

IACS Technical Resolutions adopted from January to December 2018

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 Unified Requirements (URs) and Unified Interpretations (UIs) adopted and published from Jan 2018 to Dec 2018 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URs and UIs are technical resolutions, which are set, revised and withdrawn by IACS.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.

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.

Texts of these resolutions and their Technical Backgrounds have been published in [IACS website](#). 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 Jan 2018 to Dec 2018

Resolution	Revision	Adoption	Title	Implementation	Outline
UR Z10.1	Rev.23	Jan. 2018	Hull Surveys of Oil Tankers	1 Jan. 2019	(1)
UR Z10.2	Rev.35	Jan. 2018	Hull Surveys of Bulk Carriers	1 Jan. 2019	(1)
UR Z10.3	Rev.18	Jan. 2018	Hull Surveys of Chemical Tanker	1 Jan. 2019	(1)
UR Z10.4	Rev.15	Jan. 2018	Hull Surveys of Double Hull Oil Tankers	1 Jan. 2019	(1)
UR Z10.5	Rev.18	Jan. 2018	Hull Surveys of Double Skin Bulk Carriers	1 Jan. 2019	(1)
UR Z3	Rev.7	Jan. 2018	Periodical Survey of the Outside of the Ship's Bottom and Related Items	1 Jan. 2019	(2)
UR Z7	Rev.26	Jan. 2018	Hull Classification Surveys	1 Jan. 2019	(2)
UR Z7.1	Rev.14	Jan. 2018	Hull Surveys for General Dry Cargo Ships	1 Jan. 2019	(2)
UR Z7.2	Rev.7	Jan. 2018	Hull Surveys for Liquefied Gas Carriers	1 Jan. 2019	(2)
UR Z17	Rev.13	Jan. 2018	Procedural Requirements for Service Suppliers	1 Jan. 2019	(2)

Resolution	Revision	Adoption	Title	Implementation	Outline
UR S21A	Corr.1	Jan. 2018	Evaluation of Scantlings of Hatch Covers and Hatch Coamings and Closing Arrangements of Cargo Holds of Ships	---	---
UR W17	Rev.5	Mar. 2018	Approval of consumables for welding normal and higher strength hull structural steels	1 Jul. 2019	(3)
UR W23	Rev.2	Apr. 2018	Approval of Welding Consumables for High Strength Steels for Welded Structures	1 Jul. 2019	(4)
UR G1	Corr.1	May 2018	Cargo containment of gas tankers	---	---
UR S10	Rev.5	May 2018	Rudders, sole pieces and rudder horns	1 Jul. 2019	(5)
UR W13	Rev.6	Jun. 2018	Thickness tolerances of steel plates and wide flats	1 Jul. 2019	(6)
UR Z15	Rev.2	Jun. 2018	Hull, Structure, Equipment and Machinery Surveys of Mobile Offshore Drilling Units	1 Jul. 2019	(7)
UR E11	Corr.1	Jun. 2018	Unified requirements for systems with voltages above 1 kV up to 15 kV	---	---
UR E13	Corr.1	Jun. 2018	Test requirements for Rotating Machines	---	---
UR M76	Rev.1	Jun. 2018	Location of fuel tanks in cargo area on oil and chemical tankers	Jul. 2019	(8)
UR S6	Rev.9	Jul. 2018	Use of Steel Grades for Various Hull Members - Ships of 90 m in Length and Above	1 Jul. 2019	(9)
UR M78	New	Jul. 2018	Safety of internal Combustion Engines Supplied with Low Pressure Gas	1 Jul. 2019	(10)
UR Z18	Rev.8	Jul. 2018	Survey of Machinery	1 Jul. 2019	(11)
UR Z20	Rev.1	Jul. 2018	Planned Maintenance Scheme (PMS) for Machinery	1 Jul. 2019	(11)
UR Z27	New	Jul. 2018	Condition Monitoring and Condition Based Maintenance	1 Jul. 2019	(11)
UR Z10.2	Rev. 33, 34, 35 / Corr.1	Sep. 2018	Hull Surveys of Bulk Carriers	---	---
UR Z7	Rev.27	Oct. 2018	Hull Classification Surveys	1 Jan. 2020	(12)
UR M51	Corr.1	Oct. 2018	Factory Acceptance Test and Shipboard Trials of I.C. Engines	---	---
UR M79	New	Oct. 2018	Towing winch emergency release Systems	1 Jan. 2020	(13)
UR P2.7.4	Rev.9	Oct. 2018	Mechanical joints	1 Jan. 2020	(14)
UR P2.13	New	Oct. 2018	Installation	1 Jan. 2020	(14)
UR E10	Rev.7	Oct. 2018	Test Specification for Type Approval	1 Jan. 2020	(15)
UR D3	Rev.6	Nov. 2018	General design parameters	1 Jan. 2020	(16)
UR M3	Rev. 6	Nov. 2018	Speed governor and overspeed protective device	1 Jan. 2020	(17)
UR M46	Rev.2	Dec. 2018	Ambient conditions - Inclinations	1 Jan. 2020	(15)

UR E24	Rev.1	Dec. 2018	Harmonic Distortion for Ship Electrical Distribution System including Harmonic Filters	1 Jan. 2020	(18)
UR M36	Rev.6	Dec. 2018	Alarms and safeguards for auxiliary reciprocating internal combustion engines driving generators in unattended machinery spaces	1 Jan. 2020	(19)
UR P4	Rev.5	Dec. 2018	Production and Application of Plastic Piping Systems on Ships	1 Jan. 2020	(20)
UR D10	Del.	Dec. 2018	Electrical installations	---	---

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

Table 2 List of new/amendments to UIs (Unified Interpretations) published from Jan 2018 to Dec 2018

Resolution	Revision	Adoption	Title	Implementation	Outline
UI SC94	Corr.1	Jan. 2018	Mechanical, hydraulic and electrical independency of steering gear control systems	---	---
UI GC22	New	Apr. 2018	Water spray system	1 Jul. 2019	(21)
UI COLREG5	New	May 2018	Interpretation to COLREG 1972 Annex I Sections 9(a)(i) and 10(a)(i)	1 Jul. 2019	(22)
UI SC89	Rev.4	Jun. 2018	Ventilation of Cargo Spaces	1 Jan. 2019	(23)
UI SC284	New	Jun. 2018	Automatic shutdown of the inert gas system and its components parts	1 Jul. 2019	(24)
UI SC285	New	Jun. 2018	Operational status of valves to cargo tanks	1 Jul. 2019	(25)
UI SC286	New	Jun. 2018	Operational status of the inert gas system	1 Jul. 2019	(26)
UI SC287	New	Jun. 2018	Low pressure audible alarm system	1 Jul. 2019	(27)
UI GC23	New	Jul. 2018	Cargo tank structure heating arrangement power supply	1 Jul. 2019	(28)
UI GC24	New	Jul. 2018	Fire Test for Emergency Shutdown Valves	1 Jul. 2019	(29)
UI GC25	New	Jul. 2018	Cargo piping insulation	1 Jul. 2019	(30)
UI GF13	New	Jul. 2018	Fire protection of spaces containing equipment for the fuel preparation	1 Jul. 2019	(31)
UI GF14	New	Jul. 2018	Hazardous area classification of fuel storage hold spaces	1 Jul. 2019	(32)
UI GF15	New	Jul. 2018	Alarms for loss of ventilation capacity	1 Jul. 2019	(33)
UI MPC98	Rev.1	Aug. 2018	Time of the Replacement or Addition” for the Applicable Tier Standard for the Supplement to the IAPP Certificate	1 Jan. 2020	(34)
UI MPC12	Rev.3	Aug. 2018	Annex VI of MARPOL 73/78	1 Jan. 2020	(35)
UI MPC14	Rev.2	Aug. 2018	Annex VI of MARPOL 73/78	1 Jan. 2020	(35)
UI MPC88	Del.	Aug. 2018	Annex IV of MARPOL 73/78 Regulation 9.1.1	---	---

UI MPC92	Del.	Aug. 2018	Tonnage to be used when applying MARPOL Annex VI	---	---
UI MPC102	Del.	Aug. 2018	Surveys and certification relating to the Ship Energy Efficiency Management Plan (SEEMP) (MARPOL Annex VI Regulation 5.4.4)	---	---
UI MPC127	Del.	Aug. 2018	Annex I of MARPOL 73/78 Regulation 14.7	---	---
UI SC156	Rev.1	Oct. 2018	Doors in watertight bulkhead of cargo ships and passenger ships	1 Jan. 2020	(36)
UI SC123	Rev.4	Nov. 2018	Machinery Installations - Service Tank Arrangements	1 Jan. 2020	(37)
UI GC2	Rev.1	Dec. 2018	Interpretation of second sentence of paragraph 13.2.1	---	(38)
UI GC9	Rev.1	Dec. 2018	Guidance for sizing pressure relief systems for interbarrier spaces	---	(38)
UI GC10	Rev.1	Dec. 2018	Reliquefaction plant of motor-driven LNG carriers	---	(38)
UI GC27	New	Dec. 2018	Interpretation of paragraph 13.2.2	1 Jan. 2020	(38)
UI GC28	New	Dec. 2018	Guidance for sizing pressure relief systems for interbarrier spaces	1 Jan. 2020	(38)
UI GF16	New	Dec. 2018	Liquefied gas fuel tank loading limit higher than calculated using the reference temperature	1 Jan. 2020	(39)
UI GF17	New	Dec. 2018	Other rooms with high fire risk	1 Jan. 2020	(40)
UI SC289	New	Dec. 2018	Separation arrangements between inert gas piping and cargo tanks	1 Jan. 2020	(41)
UI SC290	New	Dec. 2018	Emergency source of electrical power on Gas Carriers and Chemical Tankers	1 Jan. 2020	(38)
UI SC288	New	Dec. 2018	Carriage of Dangerous Goods – Required Air Changes	1 Jan. 2020	(42)
UI MODU3	New	Dec. 2018	Selective disconnection or shutdown and equipment operable after an emergency shutdown	1 Jan. 2020	(43)

*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 Z10.1 (Rev.23) / UR Z10.2 (Rev.35) / UR Z10.3 (Rev.18) / UR Z10.4 (Rev.15) / UR Z10.5 (Rev.18)

UR Z10.1, Z10.2, Z10.3, Z10.4 and Z10.5 specify requirements for hull survey for each type of ship respectively. These URs were amended in order to be consistent with current ESP Code such as replacement of figures and wordings as well as to update CSR reference due to the establishment of the IACS CSR for Bulk Carriers and Oil Tankers.

(2) UR Z3 (Rev.7) / UR Z7 (Rev.26) / UR Z7.1 (Rev.14) / UR Z7.2 (Rev.7) / UR Z17 (Rev.13)

UR Z3, Z7, Z7.1, Z7.2 and Z17 specify requirements for ship's bottom survey, hull survey for all type of ships, hull survey for general dry cargo ships and liquefied gas carriers, and procedural requirements for service suppliers, respectively. These URs were amended in order to be able to use a Remote Inspection Techniques (RIT) to hull surveys. In addition, UR Z7 was amended to clarify the requirements related to internal examinations of structural downflooding ducts and structural ventilations ducts.

(3) UR W17 (Rev.5)

UR W17 specifies requirements for approval and testing procedures of welding consumables for rolled steels for hulls. It was amended to standardize the welding consumables “5Y40” for high tensile steel based on request from industry members and the need for consistent approval acceptance criteria across IACS societies.

(4) UR W23 (Rev.2)

UR W23 specifies requirements for approval and testing procedures of welding consumables for high strength rolled steels used for offshore structures. It was amended to specify the requirements related to standard values, approval tests and annual inspections for welding consumables “Y89” and “Y96”, and to modify the standard value of tensile strength for welding consumables to be consistent with that of base metal.

(5) UR S10 (Rev.5)

UR S10 specifies structural requirement for rudders, sole pieces and rudder horns. This revision was adopted to improve the requirements for dimension of gudgeon, push-up pressure and push-up length for cone coupling. In addition, some inconsistencies were modified and a few clarifications were made.

(6) UR W13 (Rev.6)

UR W13 stipulates thickness tolerances of steel plates and wide flats. It was amended to revise minus tolerances on nominal thickness of products for machinery structures.

(7) UR Z15 (Rev.2)

UR Z15 specifies survey requirements for mobile offshore drilling units. It was amended in order to be able to use a Remote Inspection Techniques (RIT) to hull surveys as the same of the revision of UR Z7 shown in (2).

(8) UR M76 (Rev.1)

UR M76, which identifies acceptable locations and arrangements for fuel tanks on oil and chemical tankers, was amended to clarify fuel tanks within the cargo tank block at the forward and aft ends is not accepted and application for “oil and chemical

tankers” carrying liquid cargoes having a flashpoint not exceeding 60°C and “toxic” liquid cargoes.

(9) UR S6 (Rev.9)

UR S6 specifies requirement for steel grades for hull structural members of ships of 90m in length and above. This revision clarifies the material grade requirements for design temperature between -10 and -20 degrees. In addition, it was clarified that the requirements for the members exposed to low air temperatures specified in this UR is to be applied for the cargo tank boundary platings of ships other than liquefied gas carriers.

(10) UR M78 (New)

UR M78 provides requirements for design and testing of trunk piston internal combustion engines supplied with low pressure natural gas as fuel.

(11)UR Z18 (Rev.8) / Z20 (Rev. 1) / Z27 (New)

UR Z27 provides requirements of software, onboard working, documentation, personnel, approval and survey for applying the scheme, and survey/audit for maintenance of the scheme, for the approved Condition Monitoring and Condition Based Maintenance schemes applying to machinery components and systems where condition monitoring results are used to influence the scope and/or frequency of Class survey.

UR Z18 and Z20 were revised to refract requirements specified in UR Z27.

(12)UR Z7 (Rev.27)

UR Z7 table 1 (minimum requirements for thickness measurements at Special Survey under Hull Classification Surveys) was revised in order to clarify that the requirements are applied where forepeak and afterpeak tanks are ballast tanks.

(13) UR M79 (New)

UR M79 defines minimum safety standards for winch emergency release systems provided on towing winches that are used in the handling of ships within close quarters, ports or terminals.

(14) UR P2.7.4 (Rev.9) / P2.13 (New)

UR P2 provides requirements for piping design, construction and testing. Amendments to P2.7.4 provides a picture for typical compression type mechanical joints and clarify applicability of limitation in use of slip on joints. Further, P2.13 adds a requirement that seawater supply pipes located in cargo holds are to be protected from mechanical damage where necessary.

(15) UR E10 (Rev.7) / M46 (Rev.2)

UR E10 provides Test Specification for Type Approval of electrical, electronic and programmable equipment. This revision clarifies related to wireless applications, and what requirements that should apply to such equipment, since technology advancements and the use of wireless data communication links have increased electromagnetic frequencies, from 2 GHz to 6 GHz. Further, inclination angles specified in UR M46 was removed for switch gear, electrical and electronic appliances to avoid a possible conflict with requirements in UR E10.

(16) UR D3 (Rev.6)

UR D3 specifies requirements on general design parameters applicable to mobile offshore drilling units (MODU). With the view that the correction of freeboard for a Moonpool is to be calculated with respect to the requirements of Chapter III of ICLL, the relevant requirements were removed from the UR.

(17) UR M3 (Rev.6)

UR M3 provides requirements for speed governor and overspeed protective devices for prime movers. This revision amends requirements for throwing methods of more than 2 load steps of prime movers for generators based upon ISO 8528-5:2013.

(18) UR E24 (Rev.1)

UR E24 provides requirements for monitoring of harmonic distortion levels. This revision clarifies that the requirements are applicable only to ships where harmonic filters are installed onboard.

(19) UR M36 (Rev.6)

UR M35 stipulate the requirements of alarms, remote indications and safeguards for main and auxiliary reciprocating I.C. engines installed in unattended machinery space. This revision is intended for use of engine bearing temperature monitors or equivalent devices instead of oil mist detection arrangement to protect the engine crankcases.

(20) UR P4 (Rev.5)

UR P4 specifies requirements for the production and installation of plastic pipes and plastic piping components/fittings. This revision provides the collapse pressure requirements and amendments to requirements on fire endurance and flame spread.

(21) UI GC22 (New)

New UI GC22 provides clarification on definition of "Survival crafts protection", "Tank groups in cargo area" and "Fire pumps used as spray pumps" in the requirement on water spray system for cooling, fire prevention and crew protection of the revised IGC Code.

(22) UI COLREG5 (New)

New UI COLREG5 was adopted to provide uniform implementation in determining the onboard location of the sidelights from a visibility of horizontal and vertical sectors.

(23) UI SC89 (Rev.4)

UI SC89, which provides the requirements for ventilation of cargo spaces, was amended to include consequential modifications coming from the amendments of IMSBC Code, i.e., Resolutions MSC.354(92) and MSC.426(98).

(24) UI SC284 (New)

UI SC284 provides clarification on automatic shut-down of inert gas systems and these condition.

(25) UI SC285 (New)

UI SC285 provides an interpretation with stop valves in branch piping leading from the inert gas main to cargo tanks of which open/intermediate/closed status information are to

be indicated in the control panel.

(26) UI SC286 (New)

UI SC286 gives clarification on the location of indicators to indicate operation status of IG systems.

(27) UI SC287 (New)

UI SC287 provides an interpretation on independent alarm system for inert-gas low pressure to provide second pressure sensor, and provisions to provide automatic shutdown systems of cargo pumps if those are installed.

(28) UI GC23 (New)

UI GC23 provides clarification on required duplication for a power supply of heating arrangement to protect cargo tank structure from low temperature.

(29) UI GC24 (New)

UI GC24 provides the interpretation permits to use materials having melting temperatures lower than 925°C in components such as rubber handle covers where failure would not cause deterioration of shell or seat tightness intrinsically of emergency shutdown valves.

(30) UI GC25 (New)

UI GC25 provides clarification on cargo piping systems that are to be provided with a thermal insulation system as required to minimize heat leak into the cargo during transfer operations and to protect personnel from direct contact with cold surfaces.

(31) UI GF13 (New)

Any space containing equipment for the fuel preparation shall be regarded as a machinery space of category A for fire protection purposes, in accordance with regulation 11.3 of IGF Code. UI GF13 provides the interpretation that "fire protection" means structural fire protection, not including means of escape. Enclosed spaces contain equipment for fuel preparation such as pumps or compressors or other potential ignition sources are to be provided with a fixed fire-extinguishing system complying with SOLAS and FSS Code.

(32) UI GF14 (New)

UI GF14 provides provisions on hazardous area classification of fuel storage hold spaces.

(33) UI GF15 (New)

UI GF15 clarifies acceptable means to confirm that ventilation system has a required ventilating capacity in operation.

(34) UI MPC98 (Rev.1)

UI MPC98 provides a common date to be used for determining the applicable NOx Tier standard for engines that are added or non-identical engines that are replaced onboard a ship. The revision reflects amendments to MARPOL (i.e. MEPC.286(71) and MEPC.258(67)).

(35) UI MPC12 (Rev.3) / UI MPC14 (Rev.2)

This revision for UIs reflects amendments to MARPOL Annex VI (i.e. MEPC.280(70)).

(36) UI SC156 (Rev.1)

UI SC156 is an interpretation for doors in watertight bulkhead of cargo ships and passenger ships. This revision was adopted to reflect the amendments to the SOLAS regulations with Explanatory Notes included in MSC.421(98) and MSC.429(98), and LL, MARPOL, IBC Code, IGC Code and other relevant IMO instruments.

(37) UI SC123 (Rev.4)

UI SC123 provides arrangement of fuel oil service tanks. This revision clarifies provisions on typical fuel oil service tank arrangements for newbuild and retrofitted vessels trading in ECA zones using low sulphur and residual grade fuels.

(38) UI GC2 (Rev.1) / UI GC9 (Rev.1) / UI GC10 (Rev.1) / UI GC27 (New) / UI GC28 (New) / UI SC290 (New)

In the light of the amended IGC Code (MSC.370 (93)), UI GC2, GC9 and GC10 was revised to be intended for ships applying the former code. Further, UI GC27, GC28 and SC290, which are based on UI GC2, GC9 and GC10, were newly developed for ships applying the amended Code.

(39) UI GF16 (New)

UI GF16 is intended to clarify condition to allow a higher loading limit of liquefied gas fuel tank than calculated using the reference temperature.

(40) UI GF17 (New)

UI GF17 clarifies scope of the term "other rooms with high fire risk" which should as a minimum be considered.

(41) UI SC289 (New)

UI SC289 provides provisions on separation arrangements between inert gas piping and cargo tanks of tankers.

(42) UI SC288 (New)

UI SC288 was developed as an interpretation on air change provisions for carriage of dangerous goods of classes 2, 3, 6.1 and 8.

(43) UI MODU3 (New)

UI MODU3 was developed to clarify the criteria whether equipment located in spaces other than enclosed spaces and which is capable of operation needs to operate continuously after emergency shutdown (ESD).

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

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