

Confirmatory Surveys during Continuous Machinery Surveys

Amended Guidance

Guidance for the Survey and Construction of Steel Ships Part B
Guidance for High Speed Craft

Reason for Amendment

The ClassNK Rules related to Continuous Machinery Surveys accept open-up surveys of certain components of machinery (excluding main turbine rotors, etc.) conducted independently by chief engineers whose results are verified through confirmatory surveys conducted by Society surveyors within a designated period of time as a substitute for open-up surveys of the same components conducted in the presence of a Society surveyor.

However, the current ClassNK Rules are somewhat vague regarding the treatment of open-up surveys conducted independently by chief engineers during periodical surveys.

Accordingly, relevant rules were amended to clarify the above.

Outline of Amendment

Relevant rules were amended to clarify that open-up surveys conducted independently by chief engineers during periodical surveys are recognized as acceptable substitutes for open-up surveys of the same components conducted in the presence of a Society surveyor.

Open-up Examinations of Propeller Shafts and Stern Tube Shafts

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part B

Guidance for the Survey and Construction of Steel Ships Part B

Reason for Amendment

The NK Rules, in principle, require open-up examinations for propeller shafts and stern tube shafts at least once every 5 years. However, NK also specifies that said examinations may be postponed for certain kinds of shafts if partial surveys (survey in which the shaft is not withdrawn) are conducted: a maximum of 8 years for shafts Kind 1B which have oil-lubricated stern tube bearings and a maximum of 10 years for shafts Kind 1C with oil-lubricated stern tube bearings which comply with the special requirements related to the monitoring of stern tube bearing temperatures and the continuous circulation of lubricating oil, etc.

With regard to these requirements, ClassNK conducted an examination past damage records and problems related to propeller shafts for the purpose of expanding the inspection system. As a result, it is believed that for shafts Kind 1B, confirmation of bearing soundness through periodical lubricating oil analysis in addition to the aforementioned partial surveys are an effective way to detect problems at an early stage and, thus, prevent serious damage to the propeller shafts. Accordingly, relevant requirements are amended so that examination intervals may be extended for shafts Kind 1B whose proper maintenance and good bearing condition can be confirmed.

Outline of Amendment

Specified that, the open-up examination interval for shafts Kind 1B may be extended to a maximum 10 of years subject to periodical lubricating oil analysis, temperature monitoring of the stern tube bearings and confirmation of the lubricating oil consumption rate in addition to the heretofore required partial surveys.

Scope of Application of Fire-resistant Cables

Amended Guidance

Guidance for the Survey and Construction of Steel Ships Part H
Guidance for the Survey and Construction of Passenger Ships

Reason for Amendment

- (1) IACS Unified Requirement (UR) E15(Rev.2) specifies that cables of devices required to be operable during fires which pass through high fire risk areas are to be fire-resistant cables. The definition of “high fire risk areas” is defined in SOLAS II-2/3-30 and includes machinery spaces, etc.

However, certain machinery spaces such as those containing ventilation and air conditioning machinery, etc. are considered to be “machinery spaces having little or no fire risk” according to MSC/Circ.1120. Therefore, in order to eliminate any confusion as to whether fire-resistant cables are needed for such spaces, IACS decided to review the meaning of “high fire risk area” as it applies to UR E15(Rev.2). As a result, IACS decided to amend UR E15(Rev.2) and developed a draft proposal for UR E15(Rev.3). Although UR E15(Rev.3) still is waiting final approval, its content has been essentially agreed upon by IACS members.

Accordingly, relevant requirements related to the definition of “high fire risk area” were amended in accordance with the draft version of IACS UR E15(Rev.3) in consideration of industry member request for the speedy incorporation of this amendment into the ClassNK Rules.

- (2) At the 91st Session of the IMO Maritime Safety Committee (MSC91) held in November 2012, SOLAS II-2/Reg.9, which is related to the fire integrity of bulkheads and decks used to partition ro-ro and vehicle spaces, was amended to require “A-30” insulation instead of the “steel or equivalent material” insulation which had been required up until that time. This amendment was adopted as IMO Resolution MSC.338(91). Because of the aforementioned change, it is assumed that power operated fire doors will be also installed in ro-ro vessels.

Accordingly, requirements related to power operated fire doors currently specified in the “Guidance for the Survey and Construction of Passenger Ships” were moved to the “Guidance for the Survey and Construction of Steel Ships Part H”.

Outline of Amendment

- (1) Deleted spaces containing generators, major electrical units, refrigerating, stabilizing, ventilation and air conditioning machinery and trunk to such spaces from “high fire risk area”.
- (2) Moved requirements related to the control and power systems to power operated fire doors and status indication for all fire doors currently specified in the “Guidance for the Survey and Construction of Passenger Ships” to the “Guidance for the Survey and Construction of Steel Ships Part H”.

System Voltages for Ship Service Systems

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part H

Rules for High Speed Craft

Guidance for the Survey and Construction of Steel Ships Part H

Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use

Reason for Amendment

- (1) The ClassNK Rules, the electrical installations with system voltages above a.c. 500V up to a.c. 15,000V are classified to the high voltage electrical installations in accordance with Japanese Standards. On the other hand, The IEC Standard and IACS Unified Requirement (UR) E11, the electrical installations with system voltages above a.c. 1,000V up to a.c. 15,000V are classified to the high voltage electrical installations.

Recently, relevant industry requested to change instruction same as IEC Standard and IACS UR because their would design to the electrical installations with system voltages above a.c. 500V up to a.c. 1,000V are not classified to the high voltage electrical installations in IEC Standard and IACS UR and.

Accordingly, relevant requirements were amended based upon IEC Standard and IACS UR E11.

- (2) Under the current ClassNK Rules, requirements related to type tests for fuses, circuit breakers and electromagnetic contactors are, in principle, only applicable to electrical circuits of a.c. 500V or lower because such high voltage types of said equipment were not being produced in large amounts and were not being widely used.

In recent years, however, the use of high voltage electrical power supply systems on ships has been progressing which has led to an increase in the number of high voltage electrical installations being used. Accordingly, relevant requirements were amended to also require type tests for such electrical equipment.

Outline of Amendment

- (1) Amended requirements related to high voltage electrical installations so that they apply to those with system voltages exceeding a.c. 1,000V up to a.c. 15,000V.
- (2) Amended requirements related to type tests for electrical equipment so that they are also required for equipment using high voltage circuits.

Current Rating of Busbars

Amended Guidance

Guidance for the Survey and Construction of Steel Ships Part H
Guidance for High Speed Craft

Reason for Amendment

The ClassNK Rules, based upon SOLAS II-1/ Reg.41.5, specify that the main busbar is to be subdivided into at least two parts in cases where main sources of electrical power are necessary for ship propulsion for reasons of redundancy. Moreover, the rated current of each part in such cases needs to be determined in consideration of connected generator capacities and the rated currents of the feeding circuits.

The ClassNK Rules currently specify rated currents for single busbar arrangements; however, rated currents for subdivided busbar arrangements are based upon the rated currents of general power feeding circuits.

Accordingly, relevant requirements were amended to specify the rated currents of subdivided busbar arrangements in reference to rated currents of general power feeding circuits being currently adopted by many general cargo ships.

Outline of Amendment

Specified requirements related to the rated currents of subdivided busbars arrangement.

Shipboard Incinerators

Amended Guidance

Guidance for Marine Pollution Prevention Systems

Reason for Amendment

- (1) Regulation 16.6.1 of MARPOL Annex VI specifies that shipboard incinerators are to comply with IMO resolution MEPC.76(40) and need to be approved by the relevant Society, the relevant Administration or some other competent organization.

This resolution applies to incinerators with capacities of up to 1,500 kW per unit. However, the IMO decided to review this capacity limit because the total amount of waste created tends to be large enough where the lack of sufficient incineration capacity could become a problem for large ships.

As a result, at the 64th Session of the IMO Marine Environment Protection Committee (MEPC64) held in October 2012, the scope of MEPC.76(40) was increased so that it applied to incinerators with capacities up to 4,000 kW can be approved. This was circulated as MEPC.1/Circ.793.

Accordingly, requirements stipulating MEPC.1/Circ.793 as the approval standard for shipboard incinerators are incorporated into the NK Rules.

- (2) Regulation 16.9 of MARPOL Annex VI specifies that in cases where an incinerator is a continuous-feed type, waste is not to be fed into the unit when the combustion chamber gas outlet temperature is below 850°C in order to avoid air pollution by unburned gas.

However, it is believed that sludge oils which are not solid waste are capable of being completely burned in cases where the combustion chamber temperature chamber is above 500°C; therefore, at MEPC64 held in October 2012, an unified interpretation which allows sludge oil to be fed into such units if the combustion chamber temperature chamber is above 500°C was approved and circulated as MEPC.1/Circ.795.

Accordingly, related requirements are amended based upon MEPC.1/Circ.795.

Outline of Amendment

- (1) Amended requirements related to the approval standards for shipboard incinerators.
- (2) Amended requirements related to use of continuous-feed type incinerators.

Energy Efficiency of Ships

Amended Rules and Guidance

Rules for Marine Pollution Prevention Systems
Guidance for Marine Pollution Prevention Systems

Reason for Amendment

An amendment to MARPOL Annex VI adopted in July 2011 went into effect on 1 January 2013. Accordingly, requirements related to the Energy Efficiency Design Index (EEDI) and Ship Energy Efficiency Management Plan (SEEMP) now apply to ships engaged in international voyages.

Relating to the above requirements, at the 64th Session of the IMO Marine Environment Protection Committee (MEPC64) held in October 2012, a unified interpretation which specifies the definitions of new ships subject to the Required EEDI and the time periods for the installation of SEEMP on board such ships, etc. was approved and circulated as MEPC.1/Circ.795. In addition, at MEPC 65 held in May 2013, it was agreed that the interpretation related to the application of SEEMP requirements was also amended by said circular.

Accordingly, relevant requirements are amended based upon MEPC.1/Circ.795 and the results of the deliberations at MEPC65.

Outline of Amendment

- (1) Added definitions for “new ships” corresponding to each phase to be used as criteria for the Required EEDI.
- (2) Added an interpretation for the definition of “major conversion” of ships.
- (3) Amended the application of the requirements related to SEEMP.
- (4) Amended requirements related to inspection periods and preparation.

Interpretation of “Safe Return to Port” for Passenger Ships

Amended Guidance

Guidance for the Survey and Construction of Passenger Ships

Reason for Amendment

SOLAS II-1/Reg.8-1 and II-2/Reg.21 specify that passenger ships having length of 120m or more or having three or more vertical zones are required to comply with requirements related to “Safe Return to Port”. Such requirements specify that main systems such as main propulsion systems are to remain operational even in cases where a single compartment has flooded or a fire has broken out but is limited to a particular area. Detailed criteria for evaluating the capability of such systems are specified in MSC.1/Circ.1369 and MSC.1/Circ.1437.

Recently, the IMO further investigated criteria for evaluating items such as “Navigational systems” and “External communication” as they relate to “Safe Return to Port”. As a result, the amended provisions which gives consideration of such systems was approved as MSC.1/Circ.1369/Add.1 at the 91th Session of the IMO Maritime Safety Committee (MSC 91) held in November 2012 and then circulated.

Accordingly, relevant requirements were amended based upon MSC.1/Circ.1369/Add.1.

Outline of Amendment

Specified that the interpretation of “Safe Return to Port” provided in Table 7-1-A1, Annex 7-1 of the Guidance for the Survey and Construction of Passenger Ships is also in accordance with MSC.1/Circ.1369/Add.1.

Specifications of Fixed Fire Detection and Fire Alarm Systems

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part R
Guidance for the Survey and Construction of Steel Ships Part R
Guidance for the Survey and Construction of Passenger Ships

Reason for Amendment

A total revision of the Fire Safety Systems Code (FSS Code) which specifies the standards for fire-extinguishing systems was adopted as Resolution MSC.311(88) at the 88th Session of the IMO Maritime Safety Committee (MSC88) held in December 2010. ClassNK has already amended its Class Rules based upon this amended version.

In response to this amendment, the IMO Sub-Committee on Fire Protection held discussions on the associated test requirements, locations and the incorporation of related IACS Unified Interpretation SC35 (Rev.2) of fixed fire detection and fire alarm systems.

As a result of these discussions, at the 91st Session of the IMO Maritime Safety Committee (MSC91) held in November 2012, partial amendments to Chapter 9 of the FSS Code were adopted as Res. MSC.339(91).

Accordingly, relevant requirements were amended so as to follow IMO Res. MSC.339(91).

Outline of Amendment

- (1) Amended requirements related to the installation location of the indicating unit(s) of fixed fire detection and fire alarm systems.
- (2) Amended requirements related to tests of fixed fire detection and fire alarm systems.
- (3) Transferred requirements related to power supplies of fixed fire detection and fire alarm systems currently specified in the “Guidance for the Survey and Construction of Steel Ships, Part R” to the “Rules for the Survey and Construction of Steel Ships, Part R”.

Code on Noise Levels on Board Ships

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part B and D
Rules for High Speed Craft
Guidance for the Survey and Construction of Steel Ships Part B and D
Guidance for High Speed Craft
Guidance for Navigation Bridge Systems
Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use

Reason for Amendment

Ever since the *Code on Noise Levels on Board Ships* was adopted in 1981 as Resolution A.468(XII) (hereinafter, referred to as the “Existing Code”), recommendations have been continuously made to restrict onboard noise to levels specified in the Existing Code in order to further protect the health of seafarers and to continue to improve their working environment.

At the 83rd Session of the Maritime Safety Committee (MSC83) held in October 2007, twenty-seven European countries proposed the revision and strengthening of the Existing Code out of concern of the negative impact that onboard noise has upon the health of crew members as well as shipboard communication during navigation. Subsequently, a revised version of the Code on Noise Levels on Board Ships was adopted as Resolution MSC.337(91) at the 91st Session of the Maritime Safety Committee (MSC91) held in November 2012. In addition, an amendment to SOLAS Regulation II-1/3-12 which made compliance with this Code mandatory was also adopted as Resolution MSC.338(91)

Accordingly, relevant requirements were amended based upon Resolutions MSC.337(91) and MSC.338(91).

Moreover, since the Code requires that materials used for bulkheads and decks within accommodation spaces are to satisfy the requirements related to the airborne sound insulation properties of said bulkheads and decks, requirements related to the tests and inspections for the approval of said materials were also stipulated.

Outline of Amendment

- (1) Stipulated requirements related to the Revised Code on Noise Levels on Board Ships
- (2) Stipulated requirements related to the tests and inspections for the approval of materials used for bulkheads and decks within accommodation spaces with respect to the airborne sound insulation properties of said bulkheads and decks.
- (3) Amended relevant requirements in the Rules related to the Existing Code so that they now reflect the Revised Code.

Fire Integrity of Ro-Ro and Vehicle Spaces

Amended Rules

Rules for the Survey and Construction of Steel Ships Part R

Reason for Amendment

A fire on the ro-ro ship in 2008 was the impetus behind the IMO Fire Protection Sub-Committee's decision to hold discussions on the fire integrity of bulkheads and decks in way of ro-ro and vehicle spaces. Taking into account the results of various simulations of fires in ro-ro spaces, it was reported that the fire integrity of bulkheads and decks in way of ro-ro and vehicle spaces was vital in ensuring the spread of fire to adjacent spaces.

As a result, at the 91st Session of the IMO Maritime Safety Committee (MSC91) held in November 2012, SOLAS II-2/regulation 9, which is related to the fire integrity of bulkheads and decks used to partition ro-ro and vehicle spaces, was amended to require "A-30" insulation instead of the "steel or equivalent material". This amendment was adopted as IMO Resolution MSC.338(91).

Accordingly, relevant requirements were amended based upon IMO Resolution MSC.338(91).

Outline of Amendment

Amended requirements related to the fire integrity of bulkheads and decks in way of ro-ro and vehicle spaces based upon IMO Resolution MSC.338(91).

Means of Access

Amended Guidance

Guidance for the Survey and Construction of Steel Ships Part C

Reason for Amendment

The interpretation of SOLAS Regulation II-1/3-6 (Res.MSC.151(78)) and relevant technical provision (Res.MSC.158(78)) regarding permanent means of access are specified in IACS Unified Interpretation (UI) SC191.

Since the unified interpretation of dimensions for openings for access which stipulates in SC191 was not accepted at the 57th session of the IMO Ship Design and Equipment (DE57) held in March 2013, such interpretation was not included in IMO unified interpretation, which was approved at the 92 session of the IMO Maritime Safety Committee (MSC92).

Considering the conclusion made by IMO, IACS reviewed SC191 and adopted the revised UI SC191 (Rev.5).

Therefore, relevant requirements were amended in accordance with UI SC191 (Rev.5).

Outline of Amendment

Interpretation of openings for access in case that the dimensions for the openings required in Rules for the Survey and Construction of Steel Ships Part C cannot be provided was deleted.

Specifications of Fixed Deck Foam Systems

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part PS and R
Guidance for the Survey and Construction of Steel Ships Part R

Reason for Amendment

Chapter 14 of the Fire Safety Systems Code (FSS Code), which specifies requirements related to fixed deck foam systems, was reviewed by the IMO in order to clarify the installation requirements of said systems. Amendments related to these requirements were adopted as resolution MSC.339(91) at the 91st Session of the IMO Maritime Safety Committee (MSC91) held in November 2012.

This amendment added further detail to the installation requirements for the monitors and foam applicators of fixed deck foam systems as well as clarified the types of foam concentrates which can be used in such systems.

Accordingly, all relevant requirements were amended based upon MSC.339(91).

Outline of Amendment

The main contents of this amendment are as follows:

- (1) Specified that monitors and foam applicators are, in principle, to be installed to the aft of cargo tanks.
- (2) Specified the types of foam concentrates which may be used in fixed deck foam systems.
- (3) Deleted requirements related to fixed deck foam systems in 6.4.2, Chapter 6 of Part PS of the Rules for the Survey and Construction of Steel Ships and specifies that Chapter 34 of Part R of the Rules is to be referred to from Chapter 6 of Part PS of the Rules.

Specifications of Fixed Fire-extinguishing Systems, etc.

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part R
Guidance for the Survey and Construction of Steel Ships Part R
Guidance for the Survey and Construction of Passenger Ships

Reason for Amendment

Requirements related to the fixed local application fire-fighting systems, fixed fire-extinguishing systems, automatic sprinklers and fixed emergency fire pumps specified in SOLAS regulation II-2/10.5.6 and Chapters 5, 8, and 12 of the Fire Safety Systems Code (FSS Code) were reviewed by IMO, and amendments both to SOLAS and to the FSS Code were adopted as Resolutions MSC.338(91) and MSC.339(91) respectively at the 91st Session of the IMO Maritime Safety Committee (MSC91) held in November 2012.

More specifically, SOLAS regulations related to the installation requirements for fixed local application fire-fighting systems for the protection of internal combustion engines were amended. In addition to the amendments made to SOLAS, FSS Code requirements for fixed gas fire-extinguishing systems related to the discharge time of carbon dioxide systems for the protection of cargo spaces carrying containers, etc. were added, and requirements for automatic sprinklers and fixed emergency fire pumps were clarified in consideration of MSC/Circ.1120.

Accordingly, all relevant requirements were amended based upon MSC.338(91) and MSC.339(91).

Outline of Amendment

The main details of the amendment are as follows:

- (1) Specified that internal combustion engines installed in machinery spaces of category A above 500m³ in volume are, irrespective of the purposes of such engines, to be protected by fixed local application fire-fighting systems.
- (2) With regards to fixed gas fire-extinguishing systems, added requirements related to the discharge time of carbon dioxide systems for the protection of cargo spaces carrying containers, etc. Moreover, deleted requirements for systems using gaseous products for fuel combustion.
- (3) Specified criteria for calculating the application rates of automatic sprinklers as well as detailed measurements for the freeze protection of the diesel engines of fixed emergency fire pumps.

Fixed Fire-extinguishing Systems for Vehicle Spaces, etc.

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part R
Guidance for the Survey and Construction of Steel Ships Part R
Guidance for the Survey and Construction of Passenger Ships

Reason for Amendment

The IMO Sub-Committee on Fire Protection conducted a review of both SOLAS regulation II-2/20 and the Fire Safety Systems Code (FSS Code) in order to clearly specify the types of fixed fire-extinguishing systems to be installed in vehicle spaces, etc. As a result, amendments to SOLAS and the FSS Code were adopted as Resolutions MSC.338(91) and MSC.339(91) respectively at the 91st Session of the IMO Maritime Safety Committee (MSC91) held in November 2012.

The amended SOLAS regulation II-2/20 now clearly specifies the types of fixed fire-extinguishing systems to be installed in vehicle spaces, etc. Moreover, requirements related to fixed gas fire-extinguishing systems and fixed water-based fire-fighting systems that were specified in the previous version of SOLAS regulation II-2/20 have been moved to Chapters 5 and 7 of the FSS Code.

Accordingly, all relevant requirements were amended based upon MSC.338(91) and MSC.339(91).

Outline of Amendment

- (1) Specified in Chapter 20 of Part R of the Rules for the Survey and Construction of Steel Ships that the fixed fire extinguishing systems required to be installed in vehicle spaces, etc. are to be either fixed gas fire-extinguishing systems, fixed high-expansion foam fire-extinguishing system, or fixed water-based fire-fighting systems.
- (2) Moved requirements related to the discharge time of fixed gas fire-extinguishing systems to be installed in vehicle spaces, etc. from Chapter 20 of Part R of the Rules for the Survey and Construction of Steel Ships to Chapter 25 of the same Part R.
- (3) Moved requirements related to the specifications of fixed water-based fire-fighting systems to be installed in vehicle spaces, etc. from Chapter R20 of Part R of the Guidance for the Survey and Construction of Steel Ships to Chapter R27 of the same Guidance.

Means of Escape of Passenger Ships

Amended Guidance

Guidance for the Survey and Construction of Passenger Ships

Reason for Amendment

Provisions regarding the means of escape of passenger ships are specified in Chapter 13 of the Fire Safety Systems Code (FSS Code) and these were reviewed by the IMO in order to clarify their application with respect to intermediate landings. As a result, amendments to the FSS Code were adopted as resolution MSC.339(91) at the 91st Session of the IMO Maritime Safety Committee (MSC91) held in November 2012.

The amended Chapter 13 of the FSS Code clarifies that intermediate landings, which are part of the means of escape of a passenger ships, do not need to comply with the requirements for landings.

Accordingly, all relevant requirements were amended based upon MSC.339(91).

Outline of Amendment

Amended Table 7-1-B1 “Interpretations of FSS Code” of Annex 7-1 in the Guidance for the Survey and Construction of Passenger Ships to clarify that intermediate landings do not need not to comply with the requirements for landings.

Alarms used for Breathing Apparatuses of Fire-fighter's Outfits

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part R

Guidance for the Survey and Construction of Steel Ships Part B and R

Reason for Amendment

As part of its examination of the technical standards related to ensuring the safety of persons who enter enclosed spaces, the IMO discussed specifying mandatory requirements related to compressed air breathing apparatuses of fire-fighter's outfits which would require said breathing apparatuses to be fitted with alarms to alert users when the volume of air remaining in their air cylinders has been reduced. The IMO also discussed whether to apply such requirements to existing ships. As a result, amendments to both SOLAS and Chapter 3 of the Fire Safety Systems Code (FSS Code) were adopted as Resolutions MSC.338(91) and MSC.339(91) at the 91st Session of the IMO Maritime Safety Committee (MSC91) held in November 2012.

The amended Chapter 3 of the FSS Code specifies that compressed air breathing apparatuses of fire-fighter's outfits are to be fitted with alarms which will alert user that the volume of the air remaining in their air cylinders has been reduced, moreover, Chapter 3 also designates that IEC60079 is to be referenced as the standard used for explosion-proof type electric safety lamps of fire-fighter's outfits.

The amended SOLAS Chapter II-2 specifies that requirements regarding the alarms specified in Chapter 3 of the FSS Code are also to be applied to existing ships.

Accordingly, all relevant requirements were amended based upon MSC.338(91) and MSC.339(91).

Outline of Amendment

- (1) Specified that compressed air breathing apparatuses of fire-fighter's outfits are to be fitted with both an audible alarm and a visual or other device which will alert the user before the volume of the air in their air cylinders has been reduced to no less than 200 litres.
- (2) Specified that ships equipped with compressed air breathing apparatuses of fire-fighter's outfits which had been at the beginning stage of construction before 1 July 2014 are to be surveyed by the first survey on or after 1 July 2019 in order to verify that said breathing apparatuses are fitted with the alarms specified in the preceding (1).
- (3) Specified that IEC60079 is to be referenced as the standard for explosion-proof type electric safety lamps used on tankers and in hazardous areas.

Means of Recharging Breathing Apparatus Cylinders and Spare Cylinders

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part R

Guidance for the Survey and Construction of Steel Ships Part B

Reason for Amendment

In 2007, the effectiveness of fire-fighting on board the Faroese vessel “Hercules” was hampered due to the insufficient air supply of their breathing apparatus. In response to this incident, the IMO conducted a review of the SOLAS requirements related to the onboard means of recharging breathing apparatus cylinders and spare cylinders.

Under the current SOLAS requirements, only passenger ships carrying more than 36 passengers are required to be fitted with a means for recharging breathing air cylinders. However, no such requirements exist for other ships such as cargo ships. Having noted there is possibility that air cylinders used during fire drills will not have an adequate supply of air remaining in the cylinders to fight an actual fire, the IMO discussed making a means of recharging breathing apparatus cylinders used during drills or additional spare cylinders used during drills mandatory for such ships.

As a result, at the 91st Session of the Maritime Safety Committee (MSC91) held in November 2012, it was agreed to amendments to SOLAS which make it mandatory for all ships to be fitted with a means of recharging breathing apparatus cylinders used during drills or be provided additional spare cylinders to replace those used during drills. This amendment was adopted as IMO Res. MSC.338(91).

Therefore, relevant requirements were amended in accordance with IMO Res. MSC.338(91).

Outline of Amendment

- (1) Specified that ships are to be fitted with a means of recharging breathing apparatus cylinders used during drills or provided with additional spare cylinders to replace those used during drills.
- (2) Specified that a survey is to be carried out by the first survey on or after 1 July 2014 in order to verify compliance with (1) above for ships at the beginning stage of construction prior to 1 July 2014.

Means of Communication for Fire-fighters

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships part R
Guidance for the Survey and Construction of Steel Ships Part B

Reason for Amendment

In 2008, lack of communication among fire-fighters in the engine-room of the Swedish tanker “Ek-River” led to more extensive damage than there should have been. As a result of this incident, the IMO decided to hold discussions on the on board means of communication used by ship personnel engaged in fire-fighting.

At the 91st Session of the Maritime Safety Committee (MSC91) held in November 2012, it was agreed to an amendment to SOLAS which requires that two-way portable radiotelephone apparatus be provided on board to serve as the means of communication between fire-fighters. This amendment was adopted as IMO Res. MSC.338(91).

Therefore, relevant requirements were amended in accordance with IMO Res. MSC.338(91).

Outline of Amendment

- (1) Specified that a minimum of two two-way portable radiotelephone apparatus for each fire party is to be carried on board.
- (2) Specified that a survey is to be carried out by the first survey on or after 1 July 2018 in order to verify compliance with (1) above for ships at the beginning stage of construction prior to 1 July 2014.

Definition of “Helideck”

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part R

Guidance for the Survey and Construction of Steel Ships Part R

Reason for Amendment

SOLAS requires ships equipped with helidecks to be provided with appropriate fire-fighting appliances in order to protect the ship from fire hazards associated with helicopter landings. In this context, the ClassNK Rules define a “helideck” as an area located on a ship for helicopter landings or winching operations in reference to the ICS guideline “Guide to Helicopter/Ship Operation.” However, a “helideck” as defined in SOLAS (amended in 2000) does not include areas where winching operations are conducted.

Therefore, relevant requirements were amended in order to ensure consistency with SOLAS with respect to the definition of “helideck” as well as the application of fire-fighting appliances required for helidecks.

Outline of Amendment

- (1) Amended the definition of helideck.
- (2) Amended requirements related to fire-fighting appliances which are required for ships without helidecks, on which helicopter landings or winching operations are conducted on an occasional or emergency basis.

Usage Restrictions on Aluminium Coatings

Amended Guidance

Guidance for the Survey and Construction of Steel Ships Part C

Reason for Amendment

Requirements related to aluminium coatings specified in Chapter 25, Part C of the Guidance for the Survey and Construction of Steel Ships are based upon IACS UR F2 which specifies that all coatings containing aluminium regardless of their aluminium content rate are not to be used in the hazardous areas such as cargo tanks of oil tankers or ships carrying dangerous chemicals in bulk.

On the other hand, Part CSR-T of the Rules for the Survey and Construction of Steel Ships which are based upon the IACS Common Structural Rules for Double Hull Oil Tankers (the CSR-T) specifies that aluminium coatings may be used if the safety of such coatings can be verified through appropriate testing. Moreover, such testing may be omitted in cases where the amount of aluminum in the coating is less than 10% by weight.

IACS conducted a review of the requirements related to aluminium coatings in order to eliminate any inconsistencies between UR F2 and the IACS CSR-T. As a result, IACS amended UR F2 by adopting UR F2(Rev.2) in November 2012.

Accordingly, relevant requirements were amended in accordance with UR F2(Rev.2).

Outline of Amendment

Amended relevant requirements to permit the use of coatings containing 10% or less of aluminium by weight in the dry film in the cargo tanks, etc. of oil tankers and ships carrying dangerous chemicals in bulk.

Approval Procedures of Corrosion Resistant Steel used for Cargo Oil Tanks

Amended Guidance

Guidance for the Survey and Construction of Steel Ships Part B and C

Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use

Reason for Amendment

Amendments to SOLAS which require that all cargo oil tanks of crude oil tankers not less than 5,000 tonnes deadweight engaged in international voyages be protected by coatings in accordance with the IMO Performance Standard for Protective Coatings for Cargo Oil Tanks (IMO Resolution MSC.288(87)) or by alternative means (e.g., corrosion resistant steel) in accordance with the IMO Performance Standard for Alternative Means of Corrosion Protection for Cargo Oil Tanks (IMO Resolution MSC.289(87)) were adopted at the 87th Session of the IMO's Maritime Safety Committee (MSC87) held in May 2010. These amendments apply to ships whose building contract is placed on or after 1 January 2013 or whose delivery takes place on or after 1 January 2016.

Requirements in the current ClassNK Rules related to the approval of corrosion resistant steel for cargo oil tanks are based upon draft versions of IACS Unified Requirement W30 and Unified Interpretation SC258. This was done so that requirements related to the chemical composition, testing, inspecting and manufacturing, etc. of corrosion resistant steel specified in these drafts could be incorporated into the ClassNK Rules in advance. IACS has finalized these draft versions, including some revisions, and adopted them as Unified Requirement W30 and Unified Interpretation SC258 in January and February 2013 respectively.

Accordingly, relevant requirements were amended in accordance with IACS Unified Requirement W30 and Unified Interpretation UI SC258.

Outline of Amendment

- (1) Specified, based upon IACS Unified Interpretation SC258, the items to be included in the corrosion resistant steel technical file in cases where corrosion resistant steel is used as an alternative means of corrosion protection for cargo oil tanks.
- (2) Amended requirements related to both the documents submitted as part of the approval procedures of corrosion resistant steel and the items described in type approval certificates for corrosion resistant steel based upon IACS Unified Requirement W30.

Symbol used for Brinell Hardness

Amended Rules

Rules for the Survey and Construction of Steel Ships Part K

Reason for Amendment

The symbol “HB” has been used to indicate “Brinell Hardness” in Part K of the Rules for the Survey and Construction of Steel Ships.

On the other hand, Japanese Industrial Standards (JIS) have in the past used different symbols depending upon the type of indenter used during the hardness measurements. For example, the JIS used “HBS” in case a steel indenter is applied, “HBW” in case a superalloy indenter is applied, and “HB” in case any type of indenter is applied.

The ISO has, in attempt to encourage the use of superalloy indenters, been using “HBW” as the common symbol for Brinell Hardness. In 1998, the relevant JIS has been amended to eliminate any inconsistencies with the ISO and now use only “HBW” as the symbol for Brinell Hardness.

Accordingly, relevant requirements were amended in accordance with the JIS regarding the symbol used for Brinell Hardness.

Outline of Amendment

“HB” which used for symbol of Brinell hardness were amended to “HBW”.

Full Review of the Requirements for Ore Carrier

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part C and D

Guidance for the Survey and Construction of Steel Ships Part C and R

Reason for Amendment

In recent years, an increase in the global demand for iron and steel as well as the establishment of regulations related to CO₂ emission amounts, etc. has led to the introduction of increasingly larger ore carriers designed to transport iron ore more efficiently and economically.

In 1960, ClassNK established specific requirements related to the special characteristics of ore carriers as Chapter 30 of Part C of the Rules for Survey and Construction of Steel Ships. Although specific requirements such as those related to constructions and scantlings of wing tanks, methods of applying direct calculations, etc. have been amended over the years, no major overall review of the requirements specified in Chapter 30 has been conducted.

For this reason, ClassNK conducted such a review and, as a result, amended the necessary requirements related to ore carriers in reference to relevant requirements for tankers and bulk carriers whose hull structures and loading conditions are similar to ore carriers, and based on knowledge obtained from ore carrier service records in order to make these requirements more rational for large ore carriers.

Outline of Amendment

- (1) Deleted application limitations regarding the length of ore carriers from Chapter 30 of Part C of the Rules.
- (2) Clarified that ore carriers are to be in accordance with the relevant requirements in Chapter 31A of Part C of the Rules.
- (3) Specified scantling requirements for the structural members of wing tanks in reference to relevant requirements for tankers specified in Chapter 29 of Part C of the Rules.
- (4) Specified scantling requirements for the structural members of double bottoms and ore holds in reference to relevant requirements for bulk carriers specified in Chapter 31 of Part C of the Rules.
- (5) Specified the requirements for fatigue strength assessment of side longitudinals, bottom longitudinals and longitudinals attached to longitudinal bulkheads of ore carriers.