

IACS Technical Resolutions adopted from July to December 2013

ClassNK is delighted to inform you of the recent information related to the International Association of Classification Societies (IACS).

ClassNK has been regularly providing preliminary reports of outcomes of the International Maritime Organization (IMO)'s meetings and the latest development at IACS. For this issue, we would like to introduce the Unified Requirements (URs) and Unified Interpretations (UIs) adopted in 2013 and published from July 2013 to December 2013 with their summaries.

URs and UIs are technical resolutions, which are set, revised and withdrawn by IACS. URs are classification rules established for the uniform implementation among IACS member societies. URs shall be incorporated in the rules of each member society within one year of adoption unless otherwise specified.

UIs are developed for uniform interpretations of the requirements of Convention which are left to the satisfaction of the Administration or vaguely worded while Administrations have not set clear instructions.

Hereunder, URs and UIs published from July 2013 to December 2013 are shown in Table 1 (URs) and Table 2 (UIs) with their summaries respectively. Texts of these resolutions and their Technical Backgrounds have been published in [IACS website](#). These resolutions are/will be incorporated into ClassNK's Rules and Guidance for the survey and construction of steel ships after review by ClassNK's relevant Technical Committee.

In addition, the underlined versions (revised parts are clearly shown) of URs and UIs have been published in [ClassNK's website](#).

Table 1 List of new/amendments to URs (Unified Requirements) published from July 2013 to December 2013

Resolution	Revision	Adoption	Title	Implementation
UR Z3	Rev.6	Dec.2013	Periodical Survey of the Outside of the Ship's Bottom and Related Items	1 Jul. 2014
UR M56	Rev.2	Oct. 2013	Marine gears – load capacity of involute parallel axis spur and helical gears	1 Jan. 2015
UR Z16	Rev.4	Oct. 2013	Periodical surveys of cargo installations on ships carrying liquefied gases in bulk	1 Jul. 2014
UR M36	Rev.4	Jul. 2013	Alarms and safeguards for auxiliary reciprocating internal combustion engines driving generators in unattended machinery spaces	1 Jan. 2015
UR M35	Rev.6	Jul. 2013	Alarms, remote indications and safeguards for main reciprocating I.C. engines installed in unattended machinery spaces	1 Jan. 2015

UR M10	Rev.4	Jul. 2013	Protection of internal combustion engines against crankcase explosions	1 Jan. 2015
UR Z10.5	Rev.13	Jun. 2013	Hull Surveys of Double Skin Bulk Carriers	1 Jul. 2014/ 1 Jul. 2016
UR Z10.4	Rev.11	Jun. 2013	Hull Surveys of Double Hull Oil Tankers	1 Jul. 2014/ 1 Jul. 2016
UR Z10.3	Rev.15	May 2013	Hull Surveys of Chemical Tankers	1 Jul. 2014
UR Z10.2	Rev.30	Jun. 2013	Hull Surveys of Bulk Carriers	1 Jul. 2014/ 1 Jul. 2016
UR Z10.1	Rev.20	May 2013	Hull Surveys of Oil Tankers	1 Jul. 2014
UR Z7.2	Rev.4	May 2013	Hull Surveys for Liquefied Gas Carriers	1 Jul. 2014
UR Z7.1	Rev.9	May 2013	Hull Surveys for General Dry Cargo Ships	1 Jul. 2014
UR Z7	Rev.20	May 2013	Hull Classification Surveys	1 Jul. 2014
UR Z23	Rev.3	Jun. 2013	Hull Survey for New Construction	1 Jul. 2016

Table 2 List of new/amendments to UIs (Unified Interpretations) published from July 2013 to December 2013

Resolution	Revision	Adoption	Title	Implementation
UI SC266	New	Dec. 2013	Revised guidelines for cargo securing manual and code of safe practice for cargo stowage and securing– scope of application	1 Jan. 2015
UI SC265	New	Dec. 2013	Code of safe practice for cargo stowage and securing – Annex 14	1 Jan. 2015
UI SC264	New	Dec. 2013	Non-combustible material as ‘steel or equivalent’ for ventilation ducts (SOLAS II-2/Reg. 9.7.1.1)	1 Jul. 2015
UI MPC105	New	Nov. 2013	Gaseous emissions calculation of marine diesel engines fitted with selective catalytic reduction (SCR) systems	1 Jan. 2015
UI SC132	Rev.4	Nov. 2013	Release Operation of the CO2 System	1 Jul. 2014
UI SC213	Rev.2	Nov. 2013	Arrangements for remotely located survival craft	1 Jul. 2014
UI SC255	Corr.1	Nov. 2013	Fuel pump arrangement required for ships to maintain normal operation of propulsion machinery when operating in emission control areas and non-restricted areas	1 Jul. 2013
UI SC263	New	Oct. 2013	Gaskets in fixed gas fire-extinguishing systems (SOLAS II-2/10.4, IMO FSS Code Ch 5)	1 Jul. 2014
UI SC223	Rev.3	Sep. 2013	For Application of SOLAS Regulation II-1/3-2 Performance Standard for Protective Coatings (PSPC) for Dedicated Seawater Ballast Tanks in All Types of Ships and Double-side Skin Spaces of Bulk Carriers, adopted by Resolution MSC.215(82)	1 Jan. 2014
UI SC259	New	Oct. 2013	For Application of SOLAS Regulation II-1/3-11 Performance Standard for Protective Coatings for Cargo Oil Tanks of Crude Oil Tankers (PSPC-COT), adopted by Resolution MSC.288(87)	1 Jul. 2014
UI GC12	Rev.1	Oct. 2013	Secondary Barrier Testing Requirements	1 Jul. 2014
UI SC35	Rev.3	Jul. 2013	Fixed Fire Detection and Fire Alarm System	1 Jan. 2014

*Corr.(Corrigenda) means the correction that basically does not include the contents of resolution but literal error.

Outlines of IACS Technical Resolutions listed in the above Tables are mentioned below.

(1) UR Z3 (Rev.6)

UR Z3 details the scope and general requirements of periodical survey of the outside of the ship's bottom and related items, including in-water surveys. Since class society procedures do not address details of surveys on directional propulsion systems during an IWS or Docking Survey, UR Z3 was amended. As per Rev.6, other propulsion systems which also have manoeuvring characteristics (such as directional propellers, vertical axis propellers, water jet units) are to be examined externally with focus on the condition of gear housing, propeller blades, bolt locking and other fastening arrangements. Sealing arrangement of propeller blades, propeller shaft and steering column shall be verified.

(2) UR M56 (Rev.2)

UR M56 provides the basic relevant equations for the determination of load capacity of external and internal involute spur and helical gears, having parallel axis, with regard to surface durability (pitting) and tooth root bending strength. Rev.2 reflects the changes in the calculation methods of surface durability (pitting) and tooth root bending strength of gears introduced by the international standards series ISO 6336 by their editions in 2006 through 2008. Also the revision introduces a few additional formulae for the calculation of gear pair geometrical values.

(3) UR Z16 (Rev.4)

UR Z16 details requirements of surveys of all installations and equipment related to the carriage and handling of liquefied gases on ships designed for the carriage of liquefied gases in bulk. The system designer (GTT) issued new acceptance criteria and threshold values for secondary barrier testing which is reflected in Rev.4 of UR Z16. According to the revision low differential pressure tests may be used for monitoring the cargo containment system performance, but are not considered an acceptable test for the tightness of the secondary barrier. If the designer's threshold

values are exceeded, an investigation is to be carried out and additional testing such as thermographic or acoustic emissions testing should be carried out.

(4) UR M36 (Rev.4)

UR M36 details monitored parameters for which alarms are required to identify machinery faults and associated safeguards for auxiliary reciprocating internal combustion engines driving generators in unattended machinery spaces. The aim of Rev.4 is to introduce the term "trunk-piston engines" instead of Medium-/High-Speed Engines to which the requirements apply. The changes introduced is not expected to have any effect on the technical content of the UR, the sole purpose is to align the documents.

(5) UR M35 (Rev.6)

UR M35 details monitored parameters for alarms, remote indications and safeguards for cross-head and trunk-piston reciprocating I.C. engines. The aim of Rev.6 is to exclude definitions for Low-, Medium- and High-Speed Engines and introduce terms "cross-head" and "trunk-piston" engines to describe the engine type to which the requirements apply. The changes introduced is not expected to have any effect on the technical content of the UR, the sole purpose is to align the documents.

(6) UR M10 (Rev.4)

UR M10 details measures to ensure protection of internal combustion engines against crankcase explosions. The aim of Rev.4 is to implement definitions of Low-, Medium- and High-Speed Engines in the UR. Low-Speed Engines means diesel engines having a rated speed of less than 300 rpm, Medium-Speed Engines means diesel engines having a rated speed of 300 rpm and above, but less than 1400 rpm and High-Speed Engines means diesel engines having a rated speed of 1400 rpm and above. The changes introduced is not expected to have any effect on the technical content of the UR, the sole purpose is to align the documents.

(7) UR Z10.5 (Rev.13)

UR Z10.5 details the hull survey requirements of Double Skin Bulk Carriers. In Rev.13 of the UR, the use of hydraulic arm vehicles such as conventional cherry pickers as means of access for close-up surveys is introduced. In the revision, it is also recommended that if any 'rescue and emergency response equipment' is used, then the equipment should be suitable for the configuration of the space being surveyed. The procedure of updating Ship Construction File (SCF) throughout the ship's service life, in order to comply with the IMO Goal Based Standard (GBS), is also introduced in the revision.

(8) UR Z10.4 (Rev.11)

UR Z10.4 details the hull survey requirements of Double Hull Oil Tankers. In Rev.11 of the UR, the requirements of accepting the results of cargo tank pressure testing at Special Surveys, carried out by the vessel's crew under the direction of the Master, by the Surveyor is introduced. In addition, the revision of the UR introduces the use of hydraulic arm vehicles such as conventional cherry pickers as means of access for close-up surveys. In the revision, it is also recommended that if any 'rescue and emergency response equipment' is used, then the equipment should be suitable for the configuration of the space being surveyed. The procedure of updating Ship Construction File (SCF) throughout the ship's service life, in order to comply with the IMO Goal Based Standard (GBS), is also introduced in the revision.

(9) UR Z10.3 (Rev.15)

UR Z10.3 details the hull survey requirements of Chemical Tankers. In Rev.15 of the UR, the requirements of accepting the results of cargo tank pressure testing at Special Surveys, carried out by the vessel's crew under the direction of the Master, by the Surveyor are introduced. In addition, the revision of the UR introduces the use of hydraulic arm vehicles such as conventional cherry pickers as means of access for close-up surveys. In the revision it is also recommended that if any 'rescue and emergency response equipment' is used, then the equipment should be suitable for the

configuration of the space being surveyed.

(10) UR Z10.2 (Rev.30)

UR Z10.2 details the hull survey requirements of Bulk Carriers other than Double Skin Bulk Carriers as defined in UR Z10.5. In Rev.30 of the UR, the use of hydraulic arm vehicles such as conventional cherry pickers as means of access for close-up surveys is introduced. In the revision, it is also recommended that if any 'rescue and emergency response equipment' is used, then the equipment should be suitable for the configuration of the space being surveyed. The procedure of updating Ship Construction File (SCF) throughout the ship's service life, in order to comply with the IMO Goal Based Standard (GBS), is also introduced in the revision.

(11) UR Z10.1 (Rev.20)

UR Z10.1 details the hull survey requirements of Oil Tankers other than Double Hull Oil Tankers, as defined in UR Z10.4. In Rev.20 of the UR, the requirements of accepting the results of cargo tank pressure testing at Special Surveys, carried out by the vessel's crew under the direction of the Master, by the Surveyor are introduced. In addition, the revision of the UR introduces the use of hydraulic arm vehicles such as conventional cherry pickers as means of access for close-up surveys. In the revision, it is also recommended that if any 'rescue and emergency response equipment' is used, then the equipment should be suitable for the configuration of the space being surveyed.

(12) UR Z7.2 (Rev.4)

UR Z7.2 details the hull survey requirements of Liquefied Gas Carriers. The UR stipulates that the thickness measurements are to be carried out by a company certified by the Classification Society according to principles stated in the UR. However, according to Rev.4, in respect of thickness measurements of ships less than 500 gross tonnage, the thickness measurement firm need not be certified by the Classification Society.

(13) UR Z7.1 (Rev.9)

UR Z7.1 details the hull survey requirements of General Dry Cargo Ships of 500gt and above. The previous revisions of the UR stipulated that the requirements in the UR do not apply to 'dedicated forest product carriers'. However, it was unable to clearly define 'dedicated forest product carriers' and differentiate them from timber or log carriers. Therefore, in Rev.9 of the UR, it was decided to remove the reference to this type of ships as they should also be considered as general dry cargo ships. Also in the revision of the UR, the use of hydraulic arm vehicles such as conventional cherry pickers as means of access for close-up surveys is introduced.

(14) UR Z7 (Rev.20)

UR Z7 details the general hull survey requirements applicable to all self-propelled vessels. In Rev.20 of the UR, the use of hydraulic arm vehicles such as conventional cherry pickers as means of access for close-up surveys is introduced. Also, in this revision, an additional note was added which states that exemption may be considered for special survey requirements air pipe heads located in the exposed decks for ships of age over 10 years where there is substantial evidence of their replacement after the last special survey.

(15) UR Z23 (Rev.3)

UR Z23 details the hull survey requirements for new construction. Rev.3 of the UR is a result of the review of the IMO documents with respect to the key words 'Ship Construction File (SCF)', 'Construction Survey' and 'Design Surveys' in order to ensure the consistency of URZ23 with the IMO GBS standards and Guidelines. UR Z23 has been revised by including a new appendix (Appendix2) for goal based ship construction standards for bulk carriers and oil tanker in order to comply with IMO requirements for design transparency, ship construction file, construction surveys mentioned in IMO Res.MSC.287 (87), IMO Res.MSC.296 (87), IMO Res.MSC.290(87) and MSC.1 /Circ. 1343.

(16) UI SC266 (New)

UI SC266 is intended to define a common

understanding for scope of application of MSC.1/Circ.1352 (Annex - Amendments to the Code of Safe Practice for Cargo Stowage and Securing (CSS Code): Annex 14 – Guidance on Providing Safe Working Conditions for Securing of Containers on Deck) and MSC.1/Circ.1353 (Revised Guidelines for the Preparation of the Cargo Securing Manual). Both these circulars are applicable to containerships. However, it is unclear whether they are intended to apply only to fully cellular vessels which are designed exclusively for the carriage of containers, or whether they are also applicable to other ship types which, in part, are designed for the carriage of containers in similar manner to the dedicated vessels. UI SC266 stipulates that the content of the circulars is equally applicable to all vessels which are designed for the carriage of containers on deck.

(17) UI SC265 (New)

UI SC265 provides definitions to the dimensions and arrangements for container securing specified in MSC.1/Circ.1352 – Annex - Amendments to the Code of Safe Practice for Cargo Stowage and Securing (CSS Code): Annex 14 – Guidance on Providing Safe Working Conditions for Securing of Containers on Deck.

(18) UI SC264 (New)

UI SC264 clarifies standard fire test criteria for materials equivalent to steel with respect only to SOLAS II-2/9.7.1.1 that permit usage of ventilation ducts of equivalent material. This UI specifies that a ventilation duct made of material other than steel may be considered equivalent to a ventilation duct made of steel, provided the material is non-combustible and has passed a standard fire test in accordance with Annex 1: Part 3 of the FTP Code as non-load bearing structure for 30 minutes following the requirements for testing "B" class divisions. However, this does not apply to ventilation ducts which are required to be made of solely steel by other regulations of SOLAS Chapter II-2 (e.g., ventilation ducts provided for the ventilation of machinery spaces of category A, galleys, vehicle spaces, ro-ro spaces or special category spaces as well as ducts which are part of the structure).

(19) UI MPC105 (New)

UI MPC105 provides an interpretation for the gaseous emissions calculation method which could be applied in all instances of certification of marine diesel engines fitted with selective catalytic reduction (SCR) systems. The gaseous emissions calculation method given in Resolution MEPC.198(62) paragraph 5.2.1 applies to both Scheme A and Scheme B certification of marine diesel engines fitted with selective catalytic reduction (SCR) systems.

(20) UI SC132 (Rev.4)

Provisions 2.1.3.2 and 2.2.2 of Chapter 5 of the FSS Code were amended by MSC.339(91), in which relevant interpretation of MSC/Circ.1120 was incorporated. Rev.4 of UI SC132 is to change its interpretations on the above mentioned provisions of the FSS Code. Also the revision clarifies the meaning of "conventional cargo spaces" which are not required to be provided with means for automatic audible and visual warning of the release. Conventional cargo spaces means cargo spaces other than ro-ro spaces or container holds equipped with integral reefer containers, and they need not be provided with means for automatically giving audible and visual warning of the release.

(21) UI SC213 (Rev.2)

Rev.2 of UI SC213 provides criteria while determining the arrangement of embarkation station and stowage location of remotely located survival craft, especially on certain types of ships where normal arrangement is impracticable. Where it is unreasonable and impractical to arrange embarkation station and stowage position of remotely located liferaft on the same deck of some types of ships, they could be located on different decks, provided that it does not necessitate traversing a stairway between different decks with the liferaft carried by crew members and the requirements regarding the arrangement of lifejackets, immersion suits, means of embarkations and the length of painter are satisfied. The length of the embarkation ladder used to board this liferaft (remotely located survival craft) is calculated by applying an adverse list of 20 degrees, to the

loading condition taken from the approved loading manual which gives the lightest draft at the embarkation station.

(22) UI SC255 (Corr.1)

A correction to UI SC255 was done in order to align the UI with MSC.1/Circ.1467. This alignment only consist in inserting the word "(third)" between the words "additional" and "fuel oil pump" in the second sentence of paragraph 2) b) of the UI, so that it reads: "In this case, one additional (third) fuel oil pump shall be provided."

(23) UI SC263 (New)

IMO FSS Code Chapter 5 item 2.1.2.5, as amended by IMO Res. MSC.206(81), states that all discharge piping, fittings and nozzles of fixed gas fire-extinguishing systems in the protected spaces shall be constructed of materials having a melting temperature which exceeds 925°C. The objective of the UI is to confirm that the minimum melting temperature (925°C) does not apply to gaskets used in discharge piping in fixed gas fire extinguishing systems within the protected spaces. This makes the requirement in line with other IMO documents such as FSS Code Ch. 6.3.1.4 as amended by Res MSC.327(90) (minimum melting temperature requirement on discharge piping etc. of fixed high-expansion foam fire-extinguishing systems).

(24) UI SC223 (Rev.3)

The main reasons for the Rev.3 of UI SC223 is to make it in line with the decision of IMO MSC 92 and DE 57 not to include in the unified interpretation text referring to section 8 (Alternative systems) of the PSPC BWT & PSPC COT and to delete interpretation 1 to paragraph 3.4 of PSPC 4, table 1, section 3 (Secondary surface preparation) on the use of methods such as, but not limited to, UHP Water Jetting may be considered for Secondary Surface Preparation, where it can be demonstrated that the surface conditions specified by PSPC Table 1, section 3, can be achieved before the application of the main coatings.

(25) UI SC259 (New)

A newer version of UI SC259 was adopted in Oct 2013. Similar to Rev.3 of UI SC223, the aim of the newer version of the UI is to make it in line with the decision of IMO MSC 92 and DE 57 not to include in the unified interpretation text referring to section 8 (Alternative systems) of the PSPC BWT & PSPC COT and to delete interpretation 1 to paragraph 3.4 of PSPC 4, table 1, section 3 (Secondary surface preparation) on the use of methods such as, but not limited to, UHP Water Jetting may be considered for Secondary Surface Preparation, where it can be demonstrated that the surface conditions specified by PSPC Table 1, section 3, can be achieved before the application of the main coatings.

(26) UI GC12 (Rev.1)

UI GC12 stipulates secondary barrier testing requirements for ships carrying liquid gases in bulk based on IGC Code paragraph 4.7.7. The system designer (GTT) issued new acceptance criteria and threshold values for secondary barrier testing which is reflected in Rev.1 of the UI. According to the

revision low differential pressure tests may be used for monitoring the cargo containment system performance, but are not considered an acceptable test for the tightness of the secondary barrier. If the designer's threshold values are exceeded, an investigation is to be carried out and additional testing such as thermographic or acoustic emissions testing should be carried out.

(27) UI SC35 (Rev.3)

In Rev.3 of UI SC35, considering the comments from Industry, requirements of power supply to the alarm sounder system is stipulated, making this in line with the revised FSS Code Chapter 9 (MSC 91/3 Annex 2). When the alarm sounder system is not an integral part of the fixed fire detection and fire alarm system, it shall be powered from no less than two sources of power, one of which shall be an emergency source of power. In vessels required by SOLAS regulation II-1/42 or 43 to be provided with a transitional source of emergency electrical power, the alarm sounder system shall also be powered from this power source.

A proceeding to revise NK's Rules will be commenced to incorporate the above URs and UIs appropriately.

ClassNK External Affairs Division is pleased to provide international trends promptly.

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