RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER **No.** 314-26- 985c dated 22.02.2017

Re:

amendments to the Rules for the Classification and Construction of Sea-Going Ships, 2017, in respect of the stem design of icebreakers and ice class ships

Item of technical supervision:

ships under construction

Implementation	from the date of publication
Valid: till	-
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Appendices:	amendments to Part II "Hull" and Part XIV "Welding" of the Rules for the Classification and Construction of Sea-Going Ships, 2017, ND No. 2-020101-095-E

Director General K.G. Palnikov

Amends Rules for the Classification and Construction of Sea-Going Ships, 2017, ND No. 2-020101-095-E

We hereby inform you of amendments to Part II "Hull" and Part XIV "Welding" of the Rules for the Classification and Construction of Sea-Going Ships, 2017, ND No. 2-020101-095-E, regarding the requirements for stem design of icebreakers and ice class ships. The amendments are given in the Appendix 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 and all interested organizations and persons in the area of the RS Branch Office activity.
2) Apply the provisions of the Circular Letter in the RS practical activity.

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"Thesis" System: 17-9920 of 17.01.2017

Appendix to Circular Letter No. 314-26- dated .2017

RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SEA-GOING SHIPS, 2017,

ND No. 2-020101-095-E

Part II "HULL"

3.10 STRENGTHENING OF ICE CLASS SHIPS AND ICEBREAKERS

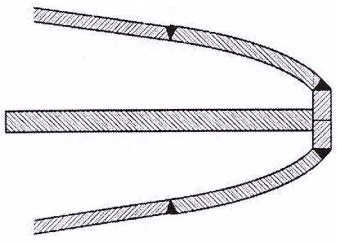
Para 3.10.2.6.1 shall be amended to read:
"Icebreakers and ice class ships shall have a solid section stem made of steel. The stems for **Icebreaker8, Icebreaker9** icebreakers and **Arc8, Arc9** ice class ships, as well as sternframes for icebreakers of all classes and **Arc5, Arc6, Arc7**, **Arc8, Arc9** ice class ships shall be made of forged or cast steel. Stems and sternframes welded of cast or forged parts are admissible."

Para 3.10.2.6.2. Fig. 3.10.2.6.2 shall be renumbered as Fig. 3.10.2.6.2-2.

Para 3.10.2.6.2 shall be amended to read:
"For **Icebreaker6, Icebreaker7** icebreakers and **Ice1, Ice2, Ice3, Arc4, Arc5, Arc6, Arc7** ice class ships, a combined stem with bar welded thereto (Fig. 3.10.2.6.2-1, *a*), or a plate stem (Fig.3.10.2.6.2-1, *b*) may be used. Combined or plate stem structures shall be welded with full penetration in compliance with the requirements of Part XIV "Welding". For ships of less than 150 m in length with a sharp-lined bow, the stem shown in Fig. 3.10.2.6.2-2 may be used (the value of *s* shall be determined by Formula (3.10.4.10.1-3)).
For **Ice1, Ice2, Ice3, Arc4** ice class ships, combined or plate sternframes may be used."

Para 3.10.2.6.2 shall be supplemented with the following figure:

a)



b)

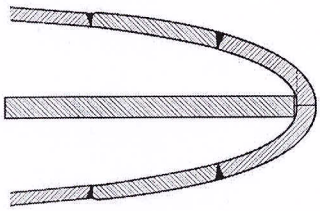


Fig. 3.10.2.6.2-1 Examples of combined (*a*) and plate (*b*) stems

Para 3.10.2.6.3. In the first sentence the words "In **Ice1 — Ice3, Arc4 — Arc7** ice class ships, the stem shall, where practicable, ..." shall be replaced by the words "For **Ice1, Ice2, Ice3, Arc4, Arc5, Arc6, Arc7** ice class ships, the stem shall, where practicable,...".

Para 3.10.4.10.1 shall be supplemented by the following text:
"For **Icebreaker6, Icebreaker7** icebreakers and **Arc4, Arc5, Arc6, Arc7** ice class ships, the plate thickness *s*, in mm, of combined and plate stems shall not be less than determined by the formulae:

$$s = s_{stem} + \Delta s_{sp0} \qquad (3.10.4.10.1\text{-}4)$$

where $s_{stem} = 18{,}7 a_b \sqrt{\frac{p_{AI}}{R_{eH}}}$;

for $\Delta s_{sp0}, a_b$ R_{eH} refer to Formula (3.10.4.10.1-3);

p_{AI} = ice pressure for icebreakers according to 3.10.3.5.1, for ice class ships according to 3.10.3.2.1."

PART XIV "WELDING"

3.1 GENERAL

Para 3.1.5.1 shall be amended to read:

"Acceptance non-destructive testing of welded joints shall be carried out (unless specified otherwise) after completion of all welding and straightening prior to painting or priming, or prior to application of galvanic and other coverings.
During welding of higher or high strength steels structures at least 48 h shall pass between completion of welding and start of acceptance testing.

Notes: 1. If a manufacturer can submit a documentary evidence of resistance to cold cracking for the applied materials and welding procedure, the time between the completion of welding and start of testing may be reduced for A/F40 grade steels and lower as per thicknesses up to 40 mm inclusive.

2. This requirement doesn't cover operational technical testing performed during manufacture of products in accordance with the requirements of technical regulation (e.g., the layer testing of welded joints by visual testing, testing of welded joints with partially filled groove etc.).

3. For stem structures of icebreakers and ice class ships, at least 72 h shall pass between completion of welding and start of acceptance testing of welded joints.

3.3 SCOPE OF NON-DESTRUCTIVE TESTING

Table3.3.1 shall be supplemented by item 9 reading as follows:

9	Welded joints on the welded stem	Butt, fillet weld or T-joint, full penetration	100	-	50 % of welded joints of hull plating with stem plates, 50 % of welded joints of stem plates

3.4 ASSESSMENT OF WELDED JOINT QUALITY IN HULL STRUCTURAL STEEL

Table 3.4.1.2. The text of Footnote 2 shall be amended to read:

"[2]For welded stem of icebreakers and ice class ships, the minimum quality level shall be equal to B.".