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# **RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS**

**RULES**

**Part U**    **Intact Stability**

**2023    AMENDMENT NO.1**

Rule No.29      30 June 2023

Resolved by Technical Committee on 25 January 2023

An asterisk (\*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

Rule No.29 30 June 2023

AMENDMENT TO THE RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

“Rules for the survey and construction of steel ships” has been partly amended as follows:

**Part U INTACT STABILITY**

**Chapter 1 GENERAL**

**1.2 Stability Information**

**1.2.3 Special Requirements for Bulk Carriers\***

Sub-paragraph -1 has been amended as follows.

**1** Bulk carriers as defined in ~~31A.1.2(1)~~**An1.2.1(1), Annex 1.1, Part 2-2, Part C**, of less than 150m in length  $L_f$  but not less than 500 *gross tonnage* are to be fitted with a stability computer approved by the Society, as a supplement to the stability information booklet.

**EFFECTIVE DATE AND APPLICATION**

- 1.** The effective date of the amendments is 1 July 2023.
- 2.** Notwithstanding the amendments to the Rules, the current requirements apply to the following ships:
  - (1) ships for which the date of contract for construction is before the effective date; or
  - (2) sister ships of ships subject to the current requirements for which the date of contract for construction is before 1 January 2025.

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# **GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS**

**Part U**

**Intact Stability**

**GUIDANCE**

**2023 AMENDMENT NO.1**

Notice No.28      30 June 2023

Resolved by Technical Committee on 25 January 2023

Notice No.28 30 June 2023

AMENDMENT TO THE GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

“Guidance for the survey and construction of steel ships” has been partly amended as follows:

**Part U INTACT STABILITY**

**Amendment 1-1**

**Annex U1.2.2 GUIDANCE FOR STABILITY COMPUTER**

**1.2 Software for Stability Calculation**

**1.2.4 Approval of Software**

Sub-paragraph (4) has been amended as follow.

- (4) For the approval of software, any applicant is to submit the following documents in addition to the software.
- (a) Application ~~for approval form~~ form (including applicable type of ship, where it is limited)  
**(Form-SCPsoftware)**
  - ((b) to (d) are omitted.)

**EFFECTIVE DATE AND APPLICATION (Amendment 1-1)**

- 1.** The effective date of the amendments is 30 June 2023.

## U1 GENERAL

### U1.1 General

#### U1.1.4 Definitions

Sub-paragraph -1 has been amended as follows.

**1** In applying the requirements of **1.1.4(1), Part U of the Rules**, “openings in the hull, superstructures or deckhouses which cannot be closed weathertight” include ventilators provided with weathertight closing appliances in accordance with the requirements of ~~23.6.5-2~~ **14.12.3.1-3, Part 1, Part C of the Rules** or **21.6.5-2, Part CS of the Rules** that for operational reasons have to remain open to supply air to the engine room, emergency generator room or closed ro-ro and vehicle spaces (if the same is considered buoyant in the stability calculation or protecting openings leading below) for the effective operation of the ship. Where it is not technically feasible to treat some closed ro-ro and vehicle space ventilators as unprotected openings, an alternative arrangement that provides an equivalent level of safety may be used provided that it is deemed appropriate by the Administration.

### U1.2 Stability Information

#### U1.2.2 Stability Computer

Sub-paragraphs -1(1) to (3) have been amended as follows.

**1** The computer for stability calculation and the operation manual specified in **1.2.2, Part U of the Rules** is to be prepared in accordance with **Annex U1.2.1 “GUIDANCE FOR STABILITY INFORMATION FOR MASTER”**. Software for the stability calculation is to be determined corresponding to the stability requirements applied to the ship and, in general, according with the followings.

- (1) For ships other than those specified in (2) or (3) (*e.g.*, dry cargo ships of less than 80m in subdivision length ( $L_s$ ) defined in ~~4.1.2(6)~~ **2.3.1.2(6), Part 1, Part C of the Rules**, ships assigned to *B*-60 or *B*-100 freeboard in accordance with the provisions of **Part V of the Rules**), software is to be able to calculate intact stability for each loading condition (Type 1).
- (2) For ships subject to the subdivision requirements specified in ~~Chapter 42.3, Part 1, Part C~~ or **Chapter 4, Part CS**, as applicable, but excluding bulk carriers as specified in (3), software is to be able to calculate intact stability as specified in (1) and checking damage stability by showing a limit  $G_0M$  curve or previously approved loading conditions (Type 2).
- (3) For tankers, ships carrying liquefied gases in bulk and ships carrying dangerous chemicals in bulk, and ships bulk carriers subject to the requirements of ~~31A.2An2.~~ **Annex 1.1, Part 2-2, Part C of the Rules** and the compliance with the requirements of ~~31A.2.1.2An2.1.1-2,~~ **Annex 1.1, Part 2-2, Part C of the Rules** has been done for all conditions loaded to the summer load line, software is to be able to calculate intact stability and damage stability by direct application of pre-programmed damage cases for each loading condition (Type 3).

## **Annex U1.2.1 GUIDANCE FOR STABILITY INFORMATION FOR MASTER**

### **1.3 The Details of Each Content**

#### **1.3.5 Data for Cargoes, Stowage, etc.**

Sub-paragraph -2 has been amended as follows.

#### **2 General arrangement**

Drawings in a suitable scale, which show the arrangement of cargo spaces, tanks, lockers and stores, machinery spaces, accommodation spaces, compartments, closing apparatuses and vents together with their name, downflooding angles, permanent ballast, allowable deck loadings and freeboard, are to be attached.

In case of ships to which the requirements in ~~Chapter 42.3, Part 1, Part C of the Rules~~ apply, the plans showing clearly the boundaries of each compartment (shells, decks and bulkheads), the openings therein with the control positions of closing apparatuses, and the arrangements of means, if fitted, to ensure the stability of the ship after flooding are to be attached in addition to above. However, if these plans are permanently posted on the bridge, these requirements may be waived.

#### **1.3.9 Stability in Standard Loading Condition**

Sub-paragraph -1 has been amended as follows.

#### **1 Standard loading condition**

The undermentioned conditions are to be at least included in standard loading conditions unless they are clearly inappropriate. A departure condition means a condition in which provisions and fuel are fully loaded and an arrival condition means a condition in which 90% thereof are consumed. In full load departure conditions, it is to be assumed that water ballast tanks are empty and that the ship is loaded to its subdivision load line used for damage stability calculations according to ~~Chapter 42.3, Part 1, Part C of the Rules~~ or summer load line, if intended to carry a timber deck cargo, to the summer timber load line or for tankers, ships carrying liquefied gases in bulk and ships carrying dangerous chemicals in bulk assigned with a tropical load line, the ship should be assumed to be loaded to the tropical load line (if the tropical load line is not assigned to the ships, the ships should be assumed to be loaded to the summer load line). In all cases, the cargo in holds is assumed to be fully homogeneous unless this condition is inconsistent with the practical service of the ship.

((1) to (6) are omitted.)

#### **1.3.10 General Data**

Sub-paragraph -4 has been amended as follows.

#### **4 Hydrostatic values**

Hydrostatic values in the range of light draught to 115% of the maximum draught in intervals not more than 5cm are to be presented on the basis of mean draught above underside of keel in the designed trim condition. Stability information is to show the influence of various trims on hydrostatic values for a suitable range of trim in cases where the operational trim range exceeds +/- 0.5% of  $L_s$  specified in ~~4.1.2(6)~~ 2.3.1.2(6), Part 1, Part C of the Rules. The following items are to be included:

- (1) Mould displacement and displacement including shell platings, etc. (Specific gravity of sea water is to be  $1.025(t/m^3)$ . Lower specific gravity may be adopted subject to the approval by the Administration.)
- (2) *TPC, MTC*
- (3) *TKM (LKM to be included, if necessary)*
- (4)  $l_{cb}, l_{cf}$  (*KB to be included, if necessary*)
- (5)  $C_b$
- (6) Thickness of keel plates

Sub-paragraph -10 has been amended as follows.

**10** If the damage stability is calculated in accordance with the requirements specified in ~~Chapter 4, Part C of the Rules or C6.1.1-3(1)~~ **2.3 or 2.4.1.1-4(1), Part 1, Part C of the Rules**, a stability limit curve is to be determined using linear interpolation between the minimum required  $G_0M$  assumed for each of the three draughts  $d_s, d_p$  and  $d_l$ . When additional subdivision indices are calculated for different trims, a single envelope curve based on the minimum values from these calculations is to be presented. When it is intended to develop curves of maximum permissible  $KG_0$  it is to be ensured that the resulting maximum  $KG_0$  curves correspond with a linear variation of  $G_0M$ . When light service draught is not with the same trim as other draughts, *TKM* for draughts between partial and light service draught are to be calculated for trims interpolated between trim at partial draught and trim at light service draught.

Sub-paragraph -11 has been amended as follows.

**11** As an alternative to the single envelope curve specified in **-10** above, the calculations for additional trims may be carried out with one common  $G_0M$  for all of the trims assumed at each subdivision draught. The lowest values of each partial index  $A_s, A_p$  and  $A_l$  across these trims are then to be used in the summation of the attained subdivision index  $A$  according to the requirements specified in ~~Chapter 4.2.3, Part 1, Part C of the Rules~~ **2.3, Part 1, Part C of the Rules**. This will result in one  $G_0M$  limit curve based on the  $G_0M$  used at each draught. A trim limit diagram showing the assumed trim range is to be developed. (See **Fig. 1**)

#### EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 1 July 2023.
2. Notwithstanding the amendments to the Guidance, the current requirements apply to the following ships:
  - (1) ships for which the date of contract for construction is before the effective date; or
  - (2) sister ships of ships subject to the current requirements for which the date of contract for construction is before 1 January 2025.