

# **RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS**

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

**Part R**

**Fire Protection, Detection and Extinction**

**Rules for the Survey and Construction of Steel Ships**

**Part R**

**2007**

**AMENDMENT NO.1**

**Guidance for the Survey and Construction of Steel Ships**

**Part R**

**2007**

**AMENDMENT NO.1**

Rule No.12 / Notice No.10      1st February 2007

Resolved by Technical Committee on 17th November 2006

Approved by Board of Directors on 19th December 2006

**ClassNK**  
NIPPON KAIJI KYOKAI

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# **RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS**

**RULES**

**Part R**

**Fire Protection, Detection and  
Extinction**

**2007      AMENDMENT NO.1**

Rule No.12      1st February 2007

Resolved by Technical Committee on 17th November 2006

Approved by Board of Directors on 19th December 2006

“Rules for the survey and construction of steel ships” has been partly amended as follows:

## **Part R            FIRE PROTECTION, DETECTION AND EXTINCTION**

### **Amendment 1-1**

#### **Chapter 4    PROBABILITY OF IGNITION**

#### **4.2      Arrangements for Oil Fuel, Lubrication Oil and Other Flammable Oils**

##### **4.2.2    Arrangements for Oil Fuel**

Sub-paragraph (3)(e)ii) has been amended as follows.

- ii) Oil-level gauges used in place of sounding pipes are to comply with the following requirements. In addition, gauges are to be of the approved ones by the Society or to comply with the standard deemed approved by the Society.
  - 1) The gauges are to be maintained in the proper condition to ensure their continued accurate functioning in service.
  - 2) The failure of the gauges or overfilling of the tank are not to permit release of fuel into the space.
  - 3) The glasses used for the gauges are to be of heat resistant quality, and adequately protected from mechanical damage. However, the use of cylindrical gauge glasses is prohibited.
  - 4) The self-closing valves are to be provided between the gauges and tanks where flat glass level glasses or other gauges deemed necessary by the Society are used.

Sub-paragraph (3)(e)iii) has been deleted.

#### **4.5      Cargo Areas of Tankers**

##### **4.5.2    Restriction on Boundary Openings**

Sub-paragraph -3 has been amended as follows.

- 3** Windows and sidescuttles facing the cargo area and on the sides of the superstructures and deckhouses within the limits specified in -1 above are to be of the fixed (non-opening) type. Such windows and sidescuttles, except wheelhouse windows, are to be constructed to “A-60”

class standard, except that “A-0” class standard is acceptable for windows and sidescuttles outside the area insulated to “A-60” class standard as required in **9.2.4-3**.

#### EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 1 February 2007.

## Chapter 4 PROBABILITY OF IGNITION

### 4.5 Cargo Areas of Tankers

#### 4.5.7 Gas Measurement

The main sentence of sub-paragraph 4.5.7(2) has been amended as follows.

- (2) Arrangements of gas measurement in double hull and double bottom spaces, deemed appropriate by the Society, are to comply with the following requirements in (a) through (c).

#### 4.5.10 Protection of Cargo Pump-rooms

Sub-paragraph (3) has been amended as follows.

- (3) a system, as deemed appropriate by the Society, for continuous monitoring of the concentration of hydrocarbon gases is to be fitted. Sampling points or detector heads are to be located in suitable positions in order that potentially dangerous leakages are readily detected. When the hydrocarbon gas concentration reaches a pre-set level which is not to be higher than 10% of the lower flammable limit (*LFL*), a continuous audible and visual alarm signal is to be automatically effected in the pump-room, engine control room, cargo control room and navigation bridge to alert personnel to the potential hazard; and

#### EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 1 July 2007.
2. Notwithstanding the amendments to the Rules, the current requirements may apply to ships other than ships for which the application for Classification Survey during Construction is submitted to the Society on and after the effective date.

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# **GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS**

**Part R**

**Fire Protection, Detection and  
Extinction**

**GUIDANCE**

**2007 AMENDMENT NO.1**

Notice No.10 1st February 2007

Resolved by Technical Committee on 17th November 2006

“Guidance for the survey and construction of steel ships” has been partly amended as follows:

## Part R FIRE PROTECTION, DETECTION AND EXTINCTION

### Amendment 1-1

#### R4 PROBABILITY OF IGNITION

##### R4.5 Cargo Areas of Tankers

##### R4.5.1 Separation of Cargo Tanks

Sub-paragraphs -2 to -7 have been renumbered to -3 to -8 respectively, and sub-paragraph -2 has been added as follows.

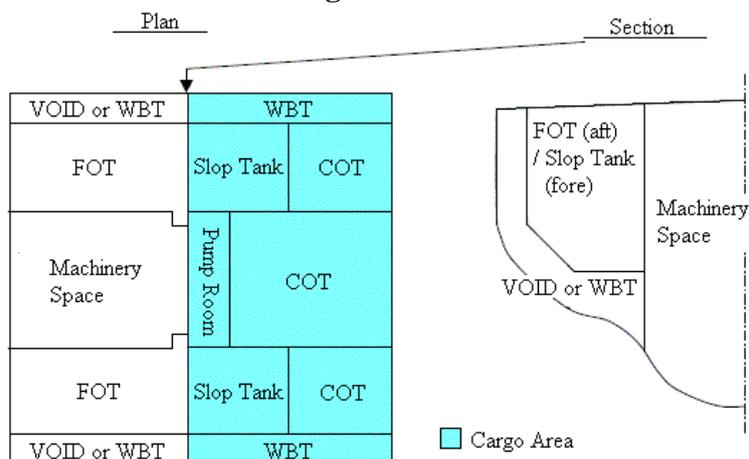
- 2 With respect to the provisions of **4.5.1-1, Part R of the Rules**, void spaces, etc. protecting an oil fuel tank(s) in the machinery space as shown in **Fig. R4.5.1-1** need not to be positioned forward of machinery spaces, even though they have a cruciform contact with the cargo oil tank or slop tank.

In sub-paragraph -3(2), the reference figure of “Fig. R4.5.1-1” has been replaced with “Fig. R4.5.1-2”.

In sub-paragraph -4, the reference figure of “Fig. R4.5.1-2” has been replaced with “Fig. R4.5.1-3”.

Fig. R4.5.1-1 and Fig. R4.5.1-2 have been renumbered to Fig. R4.5.1-2 and Fig. R4.5.1-3 respectively, and Fig. R4.5.1-1 has been added as follows.

**Fig. R4.5.1-1**



EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 1 February 2007

## R4 PROBABILITY OF IGNITION

### R4.3 Arrangements for Gaseous Fuel for Domestic Purpose

#### R4.3.1 Arrangements for Gaseous Fuel for Domestic Purpose

The existing text has been numbered to sub-paragraph -1, and then sub-paragraphs -2 and -3 have been added as follows.

- 2 With respect to the provisions of **4.3.1, Part R of the Rules**, a portion of open deck, recessed into deck structure, machinery casing, deck house, etc., utilized for the exclusive storage of gas bottles is to comply with the following requirements.
  - (1) Such a recess is to have an unobstructed opening, except for small appurtenant structures, such as opening corner radii, small sills, pillars, etc. The opening may be provided with grating walls and door.
  - (2) The depth of such a recess is not to be greater than 1*m*.
- 3 With respect to the provisions of **4.3.1, Part R of the Rules**, where gas bottles are stored in a space other than open decks, such a space is to be provided with appropriate mechanical ventilation. In this context, portions of open deck complying with the provisions in **-2** above may be regarded as open decks.

## R9 CONTAINMENT OF FIRE

### R9.2 Thermal and Structural Boundaries

#### R9.2.3 Bulkheads within Accommodation Area

Note (6) to Table R9.2.3-1 has been amended as follows.

- (6) The provisions of **4.3.1, Part R of the Rules** are to apply. In case where a portion of open deck, recessed into deck structure, machinery casing, deck house, etc., utilized for the exclusive storage of gas bottles in accordance with the provisions of **R4.3.1-2**, such a location may be regarded as open decks.

#### R9.2.4 Tankers

In sub paragraph -2, the wording “(1) to (5)” has been replaced with “(1) to (6)”, and then sub-paragraph -2(6) has been added as follows.

- (6) Penetrations of pipes, cable, etc. made at the exterior boundaries being required to be insulated to “A-60” class standard, are to comply with the provisions of **9.3.1, Part R of**

the Rules.

### **R9.3 Penetration in Fire-resisting Divisions and Prevention of Heat Transmission**

#### **R9.3.1 Penetration in “A” Class Divisions**

The existing text has been numbered to sub-paragraph -1, and then sub-paragraph -2 has been added as follows.

- 2 For the purpose of the requirements, “A” class divisions specified in **9.3.1, Part R of the Rules** includes a portion of exterior boundaries of superstructures and deckhouses being required to be insulated to “A-60” class standard.

## **R10 FIRE FIGHTING**

### **R10.4 Fixed Fire-extinguishing Systems**

#### **R10.4.3 Storage Rooms of Fire-extinguishing Medium**

Sub-paragraph -3 has been added as follows.

- 3 With respect to the requirements specified in **10.4.3, Part R of the Rules**, where fire-extinguish media protecting the cargo holds is stored in a room located forward the cargo holds, such arrangement is to be in accordance with the provisions of **R25.2.1-8**.

## **R20 PROTECTION OF VEHICLE AND RO-RO SPACES**

### **R20.5 Fire-extinction**

#### **R20.5.2 Portable Fire Extinguishers**

Sub-paragraphs -2 and -3 have been renumbered to -3 and -4 respectively, and sub-paragraph -2 has been added as follows.

- 2 With respect to the requirements of **20.5.2, Part R of the Rules**, cargo holds, loaded with vehicles with fuel in their tanks and stowed in open or closed containers need not to be provided with the portable extinguishers, water-fog applicators and foam applicator unit.

## **R25 FIXED GAS FIRE-EXTINGUISHING SYSTEMS**

### **R25.2 Engineering Specifications**

#### **R25.2.1 General**

Sub-paragraph -8 has been added as follows.

- 8** With respect to the provisions of **25.2.1-3(3), Part R of the Rules**, fire-extinguishing media protecting the cargo holds may be stored in a room located forward the cargo holds, but aft of the collision bulkhead, provided that both the local manual release mechanism and remote control(s) for the release of the media (including control valves for the release of different quantities of the media into different cargo holds) are fitted, and the latter is of robust construction or so protected as to remain operable in case of fire in the protected spaces. The remote controls are to be placed in the accommodation area such as the navigation bridge, the fire control station, etc., in order to facilitate their ready accessibility by the crew.

### **Annex R35.2.2-2 GUIDANCE FOR INERT GAS SYSTEMS USING NITROGEN GENERATORS**

#### **1.2 Construction of Inert Gas Systems**

##### **1.2.5 Measuring Devices**

Sub-paragraph -3 has been amended as follows.

- 3** The instruments for indicating and recording the oxygen content of the inert gas referred to in **-2** is to be placed in the cargo control room, where provided. However, where no cargo control room is provided, they are to be placed in a position easily accessible to the officer in charge of cargo operation.

#### **EFFECTIVE DATE AND APPLICATION (Amendment 1-2)**

- 1.** The effective date of the amendments is 1 January 2007.
- 2.** Notwithstanding the amendments to the Guidance, the current requirements may apply to ships other than ships for which the application for Classification Survey during Construction is submitted to the Society on and after the effective date.

## **R4 PROBABILITY OF IGNITION**

### **R4.5 Cargo Areas of Tankers**

#### **R4.5.7 Gas Measurement**

Existing text has been numbered to sub-paragraph -1, and Sub-paragraph -2 has been added as follows.

- 2 The wording “deemed appropriate by the Society” in **4.5.7(1)** and **(2)**, **Part R** of the Rules means to be approved by the Society in accordance with **Chapter 7, Part 7** of “**Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use**” or to pass the test of the official organization deemed appropriate by the Society.

#### **R4.5.10 Protection of Cargo Pump-Rooms**

Sub-paragraph -4 and -5 have been renumbered to -5 and -6 respectively.

Sub-paragraph -4 has been added as follows.

- 4 The wording “as deemed appropriate by the Society” in **4.5.10(3)**, **Part R** of the Rules is to be followed as given in **R4.5.7-2**.

### **EFFECTIVE DATE AND APPLICATION (Amendment 1-3)**

1. The effective date of the amendments is 1 July 2007.
2. Notwithstanding the amendments to the Guidance, the current requirements may apply to ships other than ships for which the application for Classification Survey during Construction is submitted to the Society on and after the effective date.

## R4 PROBABILITY OF IGNITION

### R4.2 Arrangements for Oil Fuel, Lubrication Oil and Other Flammable Oils

#### R4.2.2 Arrangements for Oil Fuel

Sub-paragraph -9 has been amended as follows.

- 9 The wording “the approved ones by the Society” in **4.2.2(3)(e)ii**, **Part R of the Rules** means the oil level gauges approved in accordance with the requirements of **Chapter 4, Part 7 of the Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use** and the wording “the standard deemed approved by the Society” means the *JIS F 7215* “Flat glass oil level gauges” or equivalent.

Sub-paragraph -10 has been deleted.

Sub-paragraphs -11 through -18 have been renumbered to -10 through -17 respectively.

Sub-paragraph -17(2) has been amended as follows.

- (2) The wording “where as deemed appropriate by the Society” means the case where the pre-treatment equipment is arranged in a space with less possibility of fire in the engine room according to the requirement of **4.2.2(5)(c)**, **Part R of the Rules** and the following conditions (a) and (b) are complied with.
- (a) An independent mechanical ventilation system of self-suction type is provided for the space or the duct openings of the ventilating systems specified in **1.3.5, Part D of the Rules** are arranged in a proper position for the ventilation of the space.
  - (b) A fixed fire-extinguishing system of that specified in (3), and of either one of the following types is provided for the space.
    - i) a system capable being activated automatically
    - ii) a system capable being operated from positions where they will not be cut off in the event of fire in the space they serve, and provided in combination with a fixed fire detection and fire alarm system

#### EFFECTIVE DATE AND APPLICATION (Amendment 1-4)

1. The effective date of the amendments is 1 February 2007.
2. Notwithstanding the amendments to the Guidance, the current requirements may apply to ships other than ships for which the application for Classification Survey during Construction is submitted to the Society on and after the effective date.
3. Notwithstanding the provision of preceding **2.**, the amendments to the Guidance may apply to ships other than ships for which the application for Classification Survey during Construction is submitted to the Society on and after the effective date upon request by the owner.