



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 314-44- *964c*

dated *08. 12.2016*

Re:

amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2016, ND No. 2-020101-040-E in connection with coming into force of IACS Unified Interpretation (UI) SC246 (Rev.1 Sept 2015)

Item of technical supervision:

Место для ввода текста.

Implementation 01.01.2017

Valid: till -

Validity period extended till -

Cancels / amends/ supplements Circular Letter No.

Number of pages: 1+2

Appendices: text of amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2016, ND No. 2-020101-040-E

Director General

K.G. Palnikov

Amends Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2016, ND No. 2-020101-040-E

We hereby inform that in connection with coming into force from 1 January 2017 of IACS UI SC246 (Rev.1 Sept 2015), Chapter 3.4, Part V "Technical Supervision during Construction of Ships" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2016, ND No. 2-020101-040-E shall be amended as specified in the Appendix to the Circular Letter.

IACS UI SC246 (Rev.1 Sept 2015) in English is posted on the RS internal website in the Section "Normative Documents/External Normative Documents/02 IACS Documents/0221 SC". The specified amendments shall be implemented on ships contracted for construction on or after 1 January 2017. The "contracted for construction" date means the date on which the contract to build the ship is signed between the prospective owner and the shipyard (in compliance with IACS Procedural Requirement No. 29).

It is necessary to do the following:

1. Apply the requirements given in the Appendix to the Circular Letter in the RS practical activity.
2. 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.

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RULES FOR TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS AND MANUFACTURE OF MATERIALS AND PRODUCTS FOR SHIPS, 2016, ND No. 2-020101-040-E

PART V. TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS

3.4 RUDDER AND STEERING GEAR

Para 3.4.3.1 shall be supplemented with the following text:

“On all occasions when trials are conducted with the ship not at the deepest sea-going draught, the loading condition can be accepted on the conditions that either:

the rudder is fully submerged (at zero speed waterline) and the ship is in an acceptable trim condition;

the rudder torque at the trial loading condition have been reliably predicted (based on the system pressure measurement) and extrapolated to the maximum sea-going draught condition using the following method to predict the equivalent torque and actuator pressure at the deepest sea-going draught:

$$Q_F = Q_T \alpha;$$

$$\alpha = 1,25 \left(\frac{A_F}{A_T} \right) \left(\frac{V_F}{V_T} \right)^2$$

where α = extrapolation factor;

Q_F = rudder stock moment for the deepest service draught and maximum service speed condition;

Q_T = rudder stock moment for the trial condition;

A_F = total immersed projected area of the movable part of the rudder in the deepest sea-going condition;

A_T = total immersed projected area of the movable part of the rudder in the trial condition;

V_F = contractual design speed of the ship corresponding to the maximum continuous revolutions of the main engine at the deepest sea-going draught;

V_T = measured speed of the ship (considering current) in the trial condition.

Where the rudder actuator system pressure is shown to have a linear relationship to the rudder stock torque, the above equation can be taken as

$$P_F = P_T \alpha$$

where P_F = estimated steering actuator hydraulic pressure in the deepest sea-going draught condition;

P_T = maximum measured actuator hydraulic pressure in the trial condition.

Where constant volume fixed displacement pumps are utilized, then the regulations can be deemed satisfied if the estimated steering actuator hydraulic pressure at the deepest draught is less than the specified maximum working pressure of the rudder actuator. Where a variable delivery pump is utilized, pump data shall be supplied and interpreted to estimate the delivered flow rate corresponds

to the deepest sea-going draught in order to calculate the steering time and allow it to be compared to the required time.

Where $A_T > 0,95A_F$, there is no need for extrapolation methods to be applied.

Alternatively the designer or builder may use computational fluid dynamic (CFD) studies or experimental investigations to predict the rudder stock moment at the full sea-going draught condition and service speed. These calculations or experimental investigations shall be approved by RS;”.