TÜRK LOYDU RULE CHANGE SUMMARY

TL NUMBER: 04/2017 DECEMBER 2017

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. In addition, editorial corrections may have been made.

RULE CHANGE SUMMARY

CLASSIFICATION AND SURVEYS

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01	**Section 3**

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CHAPTER 10 – LIQUEFIED GAS TANKERS

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CHAPTER 22 – DYNAMIC POSITIONING SYSTEMS

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CHAPTER 28 – VENTILATION

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CHAPTER 33 – CONSTRUCTION OF POLAR CLASS SHIPS

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CHAPTER 35 - TENTATIVE RULES FOR SHIPS LESS THAN 500 GT

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CHAPTER 36 – OFFSHORE SUPPLY VESSELS

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CHAPTER 53 – SUBMERSIBLES

No	Item
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CHAPTER 76 – ENVIRONMENTAL SERVICE SYSTEM

No	Item
01	Section 1
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CHAPTER 78 – RULES FOR CLASSIFICATION OF SHIPS USING GASES OR OTHER LOW-FLASHPOINT FUEL

No	Item
01	Preamble
02	Section 2
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ADDITIONAL RULE – TURK LOYDU SURVEY AND CERTIFICATION RULES ON ENERGY EFFICIENCY OF SHIPS (MARPOL 73/78 ANNEX VI, CHAPTER 4)

No	Item
01	General

CLASSIFICATION & SURVEYS

01. Section 2 - General Terms and Conditions

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item B.2.3.1 is revised as below:

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Prior to commencement of surveys for any newbuilding project, the society is to discuss with the shipbuilder at a kick off meeting the items listed in Table 1 of IACS UR Z23. The purpose of the meeting is to review and agree how the list of specific activities shown in Table 1 is to be addressed. The meeting is to take into account the shipbuilder's construction facilities and ship type including the list of proposed subcontractors.

Item B.2.3.6 is added as below:

2.3.6 The compliance of a new construction with the corresponding requirements of IACS Rec. 47 is mandatory and has to be checked by the involved surveyor(s).

02. Section 3 - Surveys

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.8.5 is revised according to PR19 Rev.1 and Rec.77 Rev.4 as below:

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Thickness measurements are carried out by a qualified company approved by **TL** and witnessed by the surveyor. This requires the surveyor to be on board, while the gaugings are taken, to the extent necessary to control the process and this also applies to thickness measurements taken during voyages (Refer also IACS PR19 and Rec 77)

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Revision Date: October 2017

Entry into Force Date: 1 January 2018

Note is added to Item B.3.3, C.3.2 and D.2.3 according to IACS Rec.55 Rev.1 as below:

Note:

For details of surveys, assessment and repair of hull structure of general dry cargo ships, see IACS Rec. 55.

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item B.4.1.1 is revised as below:

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- As a minimum, harmonic distortion levels of main busbar on board ~~such~~ existing ships including harmonic filters and contracted for construction before 1 July 2017, are to be measured annually under seagoing conditions as close to the periodical machinery survey as possible so as to give a clear representation of the condition of the entire plant to the surveyor.

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Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item B.4.7 was added according to UR Z25 New as below:

4.7 Periodic Survey of Fuel Installations on Ships other than Liquefied Gas Carriers utilizing gas or other low flash point fuels

4.7.1 Application

These requirements apply to ships, other than those covered by the 4.6, which utilize gas or other low flash point fuels as a fuel for propulsion prime mover/auxiliary power generation arrangements and associated systems. These requirements are in addition to the requirements of 4.1.

These survey requirements do not cover fire protection, fire-fighting installation, and personnel protection equipment.

4.7.2 Schedule

4.7.2.1 Annual Surveys are to be held within 3 months before or after each anniversary date of the date of the initial classification survey or of the date credited for the last Class Renewal Survey.

They will normally be performed at the same time as an Annual Hull survey.

4.7.3 Scope

4.7.3.1 General

The following is to be carried out during the survey of the Fuel Storage, Fuel Bunkering System, and Fuel Supply System:

4.7.3.1.1 Logbooks/Records

The logbooks and operating records are to be examined with regard to correct functioning of the gas detection systems, fuel supply/gas systems, etc. The hours per day of the reliquefaction plant, gas combustion unit, as applicable, the boil-off rate, and nitrogen consumption (for membrane containment systems) are to be considered together with gas detection records.

4.7.3.1.2 Operating and Maintenance Instruction Manuals

The manufacturer/builder instructions and manuals covering the operations, safety and maintenance requirements and occupational health hazards relevant to fuel storage, fuel bunkering, and fuel supply and associated systems for the use of the fuel, are to be confirmed as being aboard the vessel.

4.7.3.1.3 Control, Monitoring and Safety Systems

i) Gas detection and other leakage detection equipment in compartments containing fuel storage, fuel bunkering, and fuel supply equipment or components or associated systems, including indicators and alarms, isto be confirmed in satisfactory operating condition. Recalibration of the gas detection systems should be verified in accordance with the manufacturers' recommendations.

ii) Verification of the satisfactory operation of the control, monitoring and automatic shutdown systems as far as practicable of the fuel supply and bunkering systems.

iii) Operational test, as far as practicable, of the shutdown of ESD protected machinery spaces.

4.7.3.1.4 Fuel Handling Piping, Machinery and Equipment

Piping, hoses, emergency shut-down valves, remote operating valves, relief valves, machinery and equipment for fuel storage, fuel bunkering, and fuel supply such as venting, compressing, refrigerating, liquefying, heating, cooling or otherwise handling the fuel is to be examined, as far as practicable. Means for inerting is to be examined. Stopping of pumps and compressors upon emergency shut-down of the system is to be confirmed as far as practicable.

4.7.3.1.5 Ventilating System

Examination of the ventilation system, including portable ventilating equipment where fitted, is to be made for spaces containing fuel storage, fuel bunkering, and fuel supply units or components or associated systems, including air locks, pump rooms, compressor rooms, fuel preparation rooms, fuel valve rooms, control rooms and spaces containing gas burning equipment. Where alarms, such as differential pressure and loss of pressure alarms, are fitted, these should be operationally tested as far as practicable.

4.7.3.1.6 Drip Trays

Portable and fixed drip trays and insulation for the protection of the ship's structure in the event of leakage are to be examined.

4.7.3.1.7 Hazardous Areas

Electrical equipment and bulkhead/deck penetrations including access openings in hazardous areas are to be examined for continued suitability for their intended service and installation area.

4.7.3.1.8 Electrical Bonding

Electrical bonding arrangements in hazardous areas, including bonding straps where fitted, are to be examined.

4.7.3.2 Fuel Storage, Bunkering and Supply Systems

The following are to be examined, so far as applicable. Insulation need not be removed, but any deterioration or evidence of dampness is to be investigated:

4.7.3.2.1 Fuel Storage

i) External examination of the storage tanks including secondary barrier if fitted and accessible.

ii) General examination of the fuel storage hold place.

iii) Internal examination of tank connection space.

iv) External examination of tank and relief valves.

v) Verification of satisfactory operation of tank monitoring system.

vi) Examination and testing of installed bilge alarms and means of drainage of the compartment.

vii) Testing of the remote and local closing of the installed main tank valve.

4.7.3.2.2 Fuel Bunkering System

i) Examination of bunkering stations and the fuel bunkering system.

ii) Verification of satisfactory operation of the fuel bunkering control, monitoring and shutdown systems.

4.7.3.2.3 Fuel Supply System

Examination of the fuel supply system during working condition as far as practicable.

i) Verification of satisfactory operation of the fuel supply system control, monitoring and shut-down systems.

ii) Testing of the remote and local closing of the master fuel valve for each engine compartment.

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item C.2.1.3.1 and 2.1.3.2 are added according to UR Z10.2 Rev.33, UR Z10.4 Rev.14 and UR Z10.5 rev.16 as below:

2.1.3.1 For the SCF stored on board ship, the surveyor is to examine the information on board ship.

In cases where any major event, including, but not limited to, substantial repair and conversion, or any modification to the ship structures, the surveyor is to also verify that the updated information is kept on board the ship. If the updating of the SCF onboard is not completed at the time of survey, the Surveyor records it and requires confirmation at the next periodical survey.

2.1.3.2 For the SCF stored on shore archive, the surveyor is to examine the list of information included on shore archive.

In cases where any major event, including, but not limited to, substantial repair and conversion, or any modification to the ship structures, the surveyor is to also verify that the updated information is stored on shore archive by examining the list of information included on shore archive or kept on board the ship.

In addition, the surveyor is to confirm that the service contract with of the Archive Center is valid.

If the updating of the SCF Supplement ashore is not completed at the time of survey, the Surveyor records it and requires confirmation at the next periodical survey.

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item C.4.4 is added according to UR Z25 New as below:

4.4 Periodic Survey of Fuel Installations on Ships other than Liquefied Gas Carriers utilizing gas or other low flash point fuels

4.4.1 Application

These requirements apply to ships, other than those covered by the 4.3, which utilize gas or other low flash point fuels as a fuel for propulsion prime mover/auxiliary power generation arrangements and associated systems. These requirements are in addition to the requirements of 4.1.

These survey requirements do not cover fire protection, fire-fighting installation, and personnel protection equipment.

4.4.2 Schedule

4.4.2.1 The Intermediate Survey is to be held at or between either the 2nd or 3rd Annual Survey.

4.4.2.2 Those items which are additional to the requirements of the Annual Surveys may be surveyed either at or between the 2nd and 3rd Annual Survey.

4.4.3 Scope

4.4.3.1 General

In addition to the applicable requirements of the Annual Survey, the Intermediate Survey is also to include:

4.4.3.1.1 Safety Systems

Gas detectors, temperature sensors, pressure sensors, level indicators, and other equipment providing input to the fuel safety system are to be randomly tested to confirm satisfactory operating condition. Proper response of the fuel safety system upon fault conditions is to be verified.

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item D.3.4 is added according to UR Z25 New as below:

3.4 Periodic Survey of Fuel Installations on Ships other than Liquefied Gas Carriers utilizing gas or other low flash point fuels

3.4.1 Application

These requirements apply to ships, other than those covered by the 3.3, which utilize gas or other low flash point fuels as a fuel for propulsion prime mover/auxiliary power generation arrangements and associated systems. These requirements are in addition to the requirements of 3.1.

These survey requirements do not cover fire protection, fire-fighting installation, and personnel protection equipment.

3.4.2 Schedule

3.4.2.1 Class Renewal Surveys are to be carried out at 5 years intervals to renew the Classification Certificate.

3.4.2.2 The first Class Renewal Survey is to be completed within 5 years from the date of the initial classification survey and thereafter within 5 years from the credited date of the previous Class Renewal Survey. However, an extension of class of 3 months maximum beyond the 5th year can be granted in exceptional circumstances. In this case, the next period of class will start from the expiry date of the Class Renewal Survey before the extension was granted.

3.4.2.3 For surveys completed within 3 months before the expiry date of the Class Renewal Survey, the next period of class will start from the expiry date of the Class Renewal Survey. For surveys completed more than 3 months before the expiry date of the Class Renewal Survey, the period of class will start from the survey completion date. In cases where the vessel has been laid up or has been out of service for a considerable period because of a major repair or modification and the owner elects to only carry out the overdue surveys, the next period of class will start from the expiry date of the Class Renewal Survey. If the owner elects to carry out the next due Class Renewal Survey, the period of class will start from the survey completion date.

3.4.2.4 The Class Renewal Survey may be commenced at the 4th Annual Survey and be progressed with a view to completion by the 5th anniversary date. When the Class Renewal Survey is commenced prior to the 4th Annual Survey, the entire survey is to be completed within 15 months if such work is to be credited to the Class Renewal Survey.

3.4.2.5 Class Renewal Surveys may be carried out on a continuous survey basis. In this case, the interval between consecutive examinations of each item is not to exceed five (5) years.

3.4.3 Scope

3.4.3.1 General

The Class Renewal Survey is to include, in addition to the requirements of the Annual Survey, examination, tests and checks of sufficient extent to ensure that the fuel installations are in a satisfactory condition and is fit for its intended purpose for the new period of class of 5 years to be assigned, subject to proper maintenance and operation and to periodical surveys being carried out at the due dates.

3.4.3.2 Fuel Handling and Piping

All piping for fuel storage, fuel bunkering, and fuel supply such as venting, compressing, refrigerating, liquefying, heating storing, burning or otherwise handling the fuel and liquid nitrogen installations are to be examined. Removal of insulation from the piping and opening for examination may be required. Where deemed suspect, a hydrostatic test to 1.25 times the Maximum Allowable Relief Valve Setting (MARVS) for the pipeline is to be carried out. After reassembly, the complete piping is to be tested for leaks. Where water cannot be tolerated and the piping cannot be dried prior to putting the system into service, the Surveyor may accept alternative testing fluids or alternative means of testing.

3.4.3.3 Fuel Valves

All emergency shut-down valves, check valves, block and bleed valves, master gas valves, remote operating valves, isolating valves for pressure relief valves in the fuel storage, fuel bunkering, and fuel supply piping systems are to be examined and proven operable. A random selection of valves is to be opened for examination.

3.4.3.4 Pressure Relief Valves

i) Fuel Storage Tank Pressure Relief Valves. The pressure relief valves for the fuel storage tanks are to be opened for examination, adjusted, and function tested. If the tanks are equipped with relief valves with non-metallic membranes in the main or pilot valves, such non-metallic membranes are to be replaced.

ii) Fuel Supply and Bunkering Piping Pressure Relief Valves. A random selection of pressure relief valves for the fuel supply and bunkering piping are to be opened for examination, adjusted, and function tested. Where a proper record of continuous overhaul and retesting of individually identifiable relief valves is maintained, consideration will be given to acceptance on the basis of opening, internal examination, and testing of a representative sampling of valves, including

each size and type of liquefied gas or vapor relief valve in use, provided there is logbook evidence that the remaining valves have been overhauled and tested since crediting of the previous Class Renewal Survey.

iii) Pressure/Vacuum Relief Valves. The pressure/vacuum relief valves, rupture disc and other pressure relief devices for interbarrier spaces and hold spaces are to be opened, examined, tested and readjusted as necessary, depending on their design.

3.4.3.5 Fuel Handling Equipment

Fuel pumps, compressors, process pressure vessels, inert gas generators, heat exchangers and other components used in connection with fuel handling are to be examined as required in **TL** Rules for periodical survey of machinery.

3.4.3.6 Electrical Equipment

i) Examination of electrical equipment to include the physical condition of electrical cables and supports, intrinsically safe, explosion proof, or increased safety features of electrical equipment.

ii) Functional testing of pressurized equipment and associated alarms.

iii) Testing of systems for de-energizing electrical equipment which is not certified for use in hazardous areas.

iv) An electrical insulation resistance test of the circuits terminating in, or passing through, the hazardous zones and spaces is to be carried out.

3.4.3.7 Safety Systems

Gas detectors, temperature sensors, pressure sensors, level indicators, and other equipment providing input to the fuel safety system are to be tested to confirm satisfactory operating condition.

i) Proper response of the fuel safety system upon fault conditions is to be verified.

ii) Pressure, temperature and level indicating equipment are to be calibrated in accordance with the manufacturer's requirements.

3.4.3.8 Fuel Storage Tanks

Fuel storage tanks are to be examined in accordance with an approved survey plan. Liquefied gas fuel storage tanks are to be examined based upon IACS Recommendation No. 148.

PART A – CHAPTER 1 – HULL

01. Section 01 – General, Definitions

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Paragraf on Item E.1 is deleted as below:

~~Part A Chapter 2 Item 2.3 - Severe Wind and Rolling Criterion (Weather Criterion) of MSC. 267(85) has only to be taken into account on special advice of the competent Administration.~~

02. Section 03 – Design Principles

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.2.2.1 is revised according to UR S4 Rev.4 as below:

2.2.1 Higher tensile hull structural steel is a hull structural steel, the yield and tensile properties of which exceed those of ordinary hull structural steel. According to the Rules for Materials, for three groups of higher tensile hull structural steels the ~~nominal upper yield stress~~ minimum yield stress R_{eH} is fixed at 315, 355 and 390 N/mm^2 respectively. Where higher tensile hull structural steel is used, the following values of the material factor **k** are to be used for the purpose of determining scantlings.

Table 3.1 Material factor k

R_{eH} [N/mm^2]	k
315	0.78
355	0.72
390	0.66 Provided that a fatigue assessment of the structure is performed to verify compliance with the requirements of **TL**.
	0,68 in other cases

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item E is revised according to UR S14 Rev.6 as below:

Item E.1 is revised as below (footnote numbers are revised accordingly):

Part A – SOLAS Ships

1. General

1.1 These test procedures are to confirm the watertightness of tanks and watertight boundaries and the structural adequacy of tanks which consist of the watertight subdivisions **(1)** of ships. These procedures may also be applied to verify the weathertightness of structures and shipboard outfitting. The tightness of all tanks and watertight boundaries of ships during new construction and those relevant to major conversions or major repairs **(2)** is to be confirmed by these test procedures prior to the delivery of the ship.

1.2 Testing procedures of watertight compartments for SOLAS Ships (including CSR BC & OT) are to be carried out in accordance with PART A, unless:

a) The shipyard provides documentary evidence of the shipowner's agreement to a request to the Flag Administration for an exemption from the application of SOLAS Chapter II-1, Regulation 11, or for an equivalency agreeing that the content of PART B is equivalent to SOLAS Chapter II-1, Regulation 11; and

b) The above-mentioned exemption/equivalency has been granted by the responsible Flag Administration.

(1) *Watertight subdivision means the transverse and longitudinal subdivisions of the ship required to satisfy the subdivision requirements of SOLAS Chapter II-1.*

Item E.4.2.2 is revised as below:

4.2.2.1 Tanks which are intended to hold liquids, and which form part of the watertight subdivision of the ship **(1)**, shall be tested for tightness and structural strength as indicated in Table 3.35 and Table 3.36.

4.2.2.2 The tank boundaries are to be tested from at least one side. The tanks for structural test are to be selected so that all representative structural members are tested for the expected tension and compression.

~~4.2.2.2 Structural tests are to be carried out for at least one tank of a group of tanks having structural similarity (i.e. same design conditions, alike structural configurations with only minor localized differences determined to be acceptable by the attending Surveyor) on each vessel provided all other tanks are tested for leaks by an air test. The acceptance of leak testing using an air test instead of a structural test does not apply to cargo space boundaries adjacent to other compartments in tankers and combination carriers or to the boundaries of tanks for segregated cargoes or pollutant cargoes in other types of ships.~~

~~4.2.2.3 Additional tanks may require structural testing if found necessary after the structural testing of the first tank.~~

~~4.2.2.4 Where the structural adequacy of the tanks of a vessel were verified by the structural testing required in Table 3.35, subsequent vessels in the series (i.e. sister ships built from the same plans at the same shipyard) may be exempted from structural testing of tanks, provided that:~~

~~4.2.2.4.1 Watertightness of boundaries of all tanks is verified by leak tests and thorough inspections are carried out.~~

~~4.2.2.4.2 Structural testing is carried out for at least one tank of each type among all tanks of each sister vessel.~~

~~4.2.2.4.3 Additional tanks may require structural testing if found necessary after the structural testing of the first tank or if deemed necessary by the attending Surveyor. For cargo space boundaries adjacent to other compartments in tankers and combination carriers or boundaries of tanks for segregated cargoes or pollutant cargoes in other types of ships, the provisions of paragraph 4.2.2.2 shall apply in lieu of paragraph 4.2.2.4.2.~~

~~4.2.2.5 Sister ships built (i.e. keel laid) two years or more after the delivery of the last ship of the series, may be tested in accordance with 4.2.2.4 at the discretion of TL, provided that:~~

~~4.2.2.5.1 General workmanship has been maintained (i.e. there has been no discontinuity of shipbuilding or significant changes in the construction methodology or technology at the yard, shipyard personnel are appropriately qualified and demonstrate an adequate level of workmanship as determined by the TL) and:~~

~~4.2.2.5.2 An enhanced NDT programme is implemented for the tanks not subject to structural tests.~~

4.2.2.3 ~~For~~ The watertight boundaries of spaces other than tanks for structural testing may be exempted, provided that the watertightness of boundaries of exempted spaces is verified by leak tests and inspections. Structural testing may not be exempted and the requirements for structural testing of tanks in 4.2.2.1 to 4.2.2.2 shall apply, for ballast holds, chain lockers and a representative cargo hold if intended for in-port ballasting.

4.2.2.4 Tanks which do not form part of the watertight subdivision of the ship **(1)**, may be exempted from structural testing provided that the water-tightness of boundaries of exempted spaces is verified by leak tests and inspections.

Item E.4.3 is revised as below:

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The application of the leak test for each type of welded joint is specified in Table 3.37.

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Item E.4.4 is revised as below:

4.4.1 Hydrostatic Test

Unless another liquid is approved, the hydrostatic tests are to consist of filling the space with fresh water or sea water, whichever is appropriate for testing, to the level specified in Table 3.35 or Table 3.36. See also 4.7.

In cases where a tank is designed for cargo densities greater than sea water and testing is with fresh water or sea water, the testing pressure height is to simulate the actual loading for those greater cargo densities as far as practicable.

4.4.2 Hydropneumatic test

Hydropneumatic tests, where approved, are to be such that the test condition, in conjunction with the approved liquid level and supplemental air pressure, will simulate the actual loading as far as practicable. The requirements and recommendations for tank air tests in 4.4.4 will also apply to hydropneumatic tests. See also 4.7.

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4.4.4 Tank air test

A U-tube with a height sufficient to hold a head of water corresponding to the required test pressure is to be arranged. The cross sectional area of the U-tube is not to be less than that of the pipe supplying air to the tank. Arrangements involving the use of two calibrated pressure gauges to verify the required test pressure may be accepted taking into account the provisions in F5.1 and F7.4 of IACS Recommendation 140, "Recommendation for Safe Precautions during Survey and Testing of Pressurized Systems".

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Table 3.35 and 3.36 are revised as below:

Table 3.35 Test Requirements for Tanks and Boundaries

9	1. Fore peak spaces with equipment	Leak	See 4.4.3 through 4.4.6, as applicable	
	2. Fore peak voids	Leak	See 4.4.4 through 4.4.6, as applicable	
	3. Aft peak spaces with equipment	Leak	See 4.4.3 through 4.4.6, as applicable	
	4. Aft peak voids	Leak	See 4.4.4 through 4.4.6, as applicable	After peak to be tested after installation of stern tube
(9)	*Where L.O. sump tanks and other similar spaces under main engines intended to hold liquid form part of the watertight subdivision of the ship, they are to be tested as per the requirements of Item 5, Deep tanks other than those listed elsewhere in this table.*			

Table 3.36 Additional Test Requirements for Special Service Ships/Tanks

Item number	Type of Ship/Tank	Structures to be tested	Type of Test	Test Head or Pressure	Remarks
1	Liquefied gas carriers	Integral Tanks	Leak and structural	Refer to Türk Loydu Rules Chapter 10 Liquefied Gas Carriers Section 4	
		Hull structure supporting membrane or semi-membrane tanks	Refer to Türk Loydu Rules Chapter 10 Liquefied Gas Carriers Section 4	Refer to Türk Loydu Rules Chapter 10 Liquefied Gas Carriers Section 4	
		Independent tanks type A	Refer to Türk Loydu Rules Chapter 10 Liquefied Gas Carriers Section 4	Refer to Türk Loydu Rules Chapter 10 Liquefied Gas Carriers Section 4	
		Independent tanks type B	Refer to Türk Loydu Rules Chapter 10 Liquefied Gas Carriers Section 4	Refer to Türk Loydu Rules Chapter 10 Liquefied Gas Carriers Section 4	
		Independent tanks type C	Refer to Türk Loydu Rules Chapter 10 Liquefied Gas Carriers Section 5	Refer to Türk Loydu Rules Chapter 10 Liquefied Gas Carriers Section 5	
2	Edible liquid tanks	Independent tanks	Leak and structural **(1)**	The greater of - top of the overflow, or - to 0.9m above top of tank **(2)**	
3	Chemical carriers	Integral or independent cargo tanks	Leak and structural **(1)**	The greater of - to 2.4m above top of tank **(2)**, or - to top of tank **(2)**plus setting of any pressure relief valve	Where a cargo tank is designed for the carriage of cargoes with specific gravities larger than 1.0, an appropriate additional head is to be considered

Note:

(1) *Refer to section 4.2.2*

(2) *Top of tank is deck forming the top of the tank excluding any hatchways.*

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Part B – Non-SOLAS Ships and SOLAS Exemption/Equivalent Ships is added as below:

5. General

5.1 These test procedures are to confirm the watertightness of tanks and watertight boundaries and the structural adequacy of tanks which consist of the watertight subdivisions **(1)** of ships. These procedures may also be applied to verify the weathertightness of structures and shipboard outfitting. The tightness of all tanks and watertight boundaries of ships during new construction and those relevant to major conversions or major repairs **(2)** is to be confirmed by these test procedures prior to the delivery of the ship.

5.2 Testing procedures of watertight compartments are to be carried out in accordance with PART B for non-SOLAS ships and those SOLAS ships (including CSR BC & OT) for which:

a) the shipyard provides documentary evidence of the shipowner's agreement to a request to the Flag Administration for an exemption from the application of SOLAS Chapter II-1, Regulation 11, or for an equivalency agreeing that the content of PART B is equivalent toSOLAS Chapter II-1, Regulation 11; and

b) the above-mentioned exemption/equivalency has been granted by the responsible Flag Administration

6. Application

6.1 Testing procedures are to be carried out in accordance with the requirements of PART A in association with the following alternative procedures for 4.2.2 of PART A "Testing Schedule for New Construction or Major Structural Conversion" and alternative test requirements for PART A Table 3.35.

6.2 The tank boundaries are to be tested from at least one side. The tanks for structural test are to be selected so that all representative structural members are tested for the expected tension and compression.

6.3 Structural tests are to be carried out for at least one tank of a group of tanks having structural similarity (i.e. same design conditions, alike structural configurations with only minor localised differences determined to be acceptable by the attending Surveyor) on each vessel provided all other tanks are tested for leaks by an air test. The acceptance of leak testing using an air test instead of a structural test does not apply to cargo space boundaries adjacent to other compartments in tankers and combination carriers or to the boundaries of tanks for segregated cargoes or pollutant cargoes in other types of ships.

6.4 Additional tanks may require structural testing if found necessary after the structural testing of the first tank.

6.5 Where the structural adequacy of the tanks of a vessel were verified by the structural testing required in Table 3.35, subsequent vessels in the series (i.e. sister ships built from the same plans at the same shipyard) may be exempted from structural testing of tanks, provided that:

6.5.1. water-tightness of boundaries of all tanks is verified by leak tests and thorough inspections are carried out.

6.5.2. structural testing is carried out for at least one tank of each type among all tanks of each sister vessel.

6.5.3. additional tanks may require structural testing if found necessary after the structural testing of the first tank or if deemed necessary by the attending Surveyor.

For cargo space boundaries adjacent to other compartments in tankers and combination carriers or boundaries of tanks for segregated cargoes or pollutant cargoes in other types of ships, the provisions of paragraph 6.3 shall apply in lieu of paragraph 6.5.2.

6.6 Sister ships built (i.e. keel laid) two years or more after the delivery of the last ship of the series, may be tested in accordance with PART B 6.5 at the discretion of **TL**, provided that:

6.6.1. general workmanship has been maintained (i.e. there has been no discontinuity of shipbuilding or significant changes in the construction methodology or technology at the yard, shipyard personnel are appropriately qualified and demonstrate an adequate level of workmanship as determined by **TL**); and

6.6.2. an NDT plan is implemented and evaluated by the **TL** for the tanks not subject to structural tests. Shipbuilding quality standards for the hull structure during new construction are to be reviewed and agreed during the kick-off meeting. Structural fabrication is to be carried out in accordance with **TL** Additional Rules named, “Shipbuilding and Repair Quality Standard”, or a recognised fabrication standard which has been accepted by **TL** prior to the commencement of fabrication/construction. The work is to be carried out in accordance with the Rules and under survey of **TL**.

03. Section 21 – Structural Fire Protection

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item B.2.5 is revised as below:

……

48 m length is not limited as long as they comply with all the requirements. See also MSC Circ.1120, as amended ~~by MSC.1/Circ.1436~~.

Item B.12.2.1 is revised according to deleted UI SC221 as below:

……

~~See Figure 21.1.~~

Figure 21.1 is deleted and subsequent Figures are renumbered.

Note under item B.12.2.2 is deleted as below:

~~Note: For determining fire insulation for trunks and ducts which pass through an enclosed space, the term “pass through” referred to in items 12.2.2, 12.2.3 and 12.2.5 pertains to the part of the trunk/duct contiguous to the enclosed space. See Figure 21.1.~~

Footnote (6) on item B.12.2.5 is deleted as below and subsequent footnotes are renumbered:

Ducts that are outside but adjacent to the specified space, and share one or more surfaces with it, are to be considered to pass through the specified space, and are to be insulated over the surface they share with the space for a distance of 450 mm past the duct ~~(6).~~

~~(6) Refer to note given under item 12.2.2 and 12.2.3 and Figure 21.1~~

Note under item B.12.5.2 is deleted as below:

~~Note: For determining fire insulation for trunks and ducts which pass through an enclosed space, the term "pass through" pertains to the part of the trunk/duct contiguous to the enclosed space. See Figure 21.1.~~

Note under item C.8.2.3 is deleted as below:

~~Note: For determining fire insulation for trunks and ducts which pass through an enclosed space, the term "pass through" referred to in items 8.2.2, 8.2.3 and 8.2.5 pertains to the part of the trunk/duct contiguous to the enclosed space. See Figure 21.1.~~

Existing footnote (21) on item C.8.2.5 is deleted as below and subsequent footnotes are renumbered:

Ducts that are outside but adjacent to the specified space, and share one or more surfaces with it, are to be considered to pass through the specified space, and are to be insulated over the surface they share with the space for a distance of 450 mm past the duct ~~**(21)**~~.

Note under item C.8.4.1 is deleted as below:

~~Note: For determining fire insulation for trunks and ducts which pass through an enclosed space, the term "pass through" pertains to the part of the trunk/duct contiguous to the enclosed space. See Figure 21.1.~~

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Renumbered footnote (14) on item B.17.6.4 is revised as below:

(14) *Reference is made to the Revised Guidelines on evacuation analyses for new and existing passenger ships, adopted by IMO by MSC.1/Circ.1533.*

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item C.11.2.4 is revised according to UI SC269 Rev.1 as below:

……

Direct access to the open deck

Escape routes that pass only through stairways and/or corridors are considered as providing a "direct access to the open deck" provided that the escape routes from the steering gear spaces have fire integrity protection equivalent to:

- Steering gear spaces, or
- Stairways / corridors whichever is more stringent.

Item E.2.1.1 is revised according to UI SC269 Rev.1 as below:

……

Pump-rooms intended solely for ballast transfer need not comply with the requirements of Chapter 4 Machinery Section 20 C.7. The requirements of Chapter 4 Machinery Section 20 C.7 are only applicable to the pump-rooms, regardless of their location, where pumps for cargo, such as cargo pumps, stripping pumps, pumps for slop tanks, pumps for COW or similar pumps are provided (Refer also to MSC/Circ.1037 and MSC/Circ.1120 as amended ~~by MSC.1/Circ.1436~~).

04. Section 26 – Stability

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item G.1.3 is revised as below:

1.3 Before a voyage commences, care should be taken to ensure that the cargo, cargo handling cranes and sizeable pieces of equipment have been properly stowed or lashed so as to minimize the possibility of both longitudinal and lateral shifting, while at sea, under the effect of acceleration caused by rolling and pitching (refer to the Guidelines for the preparation of the Cargo Securing Manual, MSC.1/Circular.1353/Rev.1).

05. Section 30 – Bow Stern and Doors

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Footnote (1) is revised as below:

(1) *Refer to the Interim Explanatory Notes for the assessment of passenger ship systems' capabilities after a fire or flooding casualty (MSC.1/Circ.1369 and MSC.1/Circ.1369/Add.1).*

PART A – CHAPTER 2 – MATERIAL

01. Section 11 –Materials for Propeller

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.2.1 is revised as below:

All propellers and propeller components are to be cast by foundries approved by **TL** or an IACS Member Classification Society.

PART A – CHAPTER 3 – WELDING

01. Section 3 – Welder's Qualification Tests

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Section is revised generally according to UR W32 New.

PART B – CHAPTER 4 – MACHINERY

01. Section 2 – Internal Combustion Engines and Air Compressors

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item M.1 is revised as below:

Exhaust gas cleaning systems shall comply with the applicable statutory requirements. In case of sea going ships requirements stipulated in the MARPOL Convention are to be observed. In case of wet exhaust gas cleaning systems (scrubber systems) IMO Resolution MEPC 259(68) applies.

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item M.5.1 is revised as below:

For more details see UI MPC105 and Resolution MEPC.198(62) as amended by MEPC 260(68).

Item M.5.3 is revised as below:

Where the exhaust gases are washed with water, discharged wash water has to comply with criteria as specified in IMO Resolution MEPC 259(68).

Item M.5.4 is added according to UR M77 New as below:

5.4 Storage and use of SCR reductants

5.4.1 General

The NOx Technical Code, in 2.2.5 and elsewhere, provides for the use of NOx Reducing Devices of which Selective Catalytic Reduction (SCR) is one option. SCR requires the use of a reductant which may be a urea/water solution or, in exceptional cases, aqueous ammonia or even anhydrous ammonia. These requirements apply to the arrangements for the storage and use of SCR reductants which are typically carried on board in bulk quantities.

5.4.2 Reductant using urea based ammonia (e.g. 40%/60% urea/water solution)

5.4.2.1 Where urea based ammonia (e.g. AUS 40 – aqueous urea solution specified in ISO 18611-1) is introduced, the storage tank is to be arranged so that any leakage will be contained and prevented from making contact with heated surfaces. All pipes or other tank penetrations are to be provided with manual closing valves attached to the tank. Tank and piping arrangements are to be approved.

5.4.2.2 The storage tank may be located within the engine room.

5.4.2.3 The storage tank is to be protected from excessively high or low temperatures applicable to the particular concentration of the solution. Depending on the operational area of the ship, this may necessitate the fitting of heating and/or cooling systems. The physical conditions recommended by applicable recognized standards (such as ISO 18611-3) are to be taken into account to ensure that the contents of the aqueous urea tank are maintained to avoid any impairment of the urea solution during storage.

5.4.2.4 If a urea storage tank is installed in a closed compartment, the area is to be served by an effective mechanical supply and exhaust ventilation system providing not less than 6 air changes per hour which is independent from the ventilation system of accommodation, service spaces, or control stations. The ventilation system is to be capable of being controlled from outside the compartment and is to be maintained in operation continuously except when the storage tank is empty and has been thoroughly air purged. If the ventilation stops, an audible and visual alarm shall be provided outside the compartment adjacent to each point of entry and inside the compartment, together with a warning notice requiring the use of such ventilation.

Alternatively, where a urea storage tank is located within an engine room a separate ventilation system is not required when the general ventilation system for the space is arranged so as to provide an effective movement of air in the vicinity of the storage tank and is to be maintained in operation continuously except when the storage tank is empty and has been thoroughly air purged.

5.4.2.5 Each urea storage tank is to be provided with temperature and level monitoring arrangements. High and low level alarms together with high and low temperature alarms are also to be provided.

5.4.2.6 Where urea based ammonia solution is stored in integral tanks, the following are to be considered during the design and construction:

- These tanks may be designed and constructed as integral part of the hull, (e.g. double bottom, wing tanks).
- These tanks are to be coated with appropriate anti-corrosion coating and cannot be located adjacent to any fuel oil and fresh water tank.
- These tanks are to be designed and constructed as per the structural requirements applicable to hull and primary support members for a deep tank construction.
- These tanks are to be fitted with but not limited to level gauge, temperature gauge, high temperature alarm, low level alarm, etc.
- These tanks are to be included in the ship's stability calculation.

5.4.2.7 The reductant piping and venting systems are to be independent of other ship service piping and/or systems. Reductant piping systems are not to be located in accommodation, service spaces, or control stations. The vent pipes of the storage tank are to terminate in a safe location on the weather deck and the tank venting system is to be arranged to prevent entrance of water into the urea tank.

5.4.2.8 Reductant related piping systems, tanks, and other components which may come into contact with the reductant solution are to be of a suitable grade of non-combustible compatible material established to be suitable for the application.

5.4.2.9 For the protection of crew members, the ship is to have on board suitable personnel protective equipment. Eyewash and safety showers are to be provided, the location and number of these eyewash stations and safety showers are to be derived from the detailed installation arrangements.

5.4.2.10 Urea storage tanks are to be arranged so that they can be emptied of urea, purged and vented.

5.4.3 Reductant using aqueous ammonia (28% or less concentration of ammonia)

Aqueous ammonia is not to be used as a reductant in a SCR except where it can be demonstrated that it is not practicable to use a urea based reductant. Where an application is made to use aqueous ammonia as the reductant then the arrangements for its loading, carriage and use are to be derived from a risk based analysis.

carriage and use are to be derived from a risk based analysis.

5.4.4 Reductant using anhydrous ammonia (99.5% or greater concentration of ammonia by weight)

Anhydrous ammonia is not to be used as a reductant in a SCR except where it can be demonstrated that it is not practicable to use a urea based reductant and where the Flag Administration agrees to its use. Where it is not practicable to use a urea reductant then it is also to be demonstrated that it is not practicable to use aqueous ammonia. Where an application is made to use anhydrous ammonia as the reductant then the arrangements for its loading, carriage and use are to be derived from a risk based analysis.

02. Section 8 – Propellers

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.3.2 is revised as below:

.....

- The manufacturing tolerance class (ISO 484) shall be specified on the propeller drawings.

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Items F.2.4 and 2.5 are added as below:

2.4 The propeller blades shall be manufactured according to the specified tolerance class (ISO 484). As a minimum, verification of the following is required:

- Surface finish
- Pitch (local and mean pitch)
- Thickness and length of blade sections
- Form of blade sections

- Location of blades, reference line and blade contour

- Balancing (see also [2.5])

- For propellers running in nozzle or tunnel:

  - extreme radius of blades (for controllable pitch propellers with outer section at zero pitch).

Verification of blade section form may include the use of edge templates as specified for manufacturing tolerance classes S and I in ISO 484. Equivalent methods can be accepted, for instance the use of multi-axial milling machines, which have proven to be capable of producing the specified geometry with such an accuracy that only a slight grinding is necessary to obtain the specified surface finish.

2.5 The complete propeller shall be statically balanced in accordance with specified ISO 484 tolerance class (or equivalent) in presence of a surveyor. Dynamic balancing shall be carried out for propulsion propellers with tip speed exceeding 60 m/s. The manufacturer shall demonstrate that the assembled propeller shall be within the specified limits.

For built-up propellers, the required static balancing may be replaced by an individual control of blade weight and gravity centre position.

03. Section 9 – Steering Gears and Thrusters

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.2.3.2 is revised as below:

2.3.2 The welding details and welding procedures should be approved by **TL** or an IACS Member Classification Society.

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.4.3 is divided as 4.3.1 and 4.3.2 due to addition of synchronisation requirements as below:

4.3.2 Synchronisation

4.3.2.1 General

A system for synchronising the movement of the rudders is to be fitted, either:

- By a mechanical coupling, or

- By other systems giving automatic synchronising adjustment.

4.3.2.2 Non-mechanical synchronisation

Where the synchronisation of the rudder motion is not achieved by a mechanical coupling, the following provisions are to be met:

a) The angular position of each rudder is to be indicated on the navigation bridge

b) The rudder angle indicators are to be independent from each other and, in particular, from the synchronising system

c) In case of failure of the synchronising system, means are to be provided for disconnecting this system so that steering capability can be maintained or rapidly regained. See also A,7.

04. Section 16 – Pipe Lines, Valves, Fittings and Pumps

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item G.12 is added according to IACS Rec.151 New as below:

12. Sampling points

12.1 The fuel oil pipelines should be provided with sampling points.

12.2 The sampling points should meet the requirements of MEPC.1/Circ.864 'Guidelines for on board sampling and verification of the sulphur content of the fuel oil used on board ships' and should be located as follows:

.1 after the transfer pump discharge,

.2 before and after the fuel cleaning equipment, and

.3 after the fuel oil service tank, before any fuel change over valve,

.4 before fuel enters the oil fuelled machinery.

12.3 Sampling points should be provided at locations within the fuel oil system that enable samples of fuel oil to be taken in a safe manner.

12.4 The position of a sampling point should be such that the sample of the fuel oil is representative of the fuel oil quality passing that location within the system.

12.5 The sampling points should be located in positions as far removed as possible from any heated surface or electrical equipment so as to preclude impingement of fuel oil onto such surfaces on equipment under all operating conditions.

05. Section 18 – Fire Protection and Fire Extinguishing Equipment

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Footnote (1) is revised as below:

(1) *Reference is made to the "Guidelines on Alternative Design and Arrangements for Fire Safety" adopted by IMO by MSC/Circ. 1002, as amended by MSC.1/Circ.1552*

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Footnote of Table 18.1 is revised as below:

(6) *May be dispensed with on request where only coal, ore, grain, unseasoned timber, non-combustible cargoes or cargoes resenting a low fire risk are carried. Reference is made to MSC.1/Circ. 1395/Rev.3.*

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Footnote (16), (24) and (29) are revised as below:

(16) *See MSC/Circ. 1120, as amended " Regulation 10.5: Number of Systems, Appliances, and Extinguishers Required in Machinery Spaces" or IACS Unified Interpretation UI SC30 only for information.*

(24) *Refer to IMO MSC/Circ.1120, as amended*

(29) *Pressure water spraying systems deviating from these requirements may be used if approved as equivalent by **TL** See IMO MSC.I/Circ.1430, "Revised Guidelines for the Approval of Fixed Water-Based Fire-Fighting Systems for Ro-Ro Spaces and Special Category Spaces Equivalent to that Referred to in Resolution A.123(V)*

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item Q.1.3.8 is revised as below:

IMO MSC.1/Circ.1395/Rev.3, "List of solid bulk cargoes for which a fixed gas fire-extinguishing system may be exempted or for which a fixed gas fire extinguishing system is ineffective"

Item Q.2.2.1 and Q.2.2.2 are revised as below:

2.2.1 A ship may be exempted from the requirement of a fixed gas fire-extinguishing system if constructed and solely intended for the carriage of cargoes as specified MSC.1/Circ.1395/Rev.3.

2.2.2 For cargoes according to MSC.1/Circ.1395/Rev.3,

06. Section 20 – Tankers

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Footnote (2) is revised as below:

(2) Flame arresting devices must conform to the IMO standard in accordance with MSC/Circular 677, as amended.

PART B – CHAPTER 5 – ELECTRICAL INSTALLATION

01. Section 9 – Control, Monitoring and Ship's Safety Systems

Revision Date: October 2017

Entry into Force Date: 1 July 2018

Note under item D.1.1.2 is revised as below:

Note:

Regarding the required sound pressure level the IMO LSA Code (Resolution MSC.48/66), as amended, shall be observed.

Item D.8.1 is revised as below:

8.1 Ballast water treatment plants are to be approved by a flag administration acc. to Guidelines for approval of ballast water management systems (G8) (Res. MEPC 279(70)).

02. Section 12 –Cable Network

Revision Date: October 2017

Entry into Force Date: 1 July 2018

Note under item D.15.1.2 is revised as below:

.....

- Machinery spaces as defined in Chapter II-2/Reg.3.30 of SOLAS except spaces having little or no fire risk as defined by paragraphs (10) of Chapter II-2 / Reg. 9.2.2.3.2.2 of SOLAS. (Including the interpretations for tables 9.3, 9.4, 9.5, 9.6, 9.7 and 9.8 given in MSC/Circ.1120 as amended)

PART C – CHAPTER 7 – HIGH SPEED CRAFT

Annex 1 and Annex 2 deleted and subsequent annexes are renumbered. Related references to annexes are revised accordingly.

01. Section 4 – Accommodation and Escape Measures

Revision Date: October 2017

Entry into Force Date: 1 July 2018

Footnote of item 4.2.2 is revised as below:

Refer to the Recommendations on performance standards for public address systems on pas senger ships, including cabling (MSC/Circ.808) and the Code on Alarms and Indicators, 2009 (resolution A.1021(26)).

02. Section 7 – Control, Monitoring and Ship's Safety Systems

Revision Date: October 2017

Entry into Force Date: 1 July 2018

Footnote of item 7.4.3.3 is revised as below:

Fire test procedures referenced in the FTP Code (resolution MSC.61(67), as amended, and MSC/Circ.916, 964, 1004, 1008, 1036 and 1120, as amended should be applied to items and materials covered by this paragraph as follows

.....

Footnote of item 7.5.4 is revised as below:

Refer to the Guidelines for the Application of Plastic Pipes on Ships, adopted by the Organization by resolution A.753(18), as amended.

Footnote of item 7.7.3.3.7 is revised as below:

Refer to the Code on Alarms and Indicators, 2009 (resolution A.1021(26))

Footnote of item 7.7.4 is revised as below:

Refer to the Improved guidelines for marine portable fire-extinguishers (resolution A.951(23)), and Fire protection equipment — Portable fire extinguishers — Performance and construction (ISO 7165:2017)

Footnote of item 7.8.5.1 is revised as below:

Refer to the Revised design guidelines and operational recommendations for the ventilation systems in ro-ro cargo spaces (MSC.1/Circ.1515)

Footnote of Title Part D is revised as below:

Refer to the International Maritime Dangerous Goods Code (IMDG Code), adopted by the Organization by resolution MSC 122(75), as amended, and the International Maritime Solid Bulk Cargoes Code, adopted by resolution MSC. 268(85) as amended.

Footnote of item 7.17.3.8.1 is revised as below:

For cargoes for which a fixed gas fire extinguishing system is ineffective, refer to the List of cargoes in table 2 of MSC.1/Circ.1395/Rev.3.

03. Section 8 – Life-Saving Appliances and Arrangements

Revision Date: October 2017

Entry into Force Date: 1 July 2018

Footnote of item 8.8.7.1.2 is revised as below:

Refer to the Recommendation on Conditions for the Approval of Servicing Stations for Inflatable Liferafts, adopted by the Organization by resolution A.761(18), as amended by resolution MSC.55(66) as amended by Resolution MSC.388(94).

04. Section 14 – Radiocommunications

Revision Date: October 2017

Entry into Force Date: 1 July 2018

Footnote of item 14.2.1.14 is revised as below:

Refer to the Provision of radio services for the global maritime distress and safety system (GMDSS), adopted by the Organization by resolution A.801(19) as amended by MSC 199(80).

Footnotes 1, 3, 7, 8 and 11 of item 14.14.1 is revised as below:

.1 *Resolution A.525(13), as amended by MSC 148(77): Performance Standards for Narrow-Band Direct-Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships*

.3 *Resolution A.808(19), as amended by MSC 149(77): Performance Standards for Ship Earth Stations Capable of Two -Way Communications, and resolution A.570(14), Type Approval of Ship Earth Stations.*

.7 *Resolutions A.810(19) as amended by MSC.56(66) as amended by Resolution MSC.120.(74): Performance Standards for Float-Free Satellite Emergency Position-Indicating Radio Beacons (EPIRBs) Operating on 406 MHz (see also Assembly resolution A.696(17): Type Approval of Satellite Emergency Position-Indicating Radio Beacons (EPIRBs) Operating in the COSPAS-SARSAT System).*

.8 *Resolution A.802(19) as amended by Resolution MSC.247(83) : Performance Standards for Survival Craft Radar Transponders for Use in Search and Rescue Operations.*

.11 *Resolution MSC.306(87)- Revised Performance Standards for Enhanced Group Call(EGC) Equipment*

PART C – CHAPTER 9 – YACHTS

01. Section 7 – Hull Construction – Steel Hulls

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.5.9.1 is revised as below:

5.9.1 For remote control systems of main propulsion machinery and essential auxiliary machinery and relevant alarms and safety systems, the requirements of Section 8 apply.

Item B.1 is revised and tables 7.5 and 7.6 are added as below and subsequent tables are renumbered:

.....

For propulsion and auxiliary diesel engines installed on yachts with (+) M class notation, the following certificates and alarms/indications (see Table 7.5 and Table 7.6) are required:

Certificates:

.....

Alarms / indicators (alarms are to be visual and audible, indicators are to be fitted at a normally attended position)**:**

Table 7.5 Monitoring of main propulsion diesel engines

Symbols H = High, HH = High high, G = group alarm L = Low, LL = Low low, I = individual alarm X = finction is required, R = remote	Monitoring		Automatic control				
			Main engine			Auxiliary	
Identification of system parameter	**Alarm**	**Indication**	**Slow-down**	**Shut-down**	**Control**	**Stand-by start**	**Stop**
Lubricating oil pressure	L						
Lubricating oil temperature		X					

Cylinder fresh cooling water temperature	H	X					
Exhaust gas temperature		X **(1)**					
Engine speed / direction of speed (when reversible)		X					
				H **(1)**			
Fault in the electronic governor system	X						
(1) *Indication is required for engines of 1000 kW and above*							

Table 7.6 Monitoring of diesel engines used for auxiliary services

Symbols H = High, HH = High high, G = group alarm L = Low, LL = Low low, I = individual alarm X = function is required, R = remote	**Monitoring**		**Automatic control**				
			Engine			**Auxiliary**	
Identification of system parameter	**Alarm**	**Indication**	**Slow-down**	**Shut-down**	**Control**	**Stand-by start**	**Stop**
Lubricating oil pressure	L						
Temperature of cooling water or cooling air		local					

PART C – CHAPTER 10 – LIQUEFIED GAS TANKERS

01. Section 2 –Ship Survival Capability and Location of Cargo Tanks

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item 2.2.1 is revised as below:

Guidance

When applying the requirements of this Section attention should be given to IMO-document MSC/Circ 406/Rev.1 of 14.06.1985 "Guidelines for the Uniform Application of the Survival Requirements of the IBC/IGC Codes".

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Note is added under item 2.7.2.2 according to UI GC17 New as below:

Note: *Other openings capable of being closed weathertight do not include ventilators (complying with ILLC 19(4)) that for operational reasons have to remain open to supply air to the engine room or emergency generator room (if the same is considered buoyant in the stability calculation or protecting openings leading below) for the effective operation of the ship.*

02. Section 3 – Ship Arrangements

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Notes under item 3.2.6 is revised according to UI GC15 Rev.1 as below:

.....

1. *The closing devices that need not be operable from within the single spaces and may be located in centralized positions.*
2. *Engine room casings, cargo machinery spaces, electric motor rooms and steering gear compartments are generally considered as spaces not covered by paragraph 3.2.6 and therefore the requirement for closing devices need not be applied to these spaces.*
3. *The closing devices should to give a reasonable degree of gas tightness. Ordinary steel fire-flaps without gaskets/seals should not to be considered satisfactory.*
4. *Regardless of this interpretation, the closing devices shall be operable from outside of the protected space (SOLAS regulation II-2/5.2.1.1).*

03. Section 8 – Vent Systems For Cargo Containment

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Note is added under item 8.2.17 as below:

Note: *See also Rec 150.*

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item 8.4.1.2 is revised according to UI GC19 New as below:

.....

For prismatic tanks;
L_{min}, for non-tapered tanks, is the smaller of the horizontal dimensions of the flat bottom of the tank. For tapered tanks, as would be used for the forward tank, L_{min} is the smaller of the length and the average width.
For prismatic tanks whose distance between the flat bottom of the tank and bottom of the hold space is equal to or less than $L_{min}/10$:
A = external surface area minus flat bottom surface area.
For prismatic tanks whose distance between the flat bottom of the tank and bottom of the hold space is greater than $L_{min}/10$:
A = external surface area.

04. Section 13 – Instrumentation and Automation Systems

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Note is added under item 13.3.5 according to UI GC18 New as below:

Notes:

The expression "each dry docking" is considered to be the survey of the outside of the ship's bottom required for the renewal of the Cargo Ship Safety Construction Certificate and or the Cargo Ship Safety Certificate.

04. Section 15 – Filling Limits for Cargo Tanks

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Note is added under item 15.4.1.2 according to IACS Rec. 149 New as below:

Note: *The PRV inlet shall remain in the vapour space at a minimum distance of 40% of the diameter of the suction funnel measured at the centre of the funnel above the liquid level under conditions of 15° list and 0.015L trim*

Note is added under item 15.4.1.3 as below:

Note: *See IACS Rec. 149 for calculation of allowances.*

Item 15.5.2 is revised as below:

.....

~~LL = loading limit as defined in 15.1.2, expressed in percentage;~~

~~FL = filling limits as specified in 15.3 or 15.4 expressed in percentage;~~

ρ_R = relative density of cargo at the highest temperature that the cargo may reach upon termination of loading, during transport, or at unloading, under the ambient design temperature conditions described in 15.1.4.

~~ρ_L = as specified in 15.5.1~~

.....

Item 15.5.3 is deleted as below:

~~15.5.3 For ships constructed before 1 July 2016 and subject to IMO International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (MSC.5(48)), type C cargo tanks can be loaded in accordance with the provisions of paragraph 15.5.2 or, alternatively, to the provisions of paragraph 15.5.1.~~

PART C – CHAPTER 22 – DYNAMIC POSITIONING SYSTEMS

01. Chapter 22

Chapter 22 is generally revised according to MSC.1/Circ.1580.

PART C – CHAPTER 28 – VENTILATION

01. Section 1 – Ventilation

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Footnotes (6) and (9)on item H.1.2 and I.2.1.1.3 are revised as below:

Alternatively the required air changes can be calculated according to Revised design guidelines and operational recommendations for ventilation systems in ro-ro cargo spaces (MSC/Circ.1515)

Item H.3.5.1.2 is revised as below:

3.5.1.2 During loading and unloading periods an increased air change rate of 20 air changes per hour is to be provided. Alternatively, the air changes can be calculated according to MSC.1/Circ.1515 – Revised design guidelines and operational recommendations for ventilation systems in ro-ro cargo spaces.

Tables 1.4 and 1.5 are revised as below:

Table 1.4 General requirements for all ships

Cargo ships: Closed vehicle spaces, closed ro-ro spaces		10 or 6 (acc. to the provided grade of explosion protection	H	increased ventilation capacity (at least 20 air changes/hour) during vehicle roll on/roll off required. Optional proof acc. to IMO MSC.1/Circ.1515 possible

Table 1.5 Special requirements for passenger ships

Ventilated space	Air changes/hour Supply air	Air changes/hour Exhaust air	Req. no.	Remarks
Passenger ships (≤ 36 passengers): Closed vehicle spaces, closed ro-ro spaces		10 or 6 air changes/hour acc. to the provided grade of explosion protection	I.2.1	Increased ventilation capacity (at least 20 air changes/hour) during vehicle roll on/roll off required. Optional proof acc. to IMO MSC.1/Circ.1515 possible.
Passenger ships (≥ 36 passengers): Closed vehicle spaces, closed ro ro spaces		10	I.3.5	Increased ventilation capacity (at least 20 air changes/hour) during vehicle roll on/roll off required. Optional proof acc. to IMO MSC.1/Circ.1515 possible.
Passenger ships: Special category space:		10	I.2.1 + I.3.5	Increased ventilation capacity (at least 20 air changes/hour) during vehicle roll on/roll off required. Optional proof acc. to IMO MSC.1/Circ.1515 possible.

PART C – CHAPTER 33 – POLAR CODE SHIPS

01. Part II-A Section 4 – Prevention of Pollution by Sewage from Ships

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Footnote (13) on item 4.2.1.3 is revised as below:

(13) *Refer to resolution MEPC.2(VI), resolution MEPC.159(55) or resolution MEPC.227(64), as amended, as applicable.*

02. Part II-B – Additional Guidance Regarding the Provisions of the Introduction and Part II-A

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item 3. Additional guidance to section 5 is revised as below:

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Reference is made in particular to the *2017 Guidelines for the implementation of MARPOL Annex V* (resolution MEPC 295(71)) and the *2012 Guidelines for the development of garbage management plans* (resolution MEPC.220(63)).

PART C – CHAPTER 35 –TENTATIVE RULES FOR SHIPS LESS THAN 500 GT

01. General Requirements & Definitions

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.11 is added according to UR S14 Rev.6 as below:

11. Testing Procedures of Watertight Compartments

For testing procedures of watertight compartments, see **TL** Rules, Chapter 1, Section 3, E, Part B.

02. B Section 5 – Hull Operational Systems

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item D.3.2 is revised as below:

Ballast water treatment plants are to be approved by a flag administration acc. to IMO Resolution MEPC 279(70). The obligation to install a ballast water treatment plant depends on the ballast water capacity and keel lying date of the ship (Refer to International Convention for the Control and Management of Ship's Ballast Water and Sediments, 2004 – Regulation B-3).

03. D Section 9 – Alternative Design and Arrangements

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Note on item B.2 is revised as below:

Note: *Reference may be made to MSC/Circ. 1002, as amended, "Guidelines on alternative design and arrangements for fire safety".*

PART C – CHAPTER 36 – OFFSHORE SERVICE VESSELS

01. Section 1 – General, Definitions

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item H.6 is revised as below:

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- IMO Resolution MSC.1/Circ.1580: Guidelines for Vessels with Dynamic Positioning Systems

.....

02. Section 3 – Structural Fire Protection

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Footnote (1) of item A.1.4 is revised as below:

(1) *Reference is made to the "Guidelines on Alternative Design and Arrangements for Fire Safety" adopted by IMO by MSC/ Circ.1002 as amended by MSC.1/Circ.1552.*

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Footnote (13) of item D.12.7.10 is revised as below:

(13) *Reference is made to the Guidelines for evacuation analyses for new and existing passenger ships adopted by IMO by MSC.1/Circ. 1533*

03. Section 5 – Carriage of Hazardous and Noxious Liquid Substance in Bulk

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.7.2 is revised as below:

7.2 Other regulations

- Resolution A.673 (16), as amended: Guidelines for the Transport and Handling of limited Amounts of Hazardous and Noxious Liquid Substances in Bulk on Offshore Support Vessels

- Resolutions MSC.4(48) and MEPC.19(22), as amended: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk

- Resolution MSC.5(48), as amended: International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk

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04. Section 16 – Positioning

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.3.2 is revised as below:

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- IMO MSC.1/Circ.1580: Guidelines for Vessels with Dynamic Positioning Systems

05. Section 18 – Diving Support

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.4.2 is revised as below:

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- IMO Resolution A.831(19) as amended by MSC 185(79): "Code of Safety for Diving Systems", 1995

.....

06. Section 22 – Operation In Ice

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.4.2 is revised as below:

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- International Code for Ships Operating in Polar Waters

.....

07. Section 23 – Environmental Protection

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item A.4.3 is revised as below:

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- IMO Resolution MEPC 244(66): "2014 Standard Specification for Shipboard Incinerators"

– IMO Resolution MEPC 227(64), as amended: "2012 Guidelines on Implementation of Effluent Standards and Performance Tests for Sewage Treatment Plants"

- IMO Resolution MEPC 184(59), as amended: "2009 Guidelines of Exhaust Gas Cleaning Systems"

- IMO Resolution MEPC 269(68): "2015 Guidelines for the Preparation of Inventory of Hazardous Materials"

.....

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item D.2 is revised as below:

2. Hazardous materials listed in Table A of Appendix 1 of the Hong Kong Convention (SR/CONF 45) and in the related Guidelines for the Preparation of Inventory of Hazardous Materials (Res.MEPC 269(68)) shall not be present on board new vessels or in new equipment or materials installed on board existing vessels.

Hazardous materials listed in Table A and Table B of the Appendix 1 of the Hong Kong Convention (SR/ CONF 45) are to be identified, quantified and documented according to the Guidelines Res. MEPC 269(68).

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item E.4.1 and 4.3 are revised as below:

4.1 If national and/or regional regulations require more stringent values for the main sewage (black or grey water) parameters than specified in MEPC227(64), as amended, then these have to be complied with.

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4.3 The results have to be verified by performance tests according to Resolution MEPC 227(64), as amended, within a type approval by **TL** or an organization recognized by **TL**.

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Item E.6.2 is revised as below:

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See **TL** Part C, Chapter 26. For guidance relating to the fuel supply and bunkering system, IMO Resolution MSC 391(95) International Code of Safety for Ships using Gases or other Low-flashpoint Fuels (IGF Code) requirements should be applied in addition to the fuel cell Guidelines mentioned above.

PART D – CHAPTER 53 – SUBMERSIBLES

01. Section 17 – Supporting Systems aboard the Support Ship

Revision Date: October 2017

Entry into Force Date: 1 January 2018

ItemD.4.4 is revised as below:

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The support ship has also to meet the regulations of IMO: "Guidelines for Vessels with Dynamic Positioning Systems" (MSC.1/Circ.1580).

PART D – CHAPTER 76 – ENVIRONMENTAL SERVICE SYSTEM

01. Section 1 – General Information

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item B.1 is revised as below:

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MEPC 282(70), 2016 Guidelines for the Development of a Ship Energy Efficiency Management Plan (SEEMP)

.....

02. Section 2 – Environmental Passport

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item B.2.1.2 is revised as below:

2.1.2 IMO Resolution MEPC.107(49) as amended by MEPC 285(70), Guidelines and Specifications for Pollution Prevention Equipment for Machinery Space Bilges of Ships, applies to all ships.

Item B.5.2.4 is revised as below:

5.2.4 Treatment system

A ballast water treatment plant shall be installed. Ballast water treatment plants are to be approved by a flag administration acc. to IMO Resolution MEPC 279(70) ~~or MEPC. 174 (58) (not avaliable after 28.10.2018), MEPC.169 (57) respectively~~ and **TL** Rules for Machinery Installations Chapter 4, Section 16, P .1.6.

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item C.2.4 is revised as below:

2.4 Exhaust gas cleaning systems may be used to reduce the emissions of SOx provided that the requirements of Resolution MEPC.184(59) as amended by MEPC 259(68) 2009 Guidelines of Exhaust Gas Cleaning Systems are met.

Item C.7.4 is revised as below:

7.4 Ship Energy Efficiency Management Plan (SEEMP)

All ships of 400 gt or above are required to have a Ship Energy Efficiency Management Plan (SEEMP) onboard, at initial survey according to Guidelines developed by the IMO (MEPC 282(70)).

On or before 31 December 2018, in the case of a ship of 5,000 gross tonnage and above, the SEEMP shall include a description of the methodology that will be used to collect the data required by regulation 22A.1 of this Annex and the processes that will be used to report the data to the ship's Administration.

PART D – CHAPTER 78 – RULES FOR CLASSIFICATION OF SHIPS USING GASES OR OTHER LOW-FLASHPOINT FUELS

01. Preamble

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item B.1 is revised as below:

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This Code addresses all areas that need special consideration for the usage of the low-flashpoint fuel. The basic philosophy of the IGF Code considers the goal based approach (MSC.1/Circ.1394/Rev.1). Therefore, goals and functional requirements were specified for each section forming the basis for the design, construction and operation.

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02. Section 2 – General

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Note is added under item 2.2.15.3 according to UI GF3 as below:

Note:
1 A tank connection space may be required also for tanks on open deck. This may apply for ships where restriction of hazardous areas is safety critical. A tank connection space may also be necessary in order to provide environmental protection for essential safety equipment related to the gas fuel system like tank valves, safety valves and instrumentation.

2 A tank connection space may also contain equipment such as vaporizers or heat exchangers. Such equipment is considered to only contain potential sources of release, but not sources of ignition.

Note is added under item 2.2.17 according to UI GF4 as below:

Note: A tank connection space which has equipment such as vaporizers or heat exchangers installed inside is not regarded as a fuel preparation room. Such equipment is considered to only contain potential sources of release, but not sources of ignition.

03. Section 5 – Ship Design and Arrangements

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Note is added under item 5.4.1.2 according to UI GF5 as below:

Note: Premixed engines using fuel gas mixed with air before the turbocharger shall be located in ESD protected machinery spaces.

Note is added under item 5.8 according to UI GF6 as below:

Note:
1 Fuel preparation rooms, regardless of location, shall be arranged to safely contain cryogenic leakages.
2 The material of the boundaries of the fuel preparation room shall have a design temperature corresponding with the lowest temperature it can be subjected to in a probable maximum leakage scenario unless the boundaries of the space, i.e. bulkheads and decks, are provided with suitable thermal protection.
3 The fuel preparation room shall be arranged to prevent surrounding hull structure from being exposed to unacceptable cooling, in case of leakage of cryogenic liquids.
4 The fuel preparation room shall be designed to withstand the maximum pressure build up during such a leakage. Alternatively, pressure relief venting to a safe location (mast) can be provided.

04. Section 6 – Fuel Containment System

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item 6.4.1.8 is revised according to IACS Rec.148 New 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 IACS Recommendation No. 148 (Jan. 2017).

Note is added under item 6.7.3.1.1.2 according to UI GF7 as below:

Note:

For prismatic tanks

1 L_{min}, for non-tapered tanks, is the smaller of the horizontal dimensions of the flat bottom of the tank. For tapered tanks, as would be used for the forward tank, L_{min} is the smaller of the length and the average width.

2 For prismatic tanks whose distance between the flat bottom of the tank and bottom of the hold space is equal to or less than $L_{min}/10$:

A = external surface area minus flat bottom surface area.

3 For prismatic tanks whose distance between the flat bottom of the tank and bottom of the hold space is greater than $L_{min}/10$:

A = external surface area.

Note is added under item 6.9.1.2 according to UI GF8 as below:

Note: Liquefied gas fuel tanks' pressure and temperature shall be controlled and maintained within the design range at all times including after activation of the safety system required in 15.2.2 for a period of minimum 15 days. The activation of the safety system alone is not deemed as an emergency situation.

05. Section 8 – Bunkering

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Note is added under item 8.3.1.1 according to UI GF9 as below:

Note: The special consideration shall as a minimum include, but not be restricted to, the following design features:

- *segregation towards other areas on the ship*
- *hazardous area plans for the ship*
- *requirements for forced ventilation*
- *requirements for leakage detection (e.g. gas detection and low temperature detection)*
- *safety actions related to leakage detection (e.g. gas detection and low temperature detection)*
- *access to bunkering station from non-hazardous areas through airlocks*
- *monitoring of bunkering station by direct line of sight or by CCTV.*

05. Section 13 – Ventilation

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Note is added under item 13.5.1 according to UI GF10 as below:

Note: Spaces enclosed in the boundaries of machinery spaces (such as purifier's room, engine-room workshops and stores) are considered an integral part of machinery spaces containing gas-fuelled consumers and, therefore, their ventilation system does not need to be independent of the one of machinery spaces.

Note is added under item 13.8.2 according to UI GF11 as below:

Note: Double piping and gas valve unit spaces in gas safe engine-rooms are considered an integral part of the fuel supply systems and, therefore, their ventilation system does not need to be independent of other fuel supply ventilation systems provided such fuel supply systems contain only gaseous fuel.

Note is added under item 13.8.3 according to UI GF12 as below:

Note: The ventilation inlet for the double wall piping or duct shall always be located in a non-hazardous area in open air away from ignition sources.

06. Section 15 – Control, Monitoring and Safety System

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Footnote (32) is added to item 15.4.2.3 according to UI GF New as below:

15.4.2 Overflow control

.3 The position of the sensors in the liquefied gas fuel tank shall be capable of being verified before commissioning. At the first occasion of full loading after delivery and after each dry-docking (32), testing of high level alarms shall be conducted by raising the fuel liquid level in the liquefied gas fuel tank to the alarm point.

(32) *The expression "each dry docking" refers to:*
- the survey of the outside of the ship's bottom required for the renewal of the Cargo Ship Safety Construction Certificate and or the Cargo Ship Safety Certificate, for cargo ships.
- the survey of the outside of the ship's bottom to be carried out every 60 months according to IMO Resolution A.1104(29, paragraphs 5.10.1 and 5.10.2), for passenger ships.

ADDITIONAL RULE – SURVEY and CERTIFICATION RULES on ENERGY EFFICIENCY of SHIPS (MARPOL 73/78 ANNEX VI, CHAPTER 4)

01. General

Revision Date: October 2017

Entry into Force Date: 1 January 2018

Item 3 is revised as below:

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- The SEEMP is developed taking into account IMO Resolution MEPC.282(70) "2016 GUIDELINES FOR THE DEVELOPMENT OF A SHIP ENERGY EFFICIENCY MANAGEMENT PLAN (SEEMP)"

In detail, **TL** surveyor shall also verify that SEEMP includes items listed hereunder:

- Energy efficiency improvement measures (representative examples of the measures are presented in chapter 5 of MEPC.282(70), e.g. weather routeing, speed optimization, etc.)

.....

- Fuel oil consumption data collection plan (for a ship to which regulation 22A applies)
  - Description of the methodology that will be used to collect the data
  - Processes that will be used to report the data

.....

Item 4 is revised as below:

.....

- The SEEMP is developed taking into account IMO Resolution MEPC.282(70) "2016 GUIDELINES FOR THE DEVELOPMENT OF A SHIP ENERGY EFFICIENCY MANAGEMENT PLAN (SEEMP)"

In detail, **TL** surveyor shall also verify that SEEMP includes items listed hereunder:

- Energy efficiency improvement measures (representative examples of the measures are presented in chapter 5 of MEPC.282(70), e.g. weather routeing, speed optimization, etc.)

.....

- Fuel oil consumption data collection plan (for a ship to which regulation 22A applies)
  - Description of the methodology that will be used to collect the data
  - Processes that will be used to report the data

Tables on item 5 are revised as below:

Parameter	Description	Unit
C_F	The conversion factor of the fuel type used for EIAPP cert. in NO_X Tech. File of all main and auxiliary engines (MEPC.245(66), as amended)	g CO_2/g fuel
f_i	For ice-classed ships f_i is determined by the standard given in MEPC.245(66) , as amended Documentation on intended ice class	
f_j	For ships with planned ice class f_j is given in MEPC.245(66) , as amended Documentation on intended ice class	
f_c	Cubic capacity correction factor given in MEPC.245(66) , as amended	

Parameter	Description	Unit
P_{AE}	- If $\Sigma MCR_{ME(i)} > 10{,}000$ Kw, P_{AE} shall be calculated as: $P_{AE} = 0.025 \cdot (MCR_{ME} + 250)$ - If $\Sigma P_{ME(i)} < 10{,}000$ Kw, P_{AE} shall be: $P_{AE} = 0.05 \cdot MCR_{ME}$ - For LNG Carriers with a reliquiefaction system or compressor(s) extra items, in accordance with MEPC.245(66) , as amended, to be added to above P_{AE} formulations, is to be provided. - For ship where the P_{AE} value calculated as above is significantly different from the total power used at normal seagoing condition, The P_{AE} calculation in accordance with MEPC. 245(66) , as amended, (see also MEPC. 245(66) , as amended Appendix 2 for guidance), is to be provided.	kW

Item 5 is revised as below:

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Sub Steps for final verification

1. Review of the sea trial procedure (**TL** shall examine the programme of the sea trial to check that the test procedure and in particular that the number of speed measurement points comply with the requirements of the IMO Verification Guidelines (2014 Guidelines on survey and certification of EEDI, Res. MEPC.254(67), as amended adopted on 17 October 2014, referred to as the "IMO Verification Guidelines" in the present document)

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Item 6 is revised as below:

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RESOLUTION MEPC.282(70): 2016 GUIDELINES FOR THE DEVELOPMENT OF A SHIP ENERGY EFFICIENCY MANAGEMENT PLAN (SEEMP)

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For further information:
Bekir Sıtkı TÜRKMEN
Division Manager, Rule Development and Statutory Legislation
Tel: +90- 216 581 37 83
Fax: +90- 216 581 38 40
E-mail: tl_kural@turkloydu.org
Web: www.turkloydu.org