduced reading as follows:

".23 drawing of dangerous spaces and zones (only for oil tankers, oil recovery ships, ships carrying liquefied gases in bulk and ships carrying compressed natural gas, chemical tankers, ships other than liquefied gas carriers utilizing gas or other low flash point fuels and ships carrying dangerous goods) (*)."

35 **Chapter 3.3** is supplemented with **new paras 3.3.12 and 3.3.13** reading as follows:

"3.3.12 Documentation on cargo handling gear:

.1 general view of cargo handling gear with indication of their principal characteristics, arrangement on board the ship and securing of the cargo handling gear in "stowed for sea" position (to be submitted for information).

3.3.13 Documentation on refrigerating plants:

.1 cooling capacity calculation with indication of cooling load from each refrigerated cargo space and cold consumer (**);

.2 general arrangement plans of a refrigerating plant with indication of refrigerating equipment and piping arrangement on board the ship, places for installation of temperature and atmosphere control devices (*);

.3 circuit diagrams of main and emergency ventilation systems in the refrigerating machinery spaces and other spaces containing equipment under a refrigerant pressure with indication of the watertight and fire-resisting bulkheads, as well as the number of air changes per hour (*);

.4 air cooling diagram with indication of watertight and fire-resisting bulkheads (*);

.5 arrangement plans of equipment in refrigerating machinery spaces with indication of escape routes (*);

.6 circuit diagram of water screen system of refrigerating machinery space (for Group II refrigerant) (*);

.7 drawings of cargo cooling air ducts in thermoinsulated containers with an indication of the layout on board (*);

.8 arrangement plan of emergency discharge system of refrigerant(*).

Note. In case of unclassified refrigerating plant, only drawings in accordance with 3.3.13.2 — 3.3.13.3 (for refrigerant only), 3.3.13.5, 3.3.13.6 and 3.3.13.8 shall be submitted."

36 **Para 3.4.4.2** is replaced by the following text:

".2 documentation on installation of flooding detection sensors of water ingress into compartments of passenger ship and bulk carrier as specified in Part V "Subdivision", including:

.2.1 flooding detection system specification (**);

.2.2 single-line diagrams of the flooding detection system with indication of equipment location in the ship general arrangement plan (*);"

37 **Chapter 3.4** is supplemented with **new para 3.4.13** reading as follows:

"3.4.13 Documentation on refrigerating plants:

.1 tables of the values of the bounding surface areas of the refrigerated cargo spaces with data on calculated heat-transfer coefficient for each surface and averaged heat-transfer coefficient for the insulating structure of refrigerated spaces (**);

.2 drawings of air duct insulation with technical data of insulating materials (*).

Note. In case of unclassified refrigerating plant, the drawings in accordance with 3.4.13 shall not be submitted."

4 CLASSIFICATION OF REFRIGERATING PLANTS

38 **Para 4.1.1.3** is replaced by the following text:

".3 refrigerating plant ensures the functioning of systems affecting the ship safety. It is allowed to install refrigerating plants that ensure the functioning of systems affecting the ship safety and are not subject to survey, provided they are duplicated."

39 **Chapter 4.3** is replaced by the following text:

"4.3 TECHNICAL DOCUMENTATION OF A REFRIGERATING PLANT

4.3.1 Documentation of a classed refrigerating plant.

4.3.1.1 Prior to delivery of a refrigerating plant onboard the ship, documentation with a sufficient scope of information to prove that the requirements of the RS rules for a refrigerating plant are complied with, shall be submitted to the Register for review:

- .1 technical description of a refrigerating plant (**);
- .2 circuit diagrams of refrigerant, cooling medium, cooling water systems with indication of places for installation of instruments and automatic devices (*);
- .3 arrangement plans of equipment in refrigerated spaces with indication of places for installation of temperature control devices (*);
- .4 construction plans of insulation of refrigerated spaces with specification of insulating materials (*);
- .5 circuit diagrams of automatic control, protection and alarm systems (*);
- .6 list of machinery, vessels and apparatus of refrigerating plant with indication of technical characteristics (**);
- .7 list of control devices and measuring instruments, protection and alarm systems with indication of technical characteristics (**);
- .8 drawings of sealing and flexible joints with indication of details on materials (*);
- .9 list of equipment of the atmosphere control system, including control and automatic devices (**);
- .10 drawings of installation and fastening of machinery, vessels and apparatus (*).

4.3.2 Test program (*).

4.3.2.1 Test program with indication of the method of design cooling load generation (including a calculation of the power of additional heaters to be used) and the method of determining the actual averaged heat-transfer coefficient for the insulating structure of refrigerated cargo spaces shall be approved by the Register prior to commencement of the relevant tests.

4.3.2.2 The scope of tests shall comply with the relevant requirements of the Guidelines on Technical Supervision of Ships under Construction.

4.3.3 Documentation of an unclassified refrigerating plant.

4.3.3.1 Prior to delivery of a refrigerating plant on board the ship, documentation listed in 4.3.1.1.2 and 4.3.1.1.3 (for refrigerant only), 4.3.1.1.5 (for protection and alarm system only), 4.3.1.1.6, 4.3.1.1.7 (for gauges in refrigerant system and protection and alarm devices only), 4.3.1.1.10 shall be submitted to the Register."

PART XVII. DISTINGUISHING MARKS AND DESCRIPTIVE NOTATIONS IN THE CLASS NOTATION SPECIFYING STRUCTURAL AND OPERATIONAL PARTICULARS OF SHIPS

4 REQUIREMENTS FOR THE EQUIPMENT OF SHIPS IN COMPLIANCE WITH THE DISTINGUISHING MARK ANTI-ICE IN THE CLASS NOTATION

40 **Para 4.1.3** is replaced by the following text:

"4.1.3 Technical documentation.

4.1.3.1 The following technical documentation shall be submitted to the Register for approval to assign the distinguishing mark **ANTI-ICE** in the class notation:

- .1 list of technical solutions applied onboard the ship and ensuring compliance with the requirements of this Section;
- .2 arrangement plan of de-icing and anti-icing means with indication of their heating capacity;
- .3 calculations of heating capacity of anti-icing systems equipment;
- .4 electrical single-line diagram of anti-icing systems with heating cables (if any);
- .5 circuit diagrams of steam and/or thermal liquids anti-icing systems (if any).

4.1.3.2 The following documents shall be kept onboard:

- .1 Icing Protection Manual (only for ships without the distinguishing mark **WINTERIZATION** in the class notation);

.2 Stability Booklet approved by the Register, including loading conditions considering icing."

5 REQUIREMENTS FOR THE EQUIPMENT OF OIL TANKERS FOR CARGO OPERATIONS WITH OFFSHORE TERMINALS

41 **Para 5.1.3.1.12** is replaced by the following text:

".12 BLS test program (to be approved by the RS Branch Office for supervision during construction)."

6 REQUIREMENTS FOR HELICOPTER FACILITIES

42 **Para 6.1.3.1.14** is replaced by the following text:

".14 helicopter facility test program (to be approved by the RS Branch Office for supervision during construction)."

7 REQUIREMENTS FOR SHIP EQUIPMENT TO ENSURE LONG-TERM OPERATION AT LOW TEMPERATURE

43 **Para 7.1.3** is replaced by the following text:

7.1.3 Technical documentation.

7.1.3.1 The following technical documentation shall be submitted to the Register for approval to assign the distinguishing mark **WINTERIZATION(DAT)** in the class notation:

.1 list of technical solutions applied onboard the ship and ensuring compliance with the requirements of this Section;

.2 single-line diagrams of electric heating systems (electric heating appliances, systems utilizing heating cables).

7.1.3.2 On board the ship the Manual on operation of ship at low temperature (Winterization Manual) shall be available.

7.1.3.3 When supplying onboard the machinery, equipment, arrangements, outfit, as well as foam concentrate, specified in this Section, the certificates confirming the possibility of their application at design ambient temperature (DAT) shall be provided to the RS surveyor.

7.1.3.4 Technical documentation on products to be submitted for approval in addition to the requirements of the Rules is specified in the relevant chapters of this Section. Technical documentation on products shall include test programs for the equipment specified in this Section and subject to long-term exposure to low temperature."

8 REQUIREMENTS FOR PROPULSION PLANT REDUNDANCY

44 **Para 8.3.1.4** is deleted.

45 **Chapter 8.3** is supplemented with **new para 8.3.2** reading as follows:

"**8.3.2** The program of mooring and sea trials of the ship shall contain verification of the ship compliance with the requirements of this Chapter."

12 REQUIREMENTS FOR SHIPS FOR COMPLIANCE WITH THE DISTINGUISHING MARK IWS IN THE CLASS NOTATION

46 **Para 12.3.1.** The reference to 2.10.2 is replaced with the reference to 2.11.2.

47 **Para 12.3.2.** The reference to 2.10.8 is replaced with the reference to 2.11.8.

18 INDOOR HYGIENE AND SANITARY CONDITIONS

48 **Para 18.1.3.2** is replaced by the following text:

".2 program of mooring and sea trials (A) (to be approved by the RS Branch Office for supervision during construction);".