

Recent Topics at IACS

A summary of the recent topics discussed at IACS and IACS Technical Resolutions adopted in January to June 2011 are given hereunder for your information.

1 Recent Topics at IACS

1.1 Hull Panel

(1) Harmonization of CSR and compliance with GBS

Development of harmonized Common Structural Rules (CSR) to unify the current two separate sets of CSR for bulk carriers and oil tankers was started substantially from 2009. This work is proceeding in part to meet the IMO deadline of the end of 2013 for GBS verification.

In order to release a first draft of the harmonized CSR for industry review in 2012, nine project teams established under the Hull Panel and two full-time members (managers) of the project management team coordinated preparation of the first draft and are handling review comments by the Hull Panel. However, trial calculations and consequence assessment, along with their feedback to the first draft are issues that remain to be addressed.

Prior to an open industry review of the draft harmonized CSR, a preliminary review by the External Advisory Group (EAG) consisting of ten representatives from industry has been carried out. As EAG members, in addition to the Western members from international shipowners' associations (BIMCO, ICS, INTERCARGO, INTERTANKO, and OCIMF), representatives from the Asian shipbuilders' associations of Japan, China, and Korea also participated in the review in order to achieve a greater balance as suggested by NK.

The EAG meeting to carry out the preliminary review was held in Houston in October 2011 following those held in London, Shanghai and Oslo. Before each EAG meeting was held, a workshop on the harmonized CSR was held within IACS to confirm the latest status of each project team and to exchange opinions.

In the middle of 2012, a first draft of the harmonized CSR will be released for industry review and a technical presentation on the harmonized CSR will be organized worldwide. When this draft is released, NK will explain the contents of the harmonized CSR in detail through its Technical Committee as well as other forums and media, and NK will appeal to IACS to reflect comments from industry. Further, NK will provide software corresponding to the latest draft CSR in a timely manner.

(2) Unified standard for application of corrosion resistant steel

At MSC87 held in May 2010, performance standards for protective coatings and for alternative means of corrosion protection utilizing corrosion resistant steel were adopted with respect to SOLAS amendments requiring all cargo oil tanks of crude oil tankers of 5,000 DWT and above to be coated. IACS established a dedicated Project Team to develop an IACS unified standard concerning the application, approval procedures, and other relevant matters concerning the use of corrosion resistant steel used as an "alternative means of coating". NK has already issued "Guidelines on Corrosion Resistant Steel for COT", and the IACS unified standard will be based on these Guidelines.

1.2 Machinery Panel

(1) Development of survey requirements for explosion-proof electrical equipment

In accordance with the revision of the standards regarding explosion-proof electrical equipment referred to in the SOLAS Convention, and related requirements, there is a need to develop training policies for surveyors who engage in surveys of explosion-proof electrical equipment located in hazardous areas and the relevant rules and regulations for the survey of such equipment. Responding to the above, a Project

Team, including NK as a member, has developed a draft IACS UR to strengthen the maintenance of electrical equipment against malfunctions which could result in explosion and a draft IACS Recommendation to improve the capacity of surveyors in this matter, and is currently reviewing them for finalization.

(2) Application of “Approved Method” to existing diesel engines

In accordance with MARPOL Annex VI, marine diesel engines installed onboard ships constructed between 1990 and 1999 are to comply with Tier I emission limits, provided that an Approved Method for that engine certified by an Administration has been proposed. The first Approved Method was applied to existing diesel engines in October 2010. Vessels installing engines of the same type are to make modifications to the engines, accordingly. As the Approved Method has been proposed for engines of other types and it is expected that the number of vessels which will need to implement such modifications will increase, IACS has started discussions on the establishment of an integrated survey regime.

(3) Revision of test requirements for air pipe heads

Approval tests such as watertight tests stipulated by relevant IACS URs are required for closing appliances of air pipe heads installed on deck to ensure the complete closure of such air pipe heads. However, since there is no clear provision for test conditions in the IACS UR, there is a need to review the UR for the unified evaluation of the capacity of appliances with different structures. NK proposed a provision which stipulates that tests should be carried out on condition that the opening tilted 40 degrees is placed upward, downward and in a transverse direction, which has generally been agreed to by all concerned.

1.3 Survey Panel

(1) Activity of the Survey Panel Chairman

As was mentioned in NK Kaishi, Vol. 291, ClassNK has been selected as Chairman of the Survey Panel for three years starting from January 2011. The General Manager of the Survey Department (SVD) has been acting as Chairman, while the External Affairs Division serves as the secretariat of the Chairman. The first Survey Panel meeting under the Chairmanship of NK was held last March 2011 at the ClassNK Head Office, while the second meeting was held this past September 2011. Technical deliberations on a range of topics regarding survey related matters were held at both meetings.

(2) Continuous review of UI SC191 related to PMA

UI SC 191 is continuously reviewed in order to share a common understanding among all Members regarding PMA arrangements (PMA: Permanent Means of Access) including portable equipment and fixed attachments. A unified interpretation (UI) regarding means of access for the double bottom fuel oil tank of bulk carriers- “Each space for which a close-up inspection is not required such as fuel oil tanks and void spaces forward of the cargo area, may be provided with a means of access necessary for overall surveys intended to report on the overall condition of the hull structure” has been approved according to a suggestion put forth by NK.

1.4 Statutory Panel

(1) Application of revision of Regulation 12 of MARPOL Annex I

With regard to Regulation 12.2 of MARPOL Annex I, which was revised by IMO Resolution MEPC 187(59), it is unclear whether this requirement applies only to newly built ships or is to be retroactively applied to existing ships, as well. In case where the regulation is retroactively applied to existing ships, ships constructed before 31 December 1990 that are not equipped with a sludge pump for disembarkation

are to make necessary modifications, accordingly. IACS compiled a document for submission to MEPC62 requesting the establishment of a practical scheme for modifications if retroactive application to existing ships is needed. The document was agreed upon at MEPC62 and published as a MEPC Circular.

(2) Development of IACS UI on the provision in the IMSBC Code regarding cargo which may heat up spontaneously

In accordance with the IMSBC Code, when a cargo heats spontaneously and its temperature exceeds 55 degrees Celsius, ventilation shall be stopped to control the self-heating. Also, it is stipulated as a requirement for transport that carbon dioxide or inert gas should be introduced in the cargo hold in cases where the temperature continues to rise. With regard to the self-heating, IACS considers it acceptable to use fixed water-based fire-fighting systems or inert gas systems complying with the FSS Code required by Regulation 10.7.1.3 or 10.7.1.2 in Chapter II-2 of the SOLAS Convention, and to develop an IACS UI clarifying that no additional fire-fighting systems are required.

2. IACS Technical Resolutions adopted recently

IACS Technical Resolutions adopted during the period from January to June 2011 are shown in Table 1 (UR) and Table 2 (UI), respectively. Texts of these resolutions and their respective Technical Backgrounds have been published on the IACS website (<http://www.iacs.org.uk/>). These resolutions have been and will be incorporated in NK's Rules and Guidance for the survey and construction of steel ships after review by NK's relevant Technical Committee.

In addition, the underlined version (clearly showing the revised text) of URs and UIs not published on the IACS website has been published on NK's website (<http://www.classnk.or.jp/>).

Table 1 List of New and Amended UR (Unified Requirements) Adopted during January to June 2011

UR	Revision	Adoption	Title	Implementation
M42	Rev. 4	June 2011	Steering Gear	1 July 2012
S21A	New	May 2011	Evaluation of Scantlings of Hatch Covers and Hatch Coamings and Closing Arrangements of Cargo Holds of Ships	1 July 2012
Z3	Rev. 5	Apr. 2011	Periodical Survey of the Outside of the Ship's Bottom and Related Items	1 Jan. 2012
P5	Deleted	Apr. 2011	Ballast Water Systems. Requirements on Ballast Water Exchange at Sea	-
Z10.5 Z10.4 Z10.3 Z10.2 Z10.1	Rev. 10 Rev. 9 Rev. 12 Rev. 28 Rev. 18	Mar. 2011	Hull Surveys of Double Skin Bulk Carriers Hull Surveys of Double Hull Oil Tankers Hull Surveys of Chemical Tankers Hull Surveys of Bulk Carriers Hull Surveys of Oil Tankers	1 July 2012
E23	Deleted	Mar. 2011	Selection of low voltage circuit breakers on the basis of their short circuit capacity and co-ordination in service.	---
G3	Rev. 4	Mar. 2011	Liquefied Gas Cargo and Process Piping	1 Jan. 2012
L4	Rev. 3	Mar. 2011	Closure of Chain Lockers	1 Jan. 2012

UR	Revision	Adoption	Title	Implementation
Z11	Rev. 4	Mar. 2011	Mandatory Ship Type and Enhanced Survey Program (ESP) Notations	1 Jan. 2012
M45	Rev. 2	Feb. 2011	Ventilation of Machinery Spaces	1 Jan. 2012
Z13	Rev. 3	Jan. 2011	Voyage Repairs and Maintenance	1 Jul. 2011
M53	Rev. 2	Jan. 2011	Calculation of Crankshafts for I.C. Engines	1 Jan. 2012
Z7	Rev. 18	Jan. 2011	Hull Classification Surveys	1 Jan. 2012

Table 2 List of New and Amended UI (Unified Interpretations) Adopted during January to June 2011

UI	Revision	Adoption	Title	Implementation
SC246	New	June 2011	Steering gear test with the vessel not at the deepest seagoing draught	1 July 2012
SC245	New	June 2011	Suction piping of emergency fire pumps, which are run through the machinery space (SOLAS II-2/ 10.2.1.4.1)	1 July 2012
SC227	Rev. 1	May 2011	The dedicated seawater ballast tanks in SOLAS Chapter II-1 (Regulation 3-2)	---
SC244	New	May 2011	Load testing of hooks for primary release of lifeboats	1 July 2012
CC6	New	Apr. 2011	Lining approved for use with acids - IBC Code item 15.11.2	1 Jan. 2012
SC178	Rev. 1	Apr. 2011	Emergency Fire Pumps in Cargo Ships (FSS Code, Ch. 12, 2.2.1.3)	1 Jan. 2012
SC243	New	Mar. 2011	Access to controls for closing of ventilation of vehicle, special category and ro-ro spaces (SOLAS II-2/20.3.1.4.1)	1 Jan. 2012
SC179	Rev. 2	Mar. 2011	Dewatering of forward spaces of bulk carriers	1 Jan. 2012
SC89	Rev. 3	Feb. 2011	Ventilation of Cargo Spaces	1 Jan. 2012
SC140	Rev. 3	Jan. 2011	Secondary Means of Venting Cargo Tanks	1 July 2013
SC235	New	Jan. 2011	Navigation bridge visibility to ship's side	1 Jan. 2011
SC242	New	Jan. 2011	Arrangements for steering capability and function on ships fitted with propulsion and steering systems other than traditional arrangements for a ship's directional control	1 Jan. 2012

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

(1) UR M42 and UI SC246

SOLAS Chapters II-1/29.3.2 and II-1/29.4.2 stipulate that steering gear is to be capable of working at the deepest seagoing draught of the ship, and that this capability is to be confirmed at the sea trial. However, in the present circumstances, it is difficult to carry out the sea trials under the condition that rudders are fully submerged. Therefore, such tests are carried out under the condition that the rudders are submerged as far as possible in the case of bulk carriers, large size containers, etc. In this regard, a new Unified Interpretation that the current practice of the sea trial meets the relevant SOLAS requirements referring to the ISO standard was adopted. Moreover, UR M42 was also amended in order to make it consistent with this new UI.

(2) UR S21A

A UR providing a strength standard for hatch covers and hatch coamings of cargo holds of bulk carriers was

developed as UR S21. However, as such a standard for ships other than bulk carriers has not yet been developed, the new standard was developed as UR S21A based on UR S21.

(3) UR Z3

This UR describes about the periodical survey of the exterior of the ship's bottom and related items. The latest revision of UR Z3 clarifies provisions related to the age at which ships subject to the Enhanced Survey Program (ESP) need to undergo a dry docking survey in line with IMO ESP Guidelines (IMO Res.A744 (18)). Moreover, provisions regarding in-water visibility and the cleanliness of the hull below the waterline have been clarified to permit a meaningful examination of the hull, which allows the surveyor and diver to determine the condition of the plating, appendages, and the welding.

(4) UR Z10 series

These series of URs prescribe requirements for periodical hull surveys of oil tankers and bulk carriers for which ESP is applied. According to this revision, the definition of hull transverse sections has been amended in order to match it with the hull survey requirements stated in UR Z7.

(5) UR G3

This UR stipulates survey requirements for valves intended for use with gases at low temperature. Taking into consideration current common survey practices and views among industries concerned, test requirements for cargo pumps intended for use at low temperature have been amended.

(6) UR L4

This UR provides the requirements for the closure of chain lockers. The revision clarifies the watertight standard applicable to access openings situated below the weather deck on spurling pipes and chain lockers.

(7) UR Z11

This UR indicates the type and notation of ships for which an Enhanced Survey Program (ESP) is applicable. According to the latest revision, oil tankers that do not comply with MARPOL I/19 may be subject to International and/or National Regulations requiring their phase out under MARPOL I/20 and/or MARPOL I/21, as applicable.

(8) UR M45

This UR stipulates requirements for ventilation in machinery spaces in accordance with SOLAS II-1/35. SOLAS II-1/35 states that category A machinery spaces are to be adequately ventilated continuously; however, the existing UR requires that all machinery spaces be ventilated continuously. Therefore, the existing UR was modified to specify that only category A machinery spaces are to be ventilated continuously.

(9) UR Z13

This UR is applicable to the repair and maintenance of hull, machinery, and equipment during voyage. According to this UR, in any extreme emergency circumstance, emergency repairs are to be effected immediately; the repairs are to be documented in the ship's log and are to be submitted thereafter to the Classification Society for use in determining further survey requirements. However, the term "extreme" has been deleted in the present revision in order to match it with the IMO document because related IMO documents did not have a definition regarding the meaning of "extreme".

(10) UR M53

This UR stipulates the calculation method for crankshafts. CIMAC proposed an alternative calculation method utilizing the Finite Element Method (FEM) for some of the currently used crankshafts designs for which the calculation rules in the UR M53 do not cover. Based on this proposal, the UR was revised to incorporate the FEM method.

(11) UR Z7

This UR relates to general requirements on the periodical survey of hulls. According the latest revision, in the case of ships over 10 years of age, other than ships engaged in the carriage of dry cargoes only or ships subject to Z10.1, Z10.3, Z10.4 or Z7.2, an internal examination of selected cargo spaces is to be carried out.

(12) UI SC245

SOLAS Reg.II-2/10.2.1.4.1 stipulates requirements for the location of emergency fire pumps, the seawater inlet and isolating valves for such pumps, as well as insulation for the seawater inlet, suction and delivery pipes. In relation to these requirements, a Unified Interpretation that clarifies the scope of insulation for suction and delivery pipes of the emergency fire pump in cases where such pipes pass through the machinery space, etc. was newly adopted.

(13) UI SC227

This UI stipulates that ballast tanks identified as spaces included in Net Tonnage, i.e., which are not considered to be dedicated seawater ballast tanks, are therefore exempted from the application of the IMO PSPC in accordance with the requirement of SOLAS II-1/3-2.

This amendment also states that sea water tanks in livestock carriers also designated for the carriage of the livestock water are exempted from the IMO PSPC.

(14) UI SC244

Requirements for the load test of release gears of lifeboats in IMO Res. MSC.81(70) "Recommendation on testing of life-saving appliances" stipulate that the connection of each release gear fixed to the boat is to be subject to a load equal to the weight of the boat with its full complement of persons and equipment (or twice the weight of the boat in the case of single fall systems). In this regard, a new Unified Interpretation which clarifies that the requirements of the load test only apply to lifeboats launched by falls but does not apply to free-fall lifeboats was adopted.

(15) UI CC6

The IBC Code 15.11.2 stipulates requirements for linings to be used for the protection of steel tanks and pipe materials when carrying acids. In this regard, Unified Interpretation that linings are solid type corrosion protection systems applying solid materials for those tanks was newly adopted.

(16) UI SC178

FSS Code 12.2.2.1.3 stipulates that the suction heads of emergency fire pumps are required to satisfy the relevant requirements of the SOLAS Convention and FSS Code under all conditions of list, trim, roll and pitch. However, there has been some concern that the required capability of the emergency fire pump and ship design are affected by the interpretation of those requirements.

The UI was amended to clarify that the suction heads should be submerged at the waterlines corresponding to a level of 2/3 immersion of the propeller at even keel, among other requirements. This UI applies to

ships contracted for construction on or after 1 January 2012. Meanwhile, IMO MSC.1/Circ. 1388 developed based on this UI is to apply to ships constructed on or after 1 January 2012. In this regards, since the application of this interpretation eventually depends on the instruction from each flag state, details will be summarized by a ClassNK Technical Information, accordingly.

(17) UI SC243

SOLAS Ch. II-2 Reg. 20.3.1.4.1 stipulates that ships having vehicle, special category and ro-ro spaces are to be provided with arrangements to permit a rapid shutdown and effective closure of the ventilation system from outside of the space in the event of a fire. In this regard, a new Unified Interpretation was adopted which states that access routes to the controls for closure of the ventilation system satisfy the above provision, provided that those routes have sufficiently clear width and handrails.

(18) UI SC179

This UI specifies the interpretation of requirements concerning bilges and ballast piping arrangement around the collision bulkhead stipulated in SOLAS XII/13.1 and SOLAS II-1/12.5.1. The UI was amended so that the requirements for the arrangement of control valves located in front of the collision bulk head were consistent with the relevant provisions of SOLAS.

(19) UI SC89

This UI specifies the interpretation of requirements concerning mechanical and natural ventilation provided in enclosed cargo spaces stipulated in SOLAS II-2/19.3.4. The UI was amended in order to clarify that the minimum height to the ventilator opening is to be in accordance with the provisions of the ICLL for cargos for which continuous ventilation is required under the IMSBC.

(20) UI SC140

This UI specifies the interpretation of requirements concerning cargo tank venting and secondary means for venting stipulated in SOLAS II-2/4.5.3.2.2 and II-2/11.6.3.2. The UI was amended so that the interpretation would be consistent with the relevant OCIMF regulations.

(21) UI SC235

SOLAS Ch. V Reg. 22.1.6, stipulates that the ship's side is to be visible from the bridge wing. In this regard, a Unified Interpretation that achieves a common understanding of this requirement and its application for particular ship types was newly adopted.

(22) UI SC242

SOLAS II-1/29 stipulates the diameter of the rudder stock of the steering gear and other relevant details for ships having a traditional propulsion system and one rudder. A Unified Interpretation that applies these requirements to azimuthing propulsors or water jet propulsion systems was newly adopted.