TÜRK LOYDU RULE CHANGE SUMMARY

TL NUMBER: 02/2020 JUNE 2020

Latest editions of TL Rules incorporate all rule changes. The latest rule revisions of a published rule are shown with a vertical line. Changes after the publication of the rule are written in red colour.

Please note that within this document added items are written in red and for deleted items strikethrough is applied. After the publication of relevant rule, those revisions are to be indicated with a vertical line. Following Rule Changes presented in English are also implemented into Turkish Version of Rules.

RULE CHANGE SUMMARY

CLASSIFICATION AND SURVEYS

No	Item
01	Section 2
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CHAPTER 1 – HULL

No	Item
01	Content
02	Section 1
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CHAPTER 3 – WELDING

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CHAPTER 5 - ELECTRICAL INSTALLATION

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No	Item
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03	**Section 13**

CHAPTER 22 - Dynamic Positioning Systems

No	**Item**
01	**Section 02**

CHAPTER 33 - POLAR CLASS SHIPS

No	**Item**
01	**Section 10**

CHAPTER 50 - Rules for Lifting Appliances

No	**Item**
01	**Section 08**

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CHAPTER 78 - Rules for Classification of Ships Using Gases or Other Low-Flashpoint Fuels

No	**Item**
01	**Section 06**

CLASSIFICATION AND SURVEYS

01. Section 2 – Classification

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item A, 2.3.3 was revised according to PR 35 Rev.1 as below:

2.3.3 **TL** will release information from reports and certificates to the Port State to assist in rectification of deficiencies during port state controls. Such information includes ~~recommendations~~ condition of class, survey due dates, and certificate expiration dates.

Item B, 3.1.2 was revised according to PR 35 Rev.1 as below:

3.1.2 Class may be transferred with ~~recommendation~~ condition of class not impairing safe operation of ship.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item B, 3.2.3 was revised according to PR 1D Rev.2 as below:

.....

In cases where the vessel has been previously classed by **TL**, the submission of plans may be specially considered subject to confirmation of no alteration/modification to the vessel.

In cases where the vessel has been previously classed by **TL** or an IACS Member, the ~~submission~~ extent of plan~~s~~ appraisal may be specially considered subject to confirmation of no alteration/modification to the vessel.

Where plan appraisal issues remain outstanding, **TL** may impose a ~~Recommendation~~ condition of class for a limited time period in accordance with TL- PR 35.

.....

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item B, 3.3 was revised according to PR 1A Rev.7 as below:

Note:

Class entry surveys may be, but are not required to be, credited as periodical surveys for maintenance of classification. ~~Recommendations~~ Condition of class due for compliance at a specified periodical survey for maintenance of classification need not be carried out/complied with at a class entry survey unless the class entry survey is credited as the specified periodical survey for maintenance of classification or the ~~recommendation~~ condition of class is overdue.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item B, 3.3.2.3 was revised according to PR 1D Rev.2 as below:

3.3.2.3 Where the vessel has, during any portion of the five years prior to the request for classification being received, been previously classed by TL or an IACS member and has not been subject to alteration or modification since class was withdrawn, the survey requirements may be specially considered but are not to be less than the following:

- for vessels previously classed with Türk Loydu – all overdue surveys and overdue conditions of class, or
- for vessels previously classed with an IACS member ~~at the time it classed the vessel~~ – surveys the same as~~,~~

~~then survey requirements may be specially considered but are not to be less than~~ those required by 3.3.1.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item B, 3.4.4 was revised according to PR 1C Rev.6 as below:

……

- when the appraisal of the plans listed in 3.2.1, has been carried out (Where issues remain outstanding, **TL** may impose a ~~Recommendation~~ condition of class for a limited time period in accordance with Procedural Requirement TL- PR 35);

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item C, 2.14 was revised as below:

2.14 ~~Recommendations~~ Conditions of Class and Memoranda

~~Recommendations~~ Conditions of Class

Any defect and/or deficiency affecting the class and to be dealt with within a specific period of time is indicated as a ~~recommendation~~ condition of class. ~~Recommendation~~ condition of class is pending until it is cleared. Where it is not cleared by its limit date, the ~~recommendation~~ condition of class is overdue.

Memoranda

Any defect and/or deficiency, not affecting the maintenance of class, or any other information deemed noteworthy is indicated as a memorandum. Memoranda are not to be regarded as ~~recommendations~~ conditions of class.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item C, 3.2.3 was revised according to PR 1C Rev.6 as below:

……

- Re-examination of ~~recommendations~~ conditions of class;
- Progression of the Class Renewal Survey as far as practicable;
- In the case where dry docking is due prior to the end of the class extension, an underwater examination is to be carried out by an approved diving company. An underwater examination by an approved company may be dispensed with in the case of extension of dry-docking survey not exceeding 36 months interval provided the ship is without outstanding ~~recommendation~~ condition of class regarding underwater parts.

Item C, 4.3.1.2 was revised according to PR 1C Rev.6 as below:

……

- The imposed, deleted and postponed ~~recommendations~~ conditions of class,
- The unchanged existing ~~recommendation~~ condition of class.

Item C, 5.2.3 was revised according to PR 1C Rev.6 as below:

……

If ~~recommendations~~ conditions of class revealed during the surveys given above are not dealt with, or postponed by agreement by the due date, then vessel is subject to suspension procedure.

Item C, 5.2.5 was revised according to PR 1C Rev.6 as below:

……

- Carries out the due and/or overdue surveys and examination of ~~recommendations~~ conditions of class at the first port of call when there is an unforeseen inability of the **TL** to attend the vessel in the present port, and

Item C, 5.3.1 was revised according to PR 1C Rev.6 as below:

5.3.1 If the overdue surveys and ~~recommendations~~ conditions of class leading to class suspension as given in items 5.2.2, 5.2.3, 5.2.4 and 5.2.5 are carried out within the specified time, the class is to be reinstated provided the following is met:

- The results of the survey are such that all observed deficiencies are satisfactory rectified. TL may, after consideration, accept that minor deficiencies are pending to be carried out;
- No overdue periodical surveys or overdue ~~recommendations~~ conditions of class at that time.

Item C, 5.4.2 and 5.4.3 were revised according to PR 1C Rev.6 as below:

5.4.2 When class of a vessel has been suspended for a period of six (6) months due to overdue surveys and/or ~~recommendations~~ conditions of class, the class is to be withdrawn. A longer suspension period may be granted when the vessel is not trading as in cases of layup, awaiting disposition in case of a casualty or attendance for reinstatement.

5.4.3 When a ship proceeds to sea without having rectified a ~~recommendation~~ condition of class which was required to be dealt with before leaving port, the class will be withdrawn with immediate effect.

Item C, 7.1 was revised according to PR 1C Rev.6 as below:

For **TL** ~~recommendations~~ conditions of class about laying-up processes, survey items, maintenance and preservation methods during lay-up refer to "**TL** Guidelines for Laid-Up Vessels".

Item C, 7.7 was revised according to PR 1C Rev.6 as below:

7.7 When a vessel is intended for a single voyage from laid-up position to a repair yard or another place of lay-up with any periodical survey overdue, the vessel's class suspension may be held in abeyance and consideration may be given to allow the vessel to proceed on a single direct ballast voyage from the site of lay up to ~~the~~ a repair yard or another place of lay-up, upon agreement with the Flag State, provided the **TL** finds the vessel in satisfactory condition after surveys, the extent of which are to be based on surveys overdue and duration of lay-up. A short term Class Certificate with conditions for the intended voyage may be issued. This is not applicable to vessels whose class was already suspended prior to being laid-up.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item D.2.3.1.2 was deleted as below:

~~**2.3.1.2** The character of class **1A3, 1A2, 1A1** is to be given to ships with its hull does not comply or no longer fully complies with the requirements of **TL** construction rules, however, the class may be maintained for a shorter period, with shorter survey intervals.~~

~~The figures 3,2,1 indicate the duration of the period of class, in years.~~

Revision Date: June 2020

Entry into Force Date: 1 July 2020

OFFSHORE SERVICE~~SUPPLY~~ VESSEL	This notation is assigned to vessels which are primarily engaged in the transport of store, materials and equipment to offshore installations as well as offshore construction	Offshore Service~~Supply~~ Vessels	Part C Chapter 36	Classification and Surveys Section 3

02. Section 3 – Surveys

Revision Date: March 2020

Entry into Force Date: 1 July 2020

Item A.1.11 was revised according to UR Z10s as below:

1.11 Prompt and thorough repair is a permanent repair completed at the time of survey to the satisfaction of the surveyor, therein removing the need for the imposition of any associated ~~recommendation~~ condition of class.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item A.2.14 was revised according to UR Z7.1 Rev.15 as below:

- General dry cargo ships of double side-skin construction, with double side-skin extending for the ~~entire~~ length of the cargo area, and for the ~~entire~~ height of the cargo hold to the upper deck (Special consideration may also be given to ships that are of double side-skin construction but with single skin in way of several frame spaces e.g. in way of a cargo hold entrance or in way of forebody hull form at the forward end of the foremost cargo hold).

Note: The requirements of paragraphs B.3.3.4 and D.2.3.8 also apply to those cargo ships, which, although ship types listed above that are excluded from the application of the requirements of B.3.3, C.3.2 abd and D.2.3, are fitted with a single cargo hold.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item A.4.4.8 was revised according to PR 35 Rev.1 as below:

……

- A running trial of machinery as witnessed by the surveyor (See note 1). In case this is not available due to missing spares, running trial of stand-by machinery is acceptable provided that a ~~recommendation~~ condition of class for non-functional machinery is raised. (See note 2)

……

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item A.4.5.3.3.3 was revised according to UR Z20 Rev.2 as below:

4.5.3.3.3 In the case of overdue outstanding ~~recommendations~~ conditions of class or a record of unrepaired damage which would affect the PMS the relevant items shall be kept out of the PMS until the ~~recommendation~~ condition of class is fulfilled or the repair is carried out.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item A.4.8.4 was revised as below:

4.8.4 In general, bottom survey for seagoing ships with accommodation for more than 12 passengers is to be carried out in dry-dock. For vessels having the Class Notation IWS the surveys of the outside of the ship's bottom are to be carried out in dry-dock at least twice in any 5 year period. The interval between bottom surveys shall not exceed 36 months. The remaining yearly surveys of the ship's bottom may be carried out in-water by an approved diving firm provided that the vessel has not sustained any grounding or contact damage since the previous bottom survey.

For passenger ships, which are not Ro-Ro passenger Ships, less than 15 years of age, the first dry-docking may be substituted by an in-water survey as well.

The final permission for substitution with an In-water survey is subject to **TL** Head Office/Administration approval and is valid for one substitution only. More extensive Flag State Requirements regarding the substitution of the bottom survey in dry-dock shall be observed.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item B.3.3.4 was revised according to UR Z7.1 Rev.15 as below:

3.3.4 Additional requirements for single hold cargo ships after determining compliance with SOLAS ~~II-1/23-3 and~~ II-1/25

For ships complying with the requirements of SOLAS ~~II-1/23-3 and~~ II-1/25 for hold water level detectors, the annual survey is to include an examination and a test, at random, of the water ingress detection system and of their alarms.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item C.3.1.1 was revised according to UR Z7 Rev.28 as below:

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If there is no hard protective coating, soft or semi-hard coating, or poor coating condition, the examination is to be extended to other ballast ~~spaces~~ tanks of the same type.

For ships over 10 years of age, an overall examination of all ~~spaces used for water~~ ballast tanks is to be carried out.

If such examinations reveal no visible structural defects, the examination may be limited to verification that the corrosion prevention system remains effective. For ballast tanks, excluding double bottom ballast tanks, if there is

no hard protective coating, soft or semi-hard coating, or poor coating condition and it is not renewed, the ~~spaces~~ tanks in question are to be internally examined at annual intervals.

When such conditions are found in ~~water ballast~~ double bottom ballast tanks, the ~~spaces~~ tanks in question may be internally examined at annual intervals.

.....

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item C.3.2.1.1 was revised according to UR Z7.1 Rev.15 as below:

3.2.1.1 Ballast tanks

- For ~~tanks used for water~~ ballast tanks, an overall survey of representative tanks selected by the surveyor is to be carried out. If such overall survey reveals no visible structural defects, the examination may be limited to verification that the corrosion prevention system remains efficient.

- Where poor coating condition, soft or semi-hard coating, corrosion or other defects are found in ~~water~~ ballast tanks or where a hard protective coating was not applied from the time of construction, the examination is to be extended to other ballast tanks of the same type.

- In ~~water~~ ballast tanks other than double bottom tanks, where a hard protective coating is found in poor condition, and it is not renewed, where soft or semi-hard coating has been applied, or where a hard protective coating was not applied from time of construction, the tanks in question are to be examined and thickness measurements carried out as considered necessary at annual intervals.

  When such breakdown of hard protective coating is found in ~~water ballast~~ double bottom ballast tanks, where a soft or semi-hard coating has been applied, or where hard protective coating has not been applied, the tanks in question may be examined at annual intervals.

When considered necessary by the surveyor, or where extensive corrosion exists, thickness measurements are to be carried out.

Item C.3.2.2.1 was revised according to UR Z7.1 Rev.15 as below:

- For ~~tanks used for water~~ ballast tanks, an overall survey of all tanks is to be carried out. If such overall survey reveals no visible structural defects, the examination may be limited to verification that the corrosion prevention system remains efficient.

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Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item D.1.3 was revised according to PR 35 Rev.1 as below:

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TL may accept that minor deficiencies, recorded as ~~recommendation~~ condition of class, are rectified within 3 months after the survey completion date.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item D.2.3.1 was revised according to UR Z7.1 Rev.15 as below:

2.3.1 Examination of the hull

All cargo holds, ~~water~~ ballast tanks, including double bottom tanks, pipe tunnels, cofferdams and void spaces bounding cargo holds, decks and outer hull are to be examined, and this examination is to be supplemented by thickness measurement (see 2.3.6) and testing (see 2.3.7) to ensure that the structural integrity remains effective.

Item D.2.3.4 was revised according to UR Z7.1 Rev.15 as below:

2.3.4 Dry dock survey

A survey in dry dock is to be a part of the class renewal survey. The overall and close-up surveys and thickness measurements, as applicable, of lower portions of the cargo holds and ~~water~~ ballast tanks are to be carried out in accordance with the applicable requirements for class renewal surveys, if not already performed.

Item D.2.3.7.1 was revised according to UR Z7.1 Rev.15 as below:

2.3.7.1 All boundaries of ~~water~~ ballast tanks and deep tanks used for water ballast within the cargo length area are to be pressure tested. For fuel oil tanks, the representative tanks are to be pressure tested.

Item D.2.3.8 was revised according to UR Z7.1 Rev.15 as below:

2.3.8 Additional requirements for single hold cargo ships after determining compliance with SOLAS ~~II-1/23-3 and~~ II-1/25

For ships complying with the requirements of SOLAS ~~II-1/23-3 and~~ II-1/25 for hold water level detectors, the class renewal survey is to include an examination and a test, at random, of the water ingress detection system and of their alarms.

Table 3.7 "Minimum requirements for close-up survey at hull class renewal surveys of general dry cargo ships" was revised according to UR Z7.1 Rev.15 as below:

Class renewal survey No.1 Age ≤ 5	Class renewal survey No.2 5 < Age ≤ 10	Class renewal survey No.3 10 < Age ≤ 15	Class renewal survey No.4 and subsequent 15 < Age
(A) Selected shell frames in one forward and one aft cargo hold and associated tween deck spaces. **(B)** One selected cargo hold transverse bulkhead. **(D)** All cargo holds hatch covers and coamings (plating and stiffeners).	**(A)** Selected shell frames in all cargo holds and tween deck spaces. **(B)** One transverse bulkhead in each cargo hold. **(B)** Forward and aft transverse bulkhead in one side ballast tank, including stiffening system. **(C)** One transverse webs with associated plating and framing in two representatives ~~water~~ ballast tanks of each type (i.e. topside, hopper side, side tank or double bottom tank). **(D)** All cargo hold hatch covers and coamings (plating and stiffeners). **(E)** Selected areas of all deck plating and under deck structure inside line of hatch openings between cargo hold hatches. **(F)** Selected areas of inner bottom plating.	**(A)** All shell frames in the forward lower cargo hold and 25% frames in each of the remaining cargo holds and tween deck spaces including upper and lower end attachments and adjacent shell plating. **(B)** All cargo holds transverse bulkheads. **(B)** All transverse bulkheads in ballast tanks, including stiffening system. **(C)** All transverse webs with associated plating and framing in each ~~water~~ ballast tank. **(D)** All cargo hold hatch covers and coamings (plating and stiffeners). **(E)** All deck plating and under deck structure inside line of hatch openings between cargo hold hatches. **(F)** All areas of inner bottom plating.	**(A)** All shell frames in all cargo holds and tween deck spaces including upper and lower end attachments and adjacent shell plating. Areas **(B-F)** as for Class Renewal Survey No.3.

(A) *Cargo hold transverse frames.*

(B) *Cargo hold transverse bulkhead plating, stiffeners and girders.*

(C) *Transverse web frame or watertight transverse bulkhead in ~~water~~ ballast tanks.*

(D) *Cargo hold hatch covers and coamings. Subject cargo hold hatch covers of approved design which structurally have no access to the internals, close-up survey/ thickness measurement shall be done of accessible parts of hatch covers structures.*

(E) *Deck plating and under deck structure inside line of hatch openings between cargo hold hatches.*

(F) *Inner bottom plating.*

***Note**: Close-up survey of cargo hold transverse bulkheads to be carried out at the following levels:*

- *Immediately above the inner bottom and immediately above the tween decks, as applicable.*
- *Mid-height of the bulkheads for holds without tween decks.*
- *Immediately below the main deck plating and tween deck plating.*

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item D.2.7.4.1 was revised according to UR Z7.2 Rev.8 as below:

2.7.4.1 Where provided, the condition of the corrosion prevention system of ballast tanks is to be examined. For ~~tanks used for water~~ ballast tanks, excluding double bottom tanks, where a hard protective coating is found in poor condition and it is not renewed, where soft or semi-hard coating has been applied, or where a hard protective coating was not applied from time of construction, the tanks in question are to be examined at annual intervals. Thickness measurements are to be carried out as deemed necessary by the surveyor.

When such breakdown of hard protective coating is found in ~~water ballast~~ double bottom ballast tanks and it is not renewed, where a soft or semi-hard coating has been applied, or where a hard protective coating was not applied from the time of construction, the tanks in question may be examined at annual intervals. When considered necessary by the surveyor, or where extensive corrosion exists, thickness measurements are to be carried out.

Item D.2.7.7 was revised according to UR Z7.2 Rev.8 as below:

2.7.7 Extent of tank testing

- All boundaries of ~~water~~ ballast tanks and deep tanks used for water ballast within the cargo area are to be pressure tested. For fuel oil tanks, the representative tanks are to be pressure tested.

……

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item D.3.1 was revised according to UR Z7.1 Rev.15 as below:

……

- For single hold cargo ships complying with the requirements of SOLAS ~~II-1/23-3 and~~ II-1/25 and for bulk carriers complying with the requirements of SOLAS XII/12 and XII/13, an examination and test of the water ingress detection system and of their alarms is to be carried out.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item K.2.1.1 was revised as below:

2.1.1 For floating docks subject to classification by **TL**, unless otherwise agreed, class renewal surveys are to be conducted at intervals of 5 years.

~~Intermediate~~ The periodical surveys ~~in~~ for floating docks ~~will be carried out about 2.5 years (+/- 6 months), but not later than 3 years, 5 years after commissioning and after each class renewal~~ are defined in A.2 and scheduled according to A.4 similar to seagoing ships.

HULL

01. Content

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Content of Section 6, item G was revised as below:

G. Longitudinal Strength of Hull Girder in Flooded Condition for Non-CSR Bulk Carriers **6-** 19

02. Section 1 – General, Definitions

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item H.2.1 and 4 were revised according to UR S2 Rev.2 as below:

2.1 Rule Length L : The Rule length **L** is the distance, measured on the ~~summer load~~ waterline at the scantling draught from the fore side of stem to the after side of the rudder post, or the centre of the rudder stock, if there is no rudder post. **L** is not to be less than 96 % and need not be greater than 97 % of the extreme length on the ~~summer load~~ waterline at the scantling draught.

In ships without rudder stock (e.g. ships fitted with azimuth thrusters), the Rule length L is to be taken equal to 97% of the extreme length on the waterline at the scantling draught.

In ships with unusual stern and bow arrangement, the Rule length **L** will be specially considered.

4. Block Coefficient C_B : Moulded block coefficient corresponding to the waterline at ~~load~~ the scantling draught $\mathbf{T_{SC}}$, based on rule length **L** and moulded breadth $\mathbf{B_{SC}}$.

$$C_B = \frac{V}{L\, B_{SC}\, T_{SC}}$$

Where:

V = Moulded displacement at scantling draught T_{SC} [m^3]

B_{SC} : Greatest moulded breadth measured amidships at the scantling draught, T [m].

T_{SC} : Scantling draught at which the strength requirements for the scantlings of the ship are met and represents the full load condition [m]. The scantling draught is to be not less than that corresponding to the assigned freeboard.

03. Section 6 – Longitudinal Strength

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item A.1.4 was revised according to UR S11 Rev.9 as below:

1.4 ~~For bulk carriers with notation **BC-A**, **BC-B** or **BC-C** (refer to Classification and Survey Rules for definition of these notations) these rules are to be complied with by ships contracted for construction on or after 1 July 2003.~~ For ~~other~~ ships other than bulk carriers, these rules are to be complied with by ships contracted for construction on or after 1 July 2004.

These rules do not apply to CSR Bulk Carriers and Oil Tankers or to container ships, except otherwise mentioned, to which item I is applicable.

Item A.2.3 was revised according to UR S11 Rev.9 as below:

……

These general loading conditions are given in detail in Section 26 for ship types as applicable.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item C.1.1 was revised as below:

f_r = 1.0, in general

f_r = ~~1.1~~ see F.2 for ships with large openings

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item C.1.2 was revised according to UR S11 Rev.9 as below:

……

- for ships with large deck openings ~~such as containerships,~~ locations at or near 0.25 L and 0.75 L

……

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item G.3 was revised according to UR S17 Rev.10 as below:

Each cargo hold is to be considered individually flooded up to the equilibrium waterline. This application is to be applied to self-unloading bulk carriers (SUBC) where the unloading system maintains the watertightness during seagoing operations. In SUBCs with unloading systems that do not maintain watertightness, the longitudinal strength in the flooded conditions are to be considered using the extent to which the flooding may occur. This does not apply for cargo holds of double hull construction where the double hull spacing exceeds 1000 mm, measured vertically to the shell at any location of the cargo hold length.

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04. Section 7 – Plating

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item A.1.5 was revised as below:

1.5 Rounding off the required scantlings of structural members shall be made in ~~the direction of increase. Plate thickness shall be rounded off to the nearest 0.5 or integer of millimetres~~ accordance with Section 1 K.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item A.2 was revised as below:

.....

P_{DC} = Dynamic load on cargo decks [kN/m^2], as defined in Section 5, D.6.1,

P_{DI} = Dynamic cargo pressure load on inner bottom [kN/m^2], as defined in Section 5, D.6,

P_{DM} = Dynamic deck load in machinery spaces [kN/m^2], as defined in Section 5, D.7,

P_{HT} = Design impact force [kN],

P_{IB} = Bow impact load [kN/m^2], as defined in Section 5, E.1,

P_{IS} = Stern impact load [kN/m^2], as defined in Section 5, E.2,

P_S = Static sea pressure load [kN/m^2], as defined in Section 5, C.2,

P_{SC} = Static load on cargo decks [kN/m^2], as defined in Section 5, C.4.1,

P_{SA} = Static deck load in accommodation and service spaces [kN/m^2], as defined in Section 5, C.4,

P_{SI} = Static cargo pressure load on inner bottom [kN/m^2], as defined in Section 5, C.4,

P_{SL} = Slamming load on bottom in the forebody [kN/m^2], as defined in Section 5, E.3,

P_{SM} = Static deck load in machinery spaces [kN/m^2], as defined in Section 5, C.4,

P_{WB} = Wave pressure load on bottom [kN/m^2], as defined in Section 5, D.3,

P_{WD} = Wave load on weather deck [kN/m^2], as defined in Section 5, D.4.1,

……

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item D.4.1 was revised as below:

4.1 The thickness t of the strength deck ~~plating~~ within 0.4 L amidships outside line of hatchways is not to be less than determined by the following formula:

$t=t_E$ with $t \geq t_{min}$

$$t_{min} = (4.5 + 0.05L)\sqrt{k} \quad [mm]$$

t_E =thickness according to 4.4

L need not be taken greater than 200 m.

Item D.4.4 was added as below and existing item 4.4 was renumbered as 4.5:

4.4 The thickness of strength deck plating t_E for 0.1 L from the ends and between hatchways is not to be less than determined by the following formulas:

t_E = max [t_{E1}; t_{E2}]

$t_{E1} = 1.21.a.\sqrt{P_{WD}.k} + t_K$ [mm]

$t_{E2} = 1.10.a.\sqrt{P_{SC} + P_{DC}.k} + t_K$ [mm]

$t_{E,min} = (5.5 + 0.02 . L).\sqrt{k}$

L need not be taken greater than 200 m.

05. Section 18 – Rudder and Manoeuvring Arrangement

Revision Date: May 2020

Entry into Force Date: 1 July 2020

New item C.1.5 was added according to UI SC153 Corr.1 as below.

1.5 When calculating the diameter of the rudder stock, cognizance must be taken of Chapter 4- Machinery Installations, Section 9, A.3.2.1.3 and A.3.3.1.3 (SOLAS II- 1/29.3.3 and 29.4.3).

In this regard, the diameters mentioned in Chapter 4- Machinery Installations, Section 9, A.3.2.1.3, A.3.3.1.3 and A.3.16 (SOLAS II-1/29.3.3, 29.4.3 and 29.14) should be taken as having been calculated for rudder stock of mild steel with a yield stress of 235 N/mm2. (i.e. with a material factor k_r =1)

06. Section 20 – Welded Joints

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Table 20.3 was revised as below:

Structural parts to be connected	Basic thickness of fillet welds a/t_0 (1) for double continuous fillet welds (2)	Intermittent fillet welds permissible (3)
Bottom structures		
Transverse and longitudinal girders to each other	0.35	x
- to shell and inner bottom	0.20	x
Center girder to flat keel and inner bottom	0.40	
Transverse and longitudinal girders and stiffeners including shell plating in way of bottom strengthening forward	0.30	
Machinery space		
Transverse and longitudinal girders to each other	0.35	
- to shell and inner bottom	0.30	
Inner bottom to shell	0.40	
Sea chests, water side	0.50	
inside	0.30	
Machinery foundation		
Longitudinal and transverse girders to each other and to the shell	0.40	
- to inner bottom and face plates	0.40	
- to top plates	0.50 **(4)**	
- in way of foundation bolts	0.70 **(4)**	
- to brackets and stiffeners	0.30	
longitudinal girders of thrust bearing to inner bottom	0.40	
Decks		
- to shell (general)	0.40	
Deck stringer to sheerstrake ~~(see also Section 7)~~	0.50 **(5)**	
Frames, stiffeners, beams etc.		
general	0.15	x
in peak tanks	0.30	x
bilge keel to shell	0.15	
Transverses, longitudinal and transverse girders		
general	0.15	x
within 0.15 of span from supports	0.25	
cantilevers	0.40	
pillars to decks	0.40	
Bulkheads, tank boundaries, walls of superstructures and deckhouses		
- to decks, shell and walls	0.40	
Hatch coamings		
- to deck	0.40	
- to longitudinal stiffeners	0.30	
Hatch covers		
- general	0.15	x **(6)**

- watertight or oiltight fillet welds	0.30	
Rudder plating to webs	0.25	x
Stem plating to webs	0.25	x

(1) *t_0 = Thickness of the thinner plate*

(2) *In way of large shear forces larger throat thicknesses may be required on the basis of calculations according to C.*

(3) *For intermittent welding in spaces liable to corrosion B.3.3.8 is to be observed.*

(4) *For plate thicknesses exceeding 15 mm single or double bevel butt joints to be applied.*

(5) *for $t_0 < 15$ fillet welds with ratio a/t_0 in the table, for $15 < t_0 < 25$ welds with single bevel partially penetration, for $t_0 > 25$ welds with double bevel partially or full penetration to be applied.*

(6) *Excepting hatch covers above holds provided for ballast water.*

07. Section 21 – Structural Fire Protection

Revision Date: April 2020

Entry into Force Date: 1 July 2020

New subparagraph was added to end of items B.4.2.2 [10], B.4.3.2 [7], C.4.1.3 [7] and E.2.3.2.3 [7] according to UI SC294 New as below:

- Where urea or sodium hydroxide solution tanks for selective catalytic reduction (SCR) systems, exhaust gas recirculation (EGR) systems or exhaust gas cleaning systems (EGCS) are installed in a space separated from engine room.

08. Section 23 – Bow, Stern and Side Doors

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item B.7.2.2 was revised as below:

7.2.2 The indicator system is to be designed on the fail-safe and self-monitoring principle and is to be alarmed by visual and audible means if the door is not fully closed and not fully locked or if securing devices become open or locking devices become unsecured. The power supply for the indicator system is to be independent of power supply for operating and closing doors. The sensors of the indicator system are to be protected from water, ice formation and mechanical damages. Degree of protection: at least IP 56.

09. Section 27 – Bulk Carriers, Ore Carriers and Ships with Strengthenings for Bulk Cargo and Heavy Cargo

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item B.2.1 was revised according to UI SC209 Rev.1 as below:

2.1 Materials and grades of steel are to comply with the requirements of Section 3.A. For bulk carriers of 150 m in length and upwards, which shall comply with SOLAS XII/6.4.3, the material grade requirements in TL-I SC209, 2, a) are to be applied.

Item B.4.7 was added according to UI SC209 Rev.1 as below:

4.7 For bulk carriers of 150 m in length and upwards, which shall comply with SOLAS XII/6.4.3, the buckling requirements in TL-I SC209, 2, b) are to be applied.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item B.11 was revised according to IACS Rec. 46 Rev.2 as below:

11. Loading Information for Bulk Carriers, Ore Carriers and Combination Carriers

Note: *For general guidance and information on dry cargo loading and discharging to reduce the likelihood of over-stressing the hull structure, see IACS Rec. 46.*

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item E.2.1 was revised according to UR S18 Rev.10 as below:

The loads to be considered as acting on the bulkheads are those given by the combination of the cargo loads with those induced by the flooding of one hold adjacent to the bulkhead under examination. In any case, the pressure due to the flooding water alone is to be considered. This application is to be applied to self-unloading bulk carriers (SUBC) where the unloading system maintains the watertightness during seagoing operations. In SUBCs with unloading systems that do not maintain watertightness, the combination loads acting on the bulkheads in the flooded conditions are to be considered using the extent to which the flooding may occur.

……

10. Section 29 – Tugs

Revision Date: May 2020

Entry into Force Date: 1 July 2020

Item D.5.6 was added as below:

5.6 Emergency Release System

Requirement of emergency release system is to be comply with Chapter 4, Section 11, item B.5.

11. Annex B – Applicable Sections for Bulk Carriers and Double Hull Oil Tankers with CSR Notation

Revision Date: May 2020

Sub-section	Paragraph	Applicable to CSR Vessels	Remarks
Section 6 – Longitudinal Strength			
A. General Definitions		N	
B. Still Water, Wave Bending and Torsional Moments and Shear Force		N	
C. Section Moduli, Moments of Inertia, Shear and Buckling Strength		N	
D. Design Stresses		N	
E. Permissible Still Water Bending Moments		N	
F. Ships With Large Deck Openings		N	
G. Longitudinal Strength of Hull Girder in Floaded Condition for Non-CSR Bulk Carriers		N	
H. Loading Guidance Information		N	
I. Longitudinal Strength Standard for Container Ships		N	

Entry into Force Date: 1 July 2020

Table was added as below:

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PART A – CHAPTER 3 – WELDING

01. Section 10 – Non-Destructive Testing of Welds

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item O was added according to UR W35 New as below and Contents and Annex C was revised to include new item:

O. Requirements for NDT Suppliers

1. General

1.1 Scope

Firms providing NDT (Non-Destructive Testing) services on ship and offshore structures/components subject to classification, need to fulfil the requirements set out in this subsection. In this document, such firms will be referred to as the Supplier.

1.2 Objective

The objective of this rule is to ensure that the Supplier is using appropriate procedures, has qualified and certified personnel and has implemented written procedures for training, experience, education, examination, certification, performance, application, control, verification and reporting of NDT. In addition, the Supplier shall furnish appropriate equipment and facilities commensurate with providing a professional service.

1.3 Terms and definitions

The following terms and definitions apply for this document.

NDT	Non-destructive testing. Comprising, but not limited to the methods and techniques MT, PT, RT, RT-D, VT, UT, PAUT, TOFD, ET and/or ACFM
Supplier	Independent NDT company or NDT department/section that forms a part of a company providing NDT services on ship and/or offshore components/structures.
TL	Türk Loydu
MT	Magnetic Particle Testing
PT	Penetrant Testing
RT	Radiographic Testing
RT-D	Digital Radiography (Several techniques within the method RT, e.g. Computed Radiography or Direct Radiography).
UT	Ultrasonic Testing
PAUT	Phased Array Ultrasonic Testing (Technique within the method UT).
TOFD	Time of Flight Diffraction (Technique within the method UT).
ET	Electromagnetic Testing (i.e. Eddy Current Testing and/or Alternating Current Field Measurements [ACFM])
VT	Visual Testing
Industrial sector	Section of industry or technology where specialised NDT practices are used, requiring specific product-related knowledge, skill, equipment and/or training.

1.4 References

The following referenced documents are to be used for the application of this document as appropriate. For undated references, the latest edition of the referenced document (including any amendments) applies.

- ISO 9712:2012; Non-destructive testing -Qualification and certification of NDT personnel
- ISO/IEC 17020:2012; Conformity assessment - Requirements for the operation of various types of bodies performing inspection
- ISO/IEC 17024:2012; Conformity assessment - General requirements for bodies operating certification of persons

- ISO 9001:2015; Quality Management Systems
  - Requirements

Other national adoptions of the standards listed above are accepted as compliant and hence are accepted for use together with this document.

2. Requirements for Supplier

The Supplier shall document, as required in 2.2 to 2.9, that it has the competence and control needed to perform the specified services.

2.1 Requirements for documents

The following documents shall be available for TL upon request:

- an outline of Supplier's organisation and management structure, including any subsidiaries
- information on the structure of the Supplier's Quality Management System
- quality manual and documented procedures covering the requirements given in item 2.2
- for companies with in-house certification of persons scheme; a written practice developed in accordance with a recognised standard or recommended practice (i.e. ASNT's SNT-TC-1A, 2016, ANSI/ASNT CP-189, 2016 or similar).
- operational work procedures for each NDT method including selection of the NDT technique.
- training- and follow-up programmes for NDT operators including practical training on various ship and offshore products
- procedure for supervisor's authorisation of NDT operators
- experience of the Supplier in the specific service area,
- a list of documented training and experience for NDT operators within the relevant service area, including qualifications and third party certification per ISO 9712:2012 based certification schemes.
- description of equipment(s) used for the services performed by the Supplier
- a guide for NDT operators to use equipment mentioned above
- record formats for recording results of the services referred to in item 2.9
- information on other activities which may present a Conflict of interest
- record of customer claims and corrective actions
- any legal proceedings against the company in the past/currently in the courts of law

2.2 Quality management system

The Supplier shall have a documented quality management system, covering at least:

- work procedures for all tasks and operations, including the various NDT methods and NDT techniques for which the Supplier is involved.
- preparation, issuance, maintenance and control of documents
- maintenance and calibration of the equipment

- training programs for the NDT operators and the supervisors
- maintenance of records for NDT operators' and the supervisors' training, qualification and certification
- certification of NDT operators including re-validation and recertification
- procedure for test of operators' visual acuity
- supervision and verification of operation to ensure compliance with the NDT procedures
- quality management of subsidiaries
- job preparation
- order reference system where each engagement is traceable to when, who and where the test was carried out.
- recording and reporting of information, including retention time of records
- code of conduct for the Supplier's activities; especially the NDT activities
- periodic review of work process procedures
- corrective and preventive action
- feedback and continuous improvement
- internal audits
- the provision of accessibility to required codes, standards and procedures to assist NDT operators.

A documented quality system complying with the most current version of ISO/IEC 17020:2012 and including the above would be considered acceptable. The Supplier should satisfy the requirements of Type A or Type B inspection body, as described in ISO/IEC 17020:2012.

2.3 Qualification and certification of NDT personnel

The Supplier is responsible for the qualification and preferably 3rd party certification of its supervisors and operators to a recognised certification scheme based on ISO 9712:2012.

Personnel qualification to an employer based qualification scheme as e.g. SNT-TC-1A, 2016 or ANSI/ASNT CP-189, 2016 may be accepted if the Supplier's written practice is reviewed and found acceptable by **TL.** The Supplier's written practice shall as a minimum, except for the impartiality requirements of a certification body and/or authorised body, comply with ISO 9712:2012.

The supervisors' and operators' certificates and competence shall comprise all industrial sectors and techniques being applied by the Supplier.

Level 3 personnel shall be certified by an accredited certification body.

2.4 Supervisor

The Supplier shall have a supervisor or supervisors, responsible for the appropriate execution of NDT operations and for the professional standard of the operators and their equipment, including the professional administration of the working procedures. The supplier shall employ, on a full-time basis, at least one supervisor independently certified to Level 3 in the method(s) concerned as per the requirements of item 2.3. It is not permissible to appoint Level 3 personnel; they must be certified by an accredited certification body. It is recognised that a Supplier may not directly employ a Level 3 in all the stated methods practiced. In such cases, it is permissible to employ an external, independently certified, Level 3 in those methods not held by the full-time Level 3(s) of the Supplier.

The supervisor shall be directly involved in review and acceptance of NDT Procedures, NDT reports, calibration of NDT equipment and tools. The supervisor shall on behalf of the Supplier re-evaluate the qualification of the operators annually.

2.5 Operators

The operator carrying out the NDT and interpreting indications, shall as a minimum, be qualified and certified to Level 2 in the NDT method(s) concerned and as described in item 2.3.

However, operators only undertaking the gathering of data using any NDT method and not performing data interpretation or data analysis may be qualified and certified as appropriate, at level 1.

The operator shall have adequate knowledge of materials, weld, structures or components, NDT equipment and limitations that are sufficient to apply the relevant NDT method for each application appropriately.

2.6 Equipment

The Supplier shall maintain records of the NDT equipment used and detail information related to maintenance, calibration and verification activities. If the Supplier hires equipment, such equipment shall have updated calibration records, and the operators shall be familiar with the specific equipment type prior to using it. Under any circumstance, the Supplier shall possess sufficient equipment to carry out the services being a part of the NDT scope required by TL.

Where the equipment is of unique nature, the NDT operators shall be trained by competent personnel in the operation and use of the equipment before carrying out NDT using this equipment.

2.7 Work instructions and procedures

The Supplier shall produce written procedures for the NDT being applied. These procedures are to be written, verified or approved by the Supplier's Level 3. Procedures shall define all relevant information relating to the inspection including defect evaluation against acceptance criteria in accordance with TL Rules. All NDT procedures and instructions shall be properly documented in such a way that the performed testing can be easily retraced and/or repeated at a later stage. All NDT procedures are to be acceptable to TL.

2.8 Sub-contractors

The Supplier shall give information of agreements and arrangements if any part(s) of the services provided are subcontracted. The Supplier, in the following-up of subcontracts shall give emphasis to the quality management system of the subcontractor.

Subcontractors shall meet the same requirements placed on Suppliers for any NDT performed.

2.9 Reporting

All NDT shall be properly documented in such a way that the performed testing and examination can be easily retraced and/or repeated at a later stage. The reports shall identify the defects present in the tested area, and a conclusive statement as to whether the material, weld, component or structure satisfies the acceptance criteria or not.

The report shall include a reference to the applicable standard, NDT procedure and acceptance criteria applied in the applicable NDT method/technique. In general, the acceptance criteria shall comply with TL Rules.

PART B – CHAPTER 4 - MACHINERY

01. Section 2 – Internal Combustion Engines and Air Compressors

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item M.3.1 was revised according to UI SC2941 as below:

Exhaust gas cleaning systems shall be independent for each combustion engine or combustion plant. General requirements on the use of combustible materials and on structural fire protection are to be observed. In cases where urea or sodium hydroxide solution tanks are installed in a space separated from engine room, for fire integrity of solution tank space see Chapter 1 – Hull, Section 21. Thermal expansion of the system and its mechanical connections to both the ship's structure and the exhaust pipes has to be considered. The requirements for exhaust gas lines set out in Section 16, M shall be taken into account. The aftertreatment system is to be equipped with at least one inspection port.

……

Revision Date: May 2020

Entry into Force Date: 1 July 2020

Item E.5 was added according to UR M80 New as below:

5. Certification of AC Generating Sets

5.1 General

5.1.1 This item provides requirements for AC generating sets (i.e. Reciprocating Internal Combustion engines a), b), alternators c) and couplings) in addition to those stated in TL-R E13, TL-R M3, TL-R M51, and TL-R M53.

a) Reciprocating Internal Combustion engines are to comply with the requirements in TL-R M51 and M53.

b) The reciprocating internal combustion engine speed governor and overspeed protective device are to comply with the requirements of TL-R M3.

c) Alternators are to comply with the requirements in TL-R E13

5.1.2 The requirements are applicable to AC generating sets driven by reciprocating internal combustion engines irrespective of their types (i.e. diesel engine, dual fuel engine, gasfuel engine), except for those sets consisting of a propulsion engine which also drives power take off (PTO) generator(s).

5.2 Generating sets - requirements

5.2.1 For diesel generator sets with a mechanical output of more than 110 kW torsional vibration calculations must be submitted to TL for approval. (See, Section 6, F.2).

5.2.2 The rated power shall be appropriate for the actual use of the generator set.

5.3 Marking

The entity responsible of assembling the generating set shall install a rating plate marked with at least the following information:

(i) the generating set manufacturer's name or mark;

(ii) the set serial number;

(iii) the set date of manufacture (month/year);

(iv) the rated power (both in kW and KVA) with one of the prefixes COP, PRP (or, only for emergency Generating sets, LTP) as defined in ISO 8528-1:2018;

(v) the rated power factor;

(vi) the set rated frequency (Hz);

(vii) the set rated voltage (V);

(viii) the set rated current (A);

(ix) the mass (kg).

02. Section 6 – Torsional Vibrations

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item F.2.1 was revised and item F.2.3 was added according to UR M80 New as below:

2. Generators

2.1 For diesel generator sets with a mechanical output of more than ~~150~~110 kW torsional vibration calculations must be submitted to **TL** for approval. The investigations must include natural frequencies as well as forced vibration calculations. The speed range 90% to 105% of the nominal speed shall be investigated under full load conditions (nominal excitation).

The generating set shall show torsional vibration levels which are compatible with the allowable limits for the alternator, shafts, coupling and damper.

……

2.3 The coupling selection for the generating set shall take into account the stresses and torques imposed on it by the torsional vibration of the system.

03. Section 9 – Steering Gears and Thrusters

Revision Date: May 2020

Entry into Force Date: 1 July 2020

Items A.1.1, B.3.1, B.3.11 were revised and items B.3.3.2, B.3.3.3, B.3.3.4, B.3.3.5, B.3.10, B.7.4 were added in Section 9 according to UI SC242 Rev.2 as below; and also all A & B items in Section 9 has been reviewed & revised.

Note was added to items A.3.2.1.3, A.3.3.1.3 and A.3.16 in Section 9 according to UI SC153 Corr.1. as below:

A. Steering Gears

1. General

1.1 Scope

……..

Additional requirements for ~~azimuth thrusters~~ alternative propulsion and steering arrangements, such as but not limited to, azimuthing propulsors or water jet propulsion systems,are given in B. (See Chapter 7 - High Speed Crafts, Annex 11 for Water Jets)

……..

3. Steering Components and Design Principles

……..

3.2 Main steering gear and rudder stock

3.2.1 The main steering gear and rudder stock shall be:

……..

~~**3.2.1.4**~~**3.2.1.3** Operated by power where necessary to meet the requirements of above paragraph and in any case when **TL** requires a rudder stock of over 120 mm diameter in way of the tiller, excluding strengthening for navigation in ice; and

Note: The mentioned diameter is to be taken as having been calculated for rudder stock of mild steel with a yield stress of 235 N/mm2, i.e. with a material factor k_r =1.

……..

~~**3.3.1.4**~~**3.3.1.3** Operated by power where necessary to meet the requirements of paragraph 3.3.1.2 and in any case when **TL** requires a rudder stock of over 230 mm diameter in way of the tiller ~~(having power of more than 2,500 kW propulsion power per thruster unit)~~, excluding strengthening for navigation in ice.

Hydraulically operated auxiliary steering gears must be fitted with their own piping system independent of that of the main steering gear. The pipe or hose connections of steering gears must be capable of being shut-off directly at the pressurized casings.

Note: The mentioned diameter is to be taken as having been calculated for rudder stock of mild steel with a yield stress of 235 N/mm2, i.e. with a material factor k_r =1.

……..

3.16 Alternative source of power

……..

Where therudder stock is required to be over 230 mm diameter in way of the tiller, excluding strengthening for navigation in ice ~~propulsion power exceeds 2,500kW per thruster unit~~, an alternative power supply, sufficient at least to supply the steering gear power unit ~~arrangements~~ which complies with the requirements of 3.3.1.2 ~~1.4.2~~ and also its associated control system and the rudder ~~steering system response~~ indicator, shall be provided automatically, within 45 s, either from the emergency source of electrical power or from an independent source of power located in the steering gear compartment. This independent source of power shall be used only for this purpose.

In every ship of 10,000 gross tonnage and upwards, the alternative power supply shall have a capacity for at least 30 min of continuous operation and in any other ship for at least 10 min.

Note: The mentioned diameter is to be taken as having been calculated for rudder stock of mild steel with a yield stress of 235 N/mm2, i.e. with a material factor k_r =1.

……..

B. Rudder Propeller Units ~~(Azimuth Thrusters)~~

1. General

……..

3. ~~Rudder Propeller Components and Design Principles~~ Design and equipment

~~3.1 Ships with only one azimuth thruster~~

~~For ships that are arranged with only one azimuth thruster as the only means of propulsion and steering, the thruster is to be provided with steering systems of a redundant design such that a single failure in one system does not affect the other system.~~

3.1 Number of rudder propellers

Each ship is to have at least two rudder propellers. Both units are to be capable of being operated independently of the other.

For a ship fitted with multiple steering propulsion units ~~systems~~, such as but not limited to azimuthing propulsors or water jet propulsion systems, each of the steering-propulsion units shall be provided with a main steering gear and an auxiliary steering gear or with two or more identical steering actuating systems in compliance with 3.3.5. The main steering gear and the auxiliary steering gear shall be so arranged that the failure of one of them will not render the other one inoperative.

For a ship fitted with a single steering-propulsion unit, the requirement in item A.3.1.1 is considered satisfied if ~~each of~~ the steering gear is provided with two or more steering actuating systems ~~is equipped with its own dedicated steering gear~~.and is in compliance with 3.3.5. A detailed risk assessment is to be submitted in order to demonstrate that in the case of any single failure in the steering gear, control system and power supply the ship steering is maintained.

……..

3.3 Steering

3.3.1 Each rudder propeller is to be fitted with its own dedicated steering gear.

3.3.2 All components used in steering arrangements for ship directional control are to be of sound reliable construction to the satisfaction of the Administration or **TL** if authorized. Special consideration shall be given to the suitability of any essential component which is not duplicated. Any such essential component shall, where appropriate, utilize anti-friction bearings such as ball bearings, roller bearings or sleeve bearings which shall be permanently lubricated or provided with lubrication fittings.

3.3.3 The main steering arrangements for ship directional control shall be:

- of adequate strength and capable of steering the ship at maximum ahead service speed which shall be demonstrated;

- capable of changing direction of the steering-propulsion unit from one side to the other at declared steering angle limits at an average turning speed of not less than 2.3°/s with the ship running ahead at maximum ahead service speed;

- for all ships, operated by power; and

- so designed that they will not be damaged at maximum astern speed; this design requirement need not be proved by trials at maximum astern speed and declared steering angle limits.

Ship manoeuvrability tests, such as according to Resolution MSC.137(76) on Standards for ship manoeuvrability, are to be carried out with steering angles not exceeding the declared steering angle limits.

Definition: Declared steering angle limits are the operational limits in terms of maximum steering angle, or equivalent, according to manufacturers' guidelines for safe operation, also taking into account the ship's speed or propeller torque/speed or other limitation; the "declared steering angle limits" are to be declared by the directional control system manufacturer for each ship specific non-traditional steering mean; ship manoeuvrability tests, such as those in the Standards for ship manoeuvrability (resolution MSC.137(76)) are to be carried out with steering angles not exceeding the declared steering angle limits.

3.3.4 The auxiliary steering arrangements for ship directional control shall be:

- of adequate strength and capable of steering the ship at navigable speed and of being brought speedily into action in an emergency;

- capable of changing direction of the ship's directional control system from one side to the other at declared steering angle limits at an average turning speed of not less than 0.5°/s with the ship running ahead at one half of the maximum ahead service speed or 7 knots, whichever is the greater; and

- for all ships, operated by power where necessary to meet the requirements of SOLAS regulation II-1/29.4.2 (A.3.3.1.2) and in any ship having power of more than 2,500 kW propulsion power per steering-propulsion unit.

Ship manoeuvrability tests, such as according to Resolution MSC.137(76), are to be carried out with steering angles not exceeding the declared steering angle limits.

The definition of "declared steering angle limits", set out in the above item 3.3.3, applies.

3.3.5 For a ship fitted with a single steering-propulsion unit where the main steering gear comprises two or more identical power units and two or more identical steering actuators, an auxiliary steering gear need not be fitted provided that the steering gear:

- in a passenger ship is capable of satisfying the requirements in 3.3.3 while any one of the power units is out of operation;

- in a cargo ship, is capable of satisfying the requirements in 3.3.3 while operating with all power units; and

- is arranged so that after a single failure in its piping system or in one of the power units' steering capability can be maintained or speedily regained.

For a ship fitted with multiple steering propulsion units, where each main steering system comprises two or more identical steering actuating systems, an auxiliary steering gear need not be fitted provided that each steering gear:

- in a passenger ship, is capable of satisfying the requirements in 3.3.3 while any one of the steering gear steering actuating systems is out of operation;

- in a cargo ship, is capable of satisfying the requirements in 3.3.3 while operating with all steering gear steering actuating systems;

- is arranged so that after a single failure in its piping or in one of the steering actuating systems, steering capability can be maintained or speedily regained the above capacity requirements apply regardless whether the steering systems are arranged with common or dedicated power units.

Definition: Steering gear power unit – For the purposes of alternative steering arrangements, the steering gear power unit is to be considered as defined in A.1.3.3 (SOLAS regulation II-1/3). For electric steering gears, refer to A.1.3.3 (SOLAS regulation II-1/3); electric steering motors are to be considered as part of the power unit and actuator.

……..

3.10 For a ship fitted with multiple steering systems, the requirements in Chapter 5 - Electrical Installation, Section 7, A.2.2 (SOLAS regulation II-1/30.2) are to be applied to each of the steering systems.

3.~~10~~11 Alternative source of power

Where the alternative power source required by SOLAS II-1 Regulations 29.14 is a generator, or an engine driven pump, the automatic starting arrangements must comply with the requirements relating to the automatic starting arrangements of emergency generators.

Below paragraph is valid to the steering propulsion units having a certain proven steering capability due to ship speed also in case propulsion power has failed.

Where the propulsion power exceeds 2,500kW per thruster unit, an alternative power supply, sufficient at least to supply the steering arrangements which complies with the requirements of SOLAS regulation II-1/29.4.2(A.3.3.1.2)

~~(A.1.4.2)~~and also its associated control system and the steering ~~system~~gear response indicator, shall be provided automatically, within 45 s, either from the emergency source of electrical power or from an independent source of power located in the steering gear compartment. This independent source of power shall be used only for this purpose.

……..

7. Certification and Trials

……..

7.4 The stopping times, ship headings and distances recorded on trials, together with the results of trials to determine the ability of ships having multiple propulsion/steering arrangements to navigate and manoeuvre with one or more of these devices inoperative, shall be available on board for the use of the master or designated personnel.

04. Section 11 – Windlass and Winches

Revision Date: March 2020

Entry into Force Date: 1 July 2020

Items A.1.3, A.2.2 and A.7 were revised according to UR A3 Rev.1 as below:

A. Windlasses

1. General

……..

1.3 Confirmed standards of compliance

The design, construction and testing of windlasses are to conform to an acceptable standard or code of practice. To be considered acceptable, the standard or code of practice is to specify criteria for stresses, performance and testing.

Essential standards presently recognized by **TL** are follows:

- ISO 7825 (2017) : Deck machinery general requirements
- ISO 4568 (2006) : Shipbuilding - Sea-going vessels -Windlasses and anchor capstans
- SNAME T & R Bulletin 3-15 (2018): Guide to the Design and Testing of Anchor Windlasses for Merchant Ships
- JIS F6714 (1995): Windlasses
- ~~BS MA35: Specifications for Ship Deck Machinery Windlass~~

……..

2. Materials and Fabrication

……..

2.2 Welded fabrication

Weld joint designs are to be shown in the construction plans and are to be approved in association with the approval of the windlass design. Welding procedures and welders are to be qualified in accordance with **TL** Rules, Chaper 3, Welding. Welding consumables are to be ~~type~~ approved by **TL** in the case their type and grade fall within the scope of TL - R W17 and R W23; when their type and grade fall outside the scope of TL - R W17 and R W23, the welding consumables are to comply with the **TL** Rules, Chapter 3, Section 5 or to national or international standards. The degree of non-destructive examination of welds and post-weld heat treatment, if any, are to be specified and submitted for consideration

……..

7. Marking

Windlass shall be permanently marked with the following information:

a) Nominal size of ~~chain~~ the windlass (e.g. 100/3/45 is the size designation of a windlass for 100 mm diameter chain cable of TL-K3 Grade ~~3~~, with a holding load of 45 % of the breaking load of the chain cable ~~means chain dia./grade/breaking load~~)

b) Maximum anchorage depth [m].

05. Section 17 – Spare Parts

Revision Date: May 2020

Entry into Force Date: 1 July 2020

Items A.1, A.2, A.4 and A.5 were revised according to NC No:E-045 as below:

A. General

1. ~~In order to be able to restore engine operation and manoeuvring capacity to the ship in the event of damage at sea, spare parts for the main drive and the operationally important auxiliary machinery are recommended to be carried on board every ship, together with the necessary tools.~~Spare parts in general are not mandatory for retention of class. It is, however, assumed that an inventory of spare parts for main drive and the operationally important auxiliary machinery is maintained on board every ship together with the necessary tools; sufficient to meet the needs posed by the ship's plans of operation. Its content should be decided taking into consideration:

- the probability of need as a consequence of likely failures,

- the likely failures and effect on the main functions,

- the possibility of the ship's staff effecting the necessary repairs.

2. ~~Depending on the design and arrangement of the engine plant, the intended service and operation of the ship, and also the manufacturer's recommendations, a different volume of spare parts may be agreed between the ship owner and **TL**.~~

~~A list of the relevant spare parts is to be carried on board.~~

For systems and components related to main functions, depending on the design and arrangement of the engine plant, the intended service and operation of the ship, the recommendations of the manufacturer shall also be taken into account.

3. Any applicable statutory requirement of the country of registration of the ship is also to be considered.

4. **TL** may require specific spare parts to be carried, if deemed necessary as a mandatory requirement. The extent and amount is to be decided on a case by case basis.

5. ~~Spare parts lists specified in this document are related to the ships for unrestricted services.~~

~~Others ships are to be agreed between the ship owner and **TL**.~~

Minimum recommended spare parts lists, from Table 17.1 to Table 17.5, including the necessary tools and instructions for replacement, specified in this document are related to the ships for unrestricted services.

Spare parts lists for ships with restricted service are to be agreed between the ship owner and **TL** by taking into consideration e.g. ship type, capacity, range, travel time, the intended area of operation, availability of rescue facilities in the area and proximity to a place of refuge.

Spare parts lists specified in this document can be used as a basis document for the preparation of the spare parts lists for ships with restricted service.

PART B – CHAPTER 5 - ELECTRICAL INSTALLATION

01. Section 7 – Power Equipment

Revision Date: May 2020

Entry into Force Date: 1 July 2020

Item A.2.2 in Section 7 was revised as below:

2. **Power Supply**

2.1 The power supply to steering gears is also required to comply with the provisions of Section 4, I.

2.2 ~~A separate power supply circuit from the main switchboard is to be provided for each steering gear power unit.~~ Each electric or electrohydraulic steering gear comprising one or more power units shall be served by at least two exclusive circuits fed directly from the main switchboard; however, one of the circuits may be supplied through the emergency switchboard. An auxiliary electric or electrohydraulic steering gear associated with a main electric or electrohydraulic steering gear may be connected to one of the circuits supplying this main steering gear. The circuits supplying an electric or electrohydraulic steering gear shall have adequate rating for supplying all motors which can be simultaneously connected to them and may be required to operate simultaneously.

In ships of less than 1 600 gross tonnage, if provided with an auxiliary steering gear independent of electrical power supply, the main steering gear may be fed by one circuit from the main switchboard.

After an electrical power failure, the steering gear power units shall restart automatically when the power is restored.

02. Section 20 – Electrical Equipment

Revision Date: May 2020

Entry into Force Date: 1 July 2020

Item A.1 was revised according to UR M80 New as below:

A. Electrical Machinery

1. Generators and Motors

Electrical machines shall conform to IEC publication 60034 or an equivalent standard.

In addition, for certification of AC generating sets, see also Chapter 4 - Machinery, Section 2, E.5

For high-voltage machines, see also Section 8.

PART C – CHAPTER 10 – LIQUEFIED GAS TANKERS

01. Section 04 – Cargo Containment

Revision Date: February 2020

Entry into Force Date: 1 July 2020

Item 4.20.1.1 was revised according to IACS UI GC20 New as below:

4.20.1.1 All welded joints of the shells of independent tanks shall be of the in-plane butt weld full penetration type. For dome-to-shell connections only, tee welds of the full penetration type may be used depending on the results of the tests carried out at the approval of the welding procedure. Except for small penetrations on domes, nozzle welds shall also be designed with full penetration.

Note: *The item 4.20.1.1 is applicable to independent tanks of type A or type B, primarily constructed of plane surfaces. This includes the tank corners which are constructed using bent plating which is aligned with the tank surfaces and connected with in-plane welds.*

The applicability of the expression "For dome-to-shell connections only" is clarified as follows:

- *Welded corners (i.e. corners made of weld metal) shall not be used in the main tank shell construction, i.e. corners between shell side (sloped plane surfaces parallel to hopper or top side inclusive if any) and bottom or top of the tank, and between tank end transverse bulkheads and bottom, top or shell sides (sloped plane surfaces inclusive if any) of the tank. Instead, tank corners which are constructed using bent plating aligned with the tank surfaces and connected with in-plane welds are to be used.*
- *Tee welds can be accepted for other localised constructions of the shell such as suction well, sump, dome, etc. where tee welds of full penetration type shall also be used.*

Revision Date: February 2020

Entry into Force Date: 1 July 2020

Item 4.20.1.2 was revised according to IACS UI GC21 New as below:

4.20.1.2 Welding joint details for type C independent tanks, and for the liquid-tight primary barriers of type B independent tanks primarily constructed of curved surfaces, shall be as follows:

……

Note: *The item 4.20.1.2 is applicable to type C independent tanks including bi-lobe tanks, primarily constructed of curved surfaces fitted with a centreline bulkhead.*

The applicability of the expression "Other edge preparations" is clarified as follows:

- *Cruciform full penetration welded joints in a bi-lobe tank with centreline bulkhead can be accepted for the tank structure construction at tank centreline welds with bevel preparation subject to the approval of the Administration or recognised organisation acting on its behalf, based on the results of the tests carried out at the approval of the welding procedure. (See below Figure 4.1 (c))*

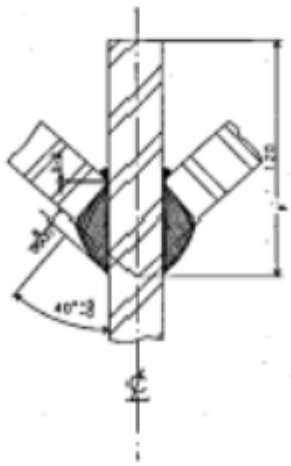

Figure 4.1 (c)

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Items 4.20.3.5 and 4.20.3.7 were revised according to UI GC13 Rev.2 as below:

4.20.3.5 The overall performance of the cargo containment system shall be verified for compliance with the design parameters during the first full loading and discharging of the cargo, in accordance with the survey procedure and requirements in 1.4 and the requirements of the Administration or recognized organization acting on its behalf. Records of the performance of the components and equipment essential to verify the design parameters, shall be maintained and be available to the Administration *(For examination before and after the first loaded voyage, refer to ~~see also~~ TL- I GC13 ~~Rev1~~).*

……

4.20.3.7 The cargo containment system shall be inspected for cold spots during, or immediately following, the first loaded voyage. Inspection of the integrity of thermal insulation surfaces that cannot be visually checked shall be carried out in accordance with recognized standards *(For examination before and after the first loaded voyage, refer to ~~see also~~ TL- I GC13 ~~Rev1~~).*

02. Section 05 – Process Pressure Vessels and Liquid, Vapour and Pressure Piping Systems

Revision Date: March 2020

Entry into Force Date: 1 July 2020

Note was added to item 5.12.3.1 according to UI GC25 Rev1 & Corr.1 as below:

Note: The expression 'a thermal insulation system as required to minimize heat leak into the cargo during transfer operations' means that properties of the piping insulation are to be taken into consideration when calculating the heat balance of the containment system and capacity of the pressure/temperature control system.

The expression 'cargo piping systems shall be provided with a thermal insulation system as required ... to protect personnel from direct contact with cold surfaces' means that surfaces of cargo piping systems with which personnel is likely to contact under normal conditions shall be protected by a thermal insulation, with the exception of the following examples:

.1 surfaces of cargo piping systems which are protected by physical screening measures to prevent such direct contact;

.2 surfaces of manual valves having extended spindles that protect the operator from the cargo temperature; and

.3 surfaces of cargo piping systems whose design temperature (to be determined from inner fluid temperature) is above minus 10 °C.

Revision Date: March 2020

Entry into Force Date: 1 July 2020

Item 5.13.1.1 was revised according to UI GC26 Corr.1 as below:

5.13.1.1 Valves (1)

Each type of valve intended to be used at a working temperature below -55°C shall be subject to the following type tests:

……

Note: *The expression "Each type of valve…shall be certified to a recognized standard" ~~is interpreted to~~ means that:*

1. *for pressure relief valves (PRVs) that are subject to IGC Code paragraph 8.2.5, the flow or capacity are to be certified by the Administration or Recognized Organization acting on its behalf; and*
2. *for other types of valves, the manufacturer is to certify the flow properties of the valves based on tests carried out according to recognized standards.*

03. Section 13 – Instrumentation and Automation Systems

Revision Date: March 2020

Entry into Force Date: 1 July 2020

Item 13.2.2 was revised according to UI GC27 Corr.1 as below:

13.2.2 Where only one liquid level gauge is fitted, it shall be arranged so that any necessary maintenance can be performed in an operational condition without the need to empty or gas-free the tank.

Notes:

In order to assess whether or not only one level gauge is acceptable in relation to the aforesaid sentence, the expression 'can be maintained' means that any part of the level gauge other than passive parts can be overhauled while the cargo tank is in service.

Passive parts are those parts assumed not subject to failures under normal service conditions.

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Note was added to item 13.9.3 according to UI GC29 New&Corr.1 as below:

Note: The expression "integrated system" means a combination of computer-based systems which are used for the control, monitoring/alarm and safety functions required for the carriage, handling and conditioning of cargo liquid and vapours and are interconnected in order to allow communication between computer-based systems and to allow centralized access to monitoring/alarm and safety information and/or command/control.

*(**Referenced Guidelines***

MSC/Circ.891 – Guidelines for the On-board Use and Application of Computers

2.1 Computer

A programmable electronic device for storing and processing data, making calculations, or any programmable electronic system (PES), including main-frame, mini-computer or micro-computer.

2.2 Computer-based system

A system of one or more computers, associated software, peripherals and interfaces.

2.3 Integrated system

A combination of computer-based systems which are interconnected in order to allow centralized access to sensor information and/or command/control.)

PART C – CHAPTER 22 – Dynamic Positioning Systems

01. Section 02 – DK FUNCTIONAL and OPERATIONAL REQUIREMENTS

Revision Date: June 2020

Entry into Force Date: 1 July 2020

Table 2.1 DK system arrangement

Subsystem or component		Minimum requirements for class notation		
		DK 1	DK 2	DK 3
Power system	Generators and prime mover	Non-redundant	Redundant	Redundant, separate compartments

	Main switchboard		1	1	2 ~~With normally open busties~~ in separate compartments
	Bus-tie breaker		0	1	2
	Distribution system		Non-redundant	Redundant	Redundant, through separate compartments
	Power management		No	Redundant ~~If installed, adequate redundancy~~	Redundant, separate compartments ~~If installed, adequate redundancy~~
Thruster system	Arrangement of thrusters		Non-redundant	Redundant	Redundant, separate compartments
DK-relevant auxiliary systems			-	Redundant **(3)**	Redundant, separate compartments, provided WCF is not exceeded
DK Control system	Auto control; no. of computer systems		1	2	2+1 in ~~separate compartments~~ backup control station
	Manual control; Joystick with auto heading		Yes	Yes	Yes
UPS for DK control system			1	2	2+1 In separate compartments
Sensors	Position reference systems		~~1~~ 2	3	3 Whereof 1 connected to back-up control system
	Vessel's sensors	Wind	1	~~2~~ 3	~~2~~ 3
		Vertical reference sensor (VRS)	1	~~2~~ 3	~~2~~ 3
		Heading reference system ~~Gyro~~	1	~~2 or~~ 3 **(1)**	3
~~Cables and piping system~~			~~Non-redundant~~	~~Non-redundant~~	~~Redundant, separate compartments~~

Essential non-DK systems **(2)**	Non-redundant	Redundant	Redundant, separate compartments
Printer	Yes	Yes	Yes

(1) ~~*See Section 2.B.4.4.2*~~ *The heading reference system(s) shall comply with IMO Res. A424(XI) performance standards for gyro-compasses. When three heading reference systems are required one of the three may be replaced by a heading measuring device based upon another principle, as long as this heading device is type approved as a THD (transmitting heading device) as specified in IMO Res. MSC.116(73).*

(2) *See Section 2.B.6*

(3) *When active components are used*

PART C – CHAPTER 33 – POLAR CLASS SHIPS

01. Section 10 – COMMUNICATION

Revision Date: March 2020

Entry into Force Date: 1 July 2020

Note was added to section 10 of Part I-A of Chapter 33 according to UI SC292 New as below:

10.3.2.3 In order to comply with the functional requirements of paragraph 10.2.2.3 above, recognizing the limitations arising from battery life, procedures shall be developed and implemented such that mandatory communication equipment for use in survival craft, including liferafts, and rescue boats are available for operation during the maximum expected time of rescue.

Note: 1. All rescue boats, all lifeboats and all other survival crafts carried by the ship, notwithstanding the redundancy in aggregate capacity of survival crafts required by SOLAS Regulation III/21 and Regulation III/31, and taking into account the different possible distress scenarios, are considered able to be released for evacuation simultaneously and shall be provided with mandatory communication equipment as required by paragraph 10.3.2 above accordingly.

2. The expressions "shall maintain capability for", "shall be capable of operation during the maximum expected time of rescue" and "are available for operation during the maximum expected time of rescue" used in paragraphs 10.2.2.1 and 10.2.2.2, 10.2.2.3, 10.3.2.3 above, mean ability of mandatory communication equipment for use in survival craft, including liferafts, and rescue boats to maintain the ready-for-operation state within the maximum expected time of rescue at the Polar Service Temperature (PST) assigned to the vessel, and after that to be capable to perform its functions at the PST assigned to the vessel with the operating time not less than specified in respective existing performance standards(*).(**)

3. Procedures referred to in paragraph 10.3.2.3 above can include both operational requirements and any other means including technical solutions i.e. thermal insulation, chemical heat sources, additional batteries, rechargeable batteries with respective chargers, etc., and shall be documented in Polar Water Operational Manual (PWOM).

** EPIRB - Res. A.810(19) and MSC.471(101);*
Radar transponder - Res. A.802(19);
AIS-SART - Res. MSC.246 (83);
Two-way VHF radiotelephone apparatus - Res. MSC.149(77).

*** For example, it is not required that an EPIRB being used for distress alerting continues distress messaging for maximum expected time of rescue, and two-way VHF radiotelephone apparatus being used for transmitting and receiving on-scene communications does not need to be technically in operation at its highest rated power with a duty cycle of 1:9 for maximum expected time of rescue, as specified in Paragraph 1.2.7 of Part I-A.*

PART D – CHAPTER 50 – Rules for Lifting Appliances

01. Section 08 – ROPES AND ROPE ACCESSORIES

Revision Date: March 2020

Entry into Force Date: 1 July 2020

Item A.1 was revised according to updating of EN 81-1, EN 81-2 and EN 81-3 with EN 81-20, EN 81-50 and EN 81-3+A1 as below:

A. General

1. The following regulations apply to wire and fibre ropes used as running and standing rigging for lifting appliances on ships, loose gear and rope slings.

The following regulations apply to lifts only in so far as they do not conflict with the "Safety rules for the construction and installation of lifts (EN 81-20~~1~~, EN 81-50~~2~~, EN 81-3+A1)."

PART D – CHAPTER 53 – Submersibles

01. Annex C – ACRYLIC WINDOWS

Revision Date: February 2020

Entry into Force Date: 1 July 2020

Item B.1 of Annex C was revised according to UI PASSUB1 Del as below:

B. Materials

1. ~~Acrylic viewports are to be designed, fabricated and maintained in accordance with the requirements of the latest edition of the American Society of Mechanical Engineers Safety Standard for Pressure Vessels for Human Occupancy (ASME PVHO) Section 2 Viewports and Section 3 Window Fabricators. Other standards and materials may be accepted by TL provided they achieve an equivalent level of safety with respect to design, fabrication and maintenance.~~ Materials for acrylic windows are to be manufactured in accordance with a recognized standard (e.g. ANSI/ASME PVHO 1, Section 2). The producer is required to certify this before manufacture commences.

PART D – CHAPTER 78 – Rules for Classification of Ships Using Gases or Other Low-Flashpoint Fuels

01. Section 06 – Fuel Containment System

Revision Date: April 2020

Entry into Force Date: 1 July 2020

Item 6.4.1.8 was revised according to Rec. 148 Rev.1 as below:

6.4.1.8 An inspection/survey plan for the liquefied gas fuel containment system shall be developed and approved by the Administration. The inspection/survey plan shall identify aspects to be examined and/or validated during surveys throughout the liquefied gas fuel containment system's life and, in particular, any necessary in-service survey, maintenance and testing that was assumed when selecting liquefied gas fuel containment system design parameters. The inspection/survey plan may include specific critical locations as per 6.4.12.2.8 or 6.4.12.2.9. For details, see TL- G 148 ~~(Jan. 2017)~~.

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