RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER **No. 313-67-1332c** dated 19.02.2020

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:

controllable pitch propellers, shaft bearings, active means of the ship's steering, torsional vibrations, vibration of machinery and equipment, systems for collection of spilled cargo

Entry-into-force date: **refer to Appendix 1**

~~Valid till:~~

~~Validity period extended till:~~

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

~~dated~~

Number of pages: 1+6

Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Part VII "Machinery installations" and Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships"

Acting Director General Sergey A. Kulikov

Text of CL:

We hereby inform that considering experience of the Rules application, IACS Unified Requirements M52 (Rev 2, Nov 2019), M80 (May 2019) and the results of R&D No.1/2019, the Rules for the Classification and Construction of Sea-Going Ships shall be amended as specified in 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 amendments introduced by the Circular Letter during review and approval of the technical documentation on machinery installations and systems for collection of spilled cargo designed for application on ships contracted for construction or conversion on or after dates indicated in Appendix 1, in the absence of a contract, the keels of which are laid or which are at a similar stage of construction on or after dates indicated in Appendix 1, as well as when performing technical supervision during manufacture of machinery installations requested on or after dates indicated in Appendix 1.

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

Part VII: table 1.3.2.3, paras 5.6.1, 7.1.3, 8.1.6, 9.1.1, 9.1.2, 9.2.1 and 9.2.5, Chapters 9.8 and 9.9
Part XVII: para 3.6.3.3.8

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Appendix 1 to Circular Letter
No. 313-67-1332c dated 19.02.2020

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 VII, table 1.3.2.3	Term in the English version has been specified	313-67-1332c of 19.02.2020	01.04.2020
2	Part VII, table 5.6.1	Requirements for shaft bearings have been specified considering IACS UR M52 (Rev 2, Nov 2019)	313-67-1332c of 19.02.2020	01.01.2021
3	Part VII, table 5.6.1	Requirements for shaft bearings have been specified considering IACS UR M52 (Rev 2, Nov 2019)	313-67-1332c of 19.02.2020	01.01.2021
4	Part VII, para 7.1.3	Application requirements for selection of active means of ship's steering have been specified	313-67-1332c of 19.02.2020	01.04.2020
5	Part VII, para 8.1.6	Requirement for torsional stresses of diesel generators have been specified considering IACS UR M80 (May 2019)	313-67-1332c of 19.02.2020	01.07.2020
6	Part VII. Para 9.1.1	Application requirements for vibration of machinery and equipment have been specified	313-67-1332c of 19.02.2020	01.04.2020
7	Part VII, para 9.1.2	Requirements for vibration measurement have been specified	313-67-1332c of 19.02.2020	01.04.2020
8	Part VII, para 9.2.1	Additional parameter of vibration control has been introduced	313-67-1332c of 19.02.2020	01.04.2020
9	Part VII. Para 9.2.5	References to figures have been specified	313-67-1332c of 19.02.2020	01.04.2020
10	Part VII, Chapter 9.8	Para 9.8.4 has been deleted	313-67-1332c of 19.02.2020	01.04.2020
11	Part VII, Chapter 9.9	Vibration standards for main azimuth thrusters have been specified	313-67-1332c of 19.02.2020	01.04.2020
12	Part XVII, para 3.6.3.3.8	Requirements for systems for collection of spilled cargo have been specified	313-67-1332c of 19.02.2020	01.04.2020

Appendix 2 to Circular Letter
No. 313-67-1332c dated 19.02.2020

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

ND No. 2-020101-124

PART VII. MACHINERY INSTALLATIONS

1 GENERAL

1 Item 2.4 of **Table 1.3.2.3** in the English version is replaced by the following text:

"

2.4	CPP crosshead in **Arc4** to **Arc9** ice class ships and icebreakers	Forged steel Cast steel	3.7 3.8

".

5 SHAFTING

2 **Table 5.6.1**. Footnote "5" is replaced by the following text:

"[5] The length of bearing may be less provided the nominal bearing pressure as determined by static bearing reaction calculation taking into account shaft and propeller weight which is deemed to be exerted solely on the aft bearing divided by the projected area of the shaft is not more than 0,6 MPa and provided the results of the operational check are satisfactory. However, the minimum length shall be not less than 1,5 times the actual diameter. Synthetic materials for application as oil lubricated stern tube bearings shall be type approved.".

3 **Table 5.6.1** is supplemented by footnote "6" reading as follows:

"[6] The length of a grease lubricated bearing shall be not less than 4,0 times the rule diameter of the shaft in way of the bearing.".

7 ACTIVE MEANS OF THE SHIP'S STEERING

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

"**7.1.3** The type and structure of AMSS shall be selected during ship design considering the ship purpose and area of navigation, as well as operational peculiarities.".

8 TORSIONAL VIBRATIONS

5 **New para 8.1.6** is introduced reading as follows:

"**8.1.6** The diesel generator shall show torsional vibration levels which are verified (considering the structure) and are compatible with the allowable limits for the alternator, shafts, coupling and damper. Herewith, the rated power used at calculations shall be appropriate for the actual use of the diesel generator; coupling shall be selected considering stresses and torques resulted from torsional vibrations of the system.".

9 VIBRATION OF MACHINERY AND EQUIPMENT VIBRATION STANDARDS

6 **Para 9.1.1** is replaced by the following text:

"**9.1.1** This Section sets down the limits of vibration levels (vibration standards) for ships machinery and equipment.

The standards are intended to determine whether actual vibration levels in machinery and equipment installed onboard the ships during construction (after repair) and ships in service are permissible proceeding from vibration parameter measurements. The vibration standards provide three categories of technical condition of ship machinery and equipment:

A — condition of machinery and equipment after manufacturing (construction of the ship) or repair at the commissioning;

B — condition of machinery and equipment during normal operation;

C — condition of machinery and equipment when technical maintenance or repair is required.

The standards determine the upper limits of categories *A* and *B*.

For machinery and equipment, not mentioned in this section but affecting the safe operation of the ship, if it is required to assess their levels of vibration, one shall be guided by the standards specified by the manufacturer, or applicable national and international standards.

Manufacturer of ships machinery and equipment may apply other standards provided convincing data are available that the product is capable of operating under other vibration conditions.".

7 **Para 9.1.2** is replaced by the following text:

"**9.1.2** Vibration measurements shall be taken on all the first ships of a series being built at each shipyard, on the first ship of modified design, on the single buildings and on the ships undergone conversion.

Vibration measurements of machinery and equipment shall be taken during construction of the ship according to the program approved by the Register in compliance with the instructions of 18.6 of the Guidelines on Technical Supervision of Ships under Construction.".

8 **Para 9.2.1** is replaced by the following text:

"**9.2.1** The root-mean square value of vibration rate, measured in 1/3-octave band, is assumed as the basic vibration parameter. Standardized root-mean square values of vibration rate in frequency band 2 — 1000 Hz indicated in the normative documents for specified machinery and equipment, are assumed as an additional parameter for vibration control. Measuring of vibration in octave band is allowed.".

9 **Para 9.2.5** is replaced by the following text:

"**9.2.5** Measurements of vibration of the machinery and equipment shall be taken for each of the three inter-perpendicular direction about the ship axes: vertical, horizontal-transverse and horizontal-longitudinal. For internal combustion engines, measurements of vibration shall be taken according to direction of axes: *x* — axial (coincident with the direction of the crankshaft), *y* — horizontal-transverse, *z* — vertical. Such designation shall be applied for main diesel engines and diesel engines of diesel-generators. The points of vibration measuring are indicated in Figs. 9.2.5, 9.8.1-2 and 9.9.1.".

10 **Para 9.8.4** is deleted.

11 **Chapter 9.9** is replaced by the following text:

"9.9 VIBRATION STANDARDS FOR MAIN AZIMUTH THRUSTERS

9.9.1 Vibration standards are extended to cover ICE- or electric motor driven main azimuth thrusters.

It is allowed to use vibration standards for auxiliary azimuth thrusters and athwartship thrusters.

The points and directions of vibration measuring are given in Fig. 9.9.1.

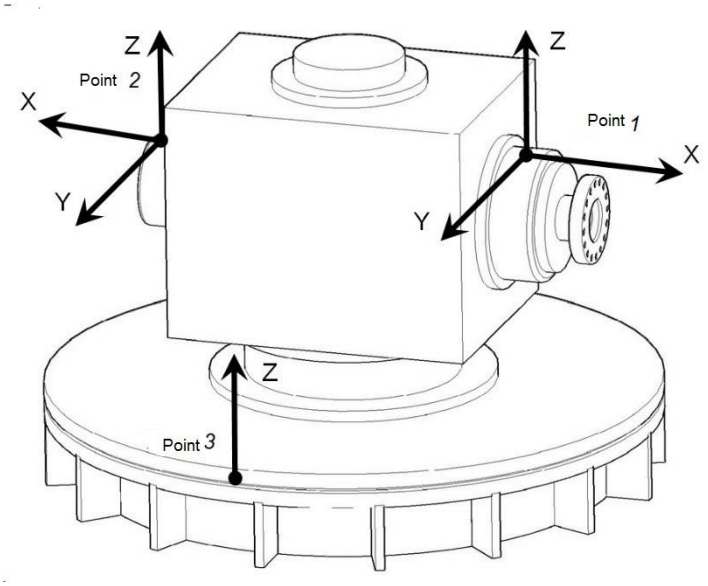

Fig. 9.9.1
Points of vibration measuring of main azimuth thrusters

9.9.2 Vibration of main azimuth thrusters is considered admissible for the categories as follows *A* and *B*, if the root-mean square values of vibration rate measured in the direction of axes X, Y, Z do not exceed the values in Table 9.9.3 and in Fig. 9.9.3.

9.9.3 Vibration of machinery and devices hung on main azimuth thrusters shall not exceed the levels listed in this Section for specified machinery and devices.

Table 9.9.3

Vibration standards of azimuth thrusters				
Geometric mean frequencies of 1/3-octave bands, Hz	Category *A*		Category *B*	
	mm/s	dB	mm/s	dB
4	2,3	93	4,0	98
5	2,8	95	5,0	100
6,3	3,5	97	6,2	102
8	4,5	99	7,8	104
10	5,7	101	9,8	106
12,5	7,0	103	12,0	108
16	7,0	103	12,0	108
20	7,0	103	12,0	108
25	7,0	103	12,0	108
31,5	7,0	103	12,0	108
40	7,0	103	12,0	108
50	7,0	103	12,0	108
63	7,0	103	12,0	108
80	7,0	103	12,0	108
100	7,0	103	12,0	108
125	7,0	103	12,0	108
160	7,0	103	12,0	108
200	7,0	103	12,0	108
250	7,0	103	12,0	108
320	7,0	103	12,0	108
400	7,0	103	12,0	108
500	7,0	103	12,0	108

Vibration standards of azimuth thrusters				
Geometric mean frequencies of 1/3-octave bands, Hz	Category *A*		Category *B*	
	mm/s	dB	mm/s	dB
630	5,7	101	9,8	106
800	4,4	99	7,8	104
1000	3,5	97	6,2	102

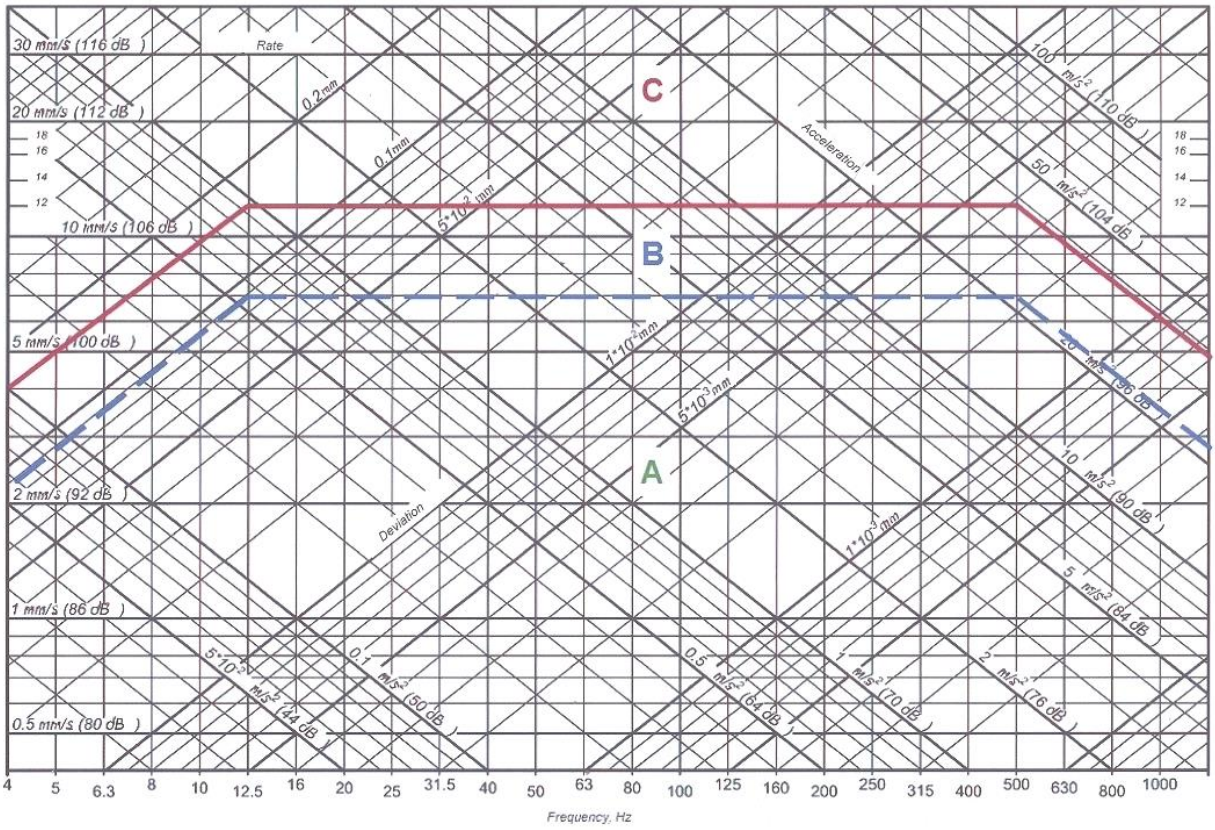

Fig. 9.9.3

Vibration standards of main azimuth thrusters".

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

3 REQUIREMENTS FOR THE EQUIPMENT OF SHIPS IN COMPLIANCE WITH THE DISTINGUISHING MARKS ECO AND ECO-S IN THE CLASS NOTATION

12 **Para 3.6.3.3.8** is replaced by the following text:

"**3.6.3.3.8** In addition to the requirements specified in 3.5.3.3.8, locations on the open deck in the areas of receiving fuel and lubricating oil manifolds shall be fitted with a system for collection of the spilled cargo with its accumulation in a holding tank or a slop tank.

Collection of the spilled cargo may be performed using particular pump and pipes located in the areas of receiving fuel and lubricating oil manifolds or by gravity drainage through specially provided pipes.

Automatic gravity drainage shall be used during bunkering operation where fuel and oil spills may occur. For gravity drainage, each pipe of deck system shall be arranged with a manually operated stop valve opened only during bunkering operation and an automatic scupper or non-disconnectable drainage arrangement preventing vapour discharge to the atmosphere.".