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 2018 AMENDMENT NO.1
Guidance for the Survey and Construction of Steel Ships
Part R 2018 AMENDMENT NO.1

Rule No.100 / Notice No.52 29 June 2018
Resolved by Technical Committee on 31 January 2018

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An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

RULES

Part R Fire Protection, Detection and Extinction

2018 AMENDMENT NO.1

Rule No.100 29 June 2018

Resolved by Technical Committee on 31 January 2018

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

Rule No.100 29 June 2018
AMENDMENT TO THE RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

"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 10 FIRE FIGHTING

10.2 Water Supply Systems

10.2.2 Fire Pumps*

Sub-paragraph -3(2) has been amended as follows.

3 Arrangement of fire pumps and fire mains

(1) For the arrangement of sea connections, fire pumps and their sources of power, if a fire in any one compartment could put all the pumps out of action, there are to be an alternative means consisting of an fixed emergency fire pump complying with the provisions of the requirements of **Chapter 32** with its source of power and sea connection located outside the space where the main fire pumps or their source of power are located.

(2) The space containing the emergency fire pump is to ~~be located behind the forward collision bulkhead and~~ not be contiguous to the boundaries of machinery spaces of category *A* or those spaces containing main fire pumps. Where ~~the latter~~ this is not practicable, the common bulkhead between the two spaces is to be insulated to a standard of structural fire protection equivalent to that required for a control station in **9.2.3**.

(3) No direct access is to be permitted between the machinery space and the space containing the emergency fire pump and its source of power. When this is impracticable, the access may be by means of an airlock with the door of the machinery space being of "*A*-60" class standard, and the other door being at least steel, both reasonably gas tight, self-closing and without any hold back arrangements. Alternatively, the access may be through a watertight door capable of being operated from a space remote from the machinery space and the space containing the emergency fire pump and unlikely to be cut off in the event of fire in those spaces. In such cases, a second means of access to the space containing the emergency fire pump and its source of power are to be provided.

(4) Ventilation arrangements to the space containing the independent source of power for the emergency fire pump are to be such as to preclude, as far as practicable, the possibility of smoke from a machinery space fire entering or being drawn into that space.

(5) In addition, in ships where other pumps, such as general service, bilge and ballast, etc., are fitted in a machinery space, arrangements is to be made to ensure that at least one of these pumps, having the capacity and pressure required by **10.2.1-6(1)** and **10.2.2-4(2)**, is capable of providing water to the fire main.

(6) In ships classed for navigation in ice, fire pumps are to be arranged to the satisfaction of the Society.

10.5 Fire-extinguishing Arrangements in Machinery Spaces

10.5.1 Machinery Spaces Containing Oil-fired Boilers or Oil Fuel Units*

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

2 Additional fire-extinguishing arrangements

((1) is omitted.)

(2) There are to be at least two portable foam extinguishers or equivalent in each firing space in each boiler room and in each space in which a part of the oil fuel installation is situated. There is to be not less than one approved foam-type extinguisher of at least 135 *l* capacity or equivalent in each boiler room. These extinguishers are to be provided with hoses on reels suitable for reaching any part of the boiler room. In the case of domestic boilers of less than 175 *kW*, or boilers protected by fixed water-based local application fire-extinguishing systems as required by **10.5.5** where deemed appropriate by the Society, an approved foam-type extinguisher of at least 135 *l* capacity is not required.

((3) is omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 29 June 2018.

Amendment 1-2

Chapter 17 ALTERNATIVE DESIGN AND ARRANGEMENTS

17.1 General

Paragraph 17.1.3 has been amended as follows.

17.1.3 Engineering Analysis

The engineering analysis is to be prepared based on the Guidelines on Alternative Design and Arrangements for Fire Safety (*MSC/Circ*.1002 (including amendments approved as *MSC*/*Circ*.1552), hereinafter referred to as "the Alternative Design Guidelines") developed by the *IMO* and is to include, as a minimum, the following elements:
((1) to (6) are omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 29 June 2018.

2. Notwithstanding the amendments to the Rules, the current requirements apply to ships the keels of which were laid or which were at *a similar stage of construction* before the effective date.

(Note) The term "*a similar stage of construction*" means the stage at which the construction identifiable with a specific ship begins and the assembly of that ship has commenced comprising at least 50 *tonnes* or 1% of the estimated mass of all structural material, whichever is the less.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE

Part R Fire Protection, Detection and Extinction

2018 AMENDMENT NO.1

Notice No.52 29 June 2018
Resolved by Technical Committee on 31 January 2018

Notice No.52 29 June 2018
AMENDMENT TO THE GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

"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

R10 FIRE FIGHTING

R10.5 Fire-extinguishing Arrangements in Machinery Spaces

R10.5.1 Machinery Spaces Containing Oil-fired Boilers or Oil Fuel Units*

Sub-paragraph -7 has been amended and Sub-paragraph -8 has been added as follows.

7 With respect to the requirements of **10.5.1-2(2), Part R of the Rules**, in the room for domestic boilers of less than 175 *kW*, at least one approved foam type extinguisher of at least 45 *litres* capacity is to be provided. However, when the boilers are protected by fixed water-based local application fire-extinguishing systems as required by **10.5.5, Part R of the Rules**, the requirements may not apply.

8 The wording "where deemed appropriate by the Society" in **10.5.1-2(2), Part R of the Rules** means cases where the Administration has decided on the voluntary early implementation of the amendments in resolution *MSC*.409(97) in accordance with *MSC*.1/*Circ*.1566.

Table R10.5.1-1.has been amended as follows.

Table R10.5.1-1 Fire Extinguishers in Machinery Space and Boiler Room

Fire-extinguishing arrangements in machinery space of category *A*		Fixed fire extinguishing system	Portable foam applicator(1)	Portable foam extinguishers	Additional portable foam extinguishers	135 *l* foam extinguisher	45 *l* foam extinguishers(2)	Sand boxes(3)
Reference Part R of the Rules		**10.5.1-1(1) 10.5.2-1**	**10.5.1-2(1) 10.~~2~~5.2-2(1)**	**10.5.1-2(2)**	**10.5.2-2(2)**	**10.5.1-2(2)**	**10.5.2-2(2)**	**10.5.1-2 (3)**
Boiler Room	Containing oil- fired boilers	1	1	2N	NA	1(4)	-	N
	Containing oil-fired boilers and oil fuel units	1	1	2N+2	NA	1(4)	-	N
Engine room	Containing oil fuel units only	1	-	2	NA	-	-	-
	Containing internal combustion machinery	1	1	x		-	y	-
	Containing internal combustion machinery and oil fuel units	1	1	x		-	y	-
	Containing internal combustion machinery, oil fired boilers and oil fuel units	1	1	(2N+2) or x whichever is greater		1(4)	y(5)	N

Notes:

(N to (3) are omitted.)

(4) In the case of domestic boilers of less than 175 *kW*, or boilers protected by fixed water-based local application fire-extinguishing systems as required by **10.5.5, Part R of the Rules** where the Administration has decided on the voluntary early implementation of the amendments in resolution *MSC*.409(97) in accordance with *MSC*.1/*Circ*.1566, 135 *litres* foam extinguisher ~~may~~ need not be provided.

((5) is omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 29 June 2018.

Amendment 1-2

R10 FIRE FIGHTING

R10.7 Fire-extinguishing Arrangements in Cargo Spaces

R10.7.1 Fixed Fire-extinguishing Systems for General Cargo

Sub-paragraph -5 has been amended as follows.

5 Vegetable oil, latex and molasses are regarded as "cargoes which constitute a low fire risk" referred in **10.7.1-2, Part R of the Rules**. For other cargoes carried in bulk, reference is to be made to the "*International Maritime Solid Bulk Cargoes (IMSBC) Code*, *appendix 1*, *entry for coal*" (as amended) and the "*Lists of solid bulk cargoes for which a fixed gas fire-extinguishing system may be exempted or for which a fixed gas fire-extinguishing system is ineffective*" (~~*MSC.1/Circ.*1395/Rev.2~~*MSC.*1/*Circ.*1395/Rev.3).

R10.7.2 Fixed Fire-extinguishing Systems for Dangerous Goods

Sub-paragraph -2 has been amended as follows.

2 With respect to the requirements of **10.7.2, Part R of the Rules**, a means of water supply complying with the requirements of **19.3.1-2, Part R of the Rules** may be considered as a "fire-extinguishing system which gives equivalent protection" specified in **10.7.2, Part R of the Rules** for the cargoes listed in Table 2 of ~~*MSC.1/Circ.*1395/Rev.2~~*MSC.*1/*Circ.*1395/Rev.3.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 1 January 2019.

Amendment 1-3

R35 INERT GAS SYSTEMS

R35.2 Engineering Specifications

R35.2.2 Requirements for All Systems

Sub-paragraph -1 has been amended as follows.

1 In case where plastic pipes are used for the drainage piping from the scrubber and blower fan casing specified in **35.2.2-1(3), Part R of the Rules**, the following requirements are to be complied with:

((1) is omitted.)

(2) In case where glass-fibre reinforced plastic pipes are provided inside the machinery space, the following requirements are to be complied with:

(a) A valve operable from both inside and outside the machinery space either by pneumatic or hydraulic pressure led through steel piping is to be provided on a distance piece fitted to the shell plating. This valve is to be of automatic closing type in case of failure of the operating system.

((b) and (c) are omitted.)

(d) For the valve specified in **(a)** above, a short piece of steel pipe or spool piece is to be fitted. Further, a swing type non-return valve is to be attached to the piece. The piece is to be provided with a drain pipe of an inside diameter of approximately 12.5 *mm* and a drain valve.

(e) On the inboard side of the non-return valve specified in **(~~a~~d)** above, a short piece of steel pipe or spool piece provided with a drain pipe with an inside diameter of approximately 12.5 *mm* and a drain valve is to be fitted.

((f) and (g) are omitted.)

Sub-paragraphs -5 to -7 have been added as follows.

5 With respect to the requirements of **35.2.2-2(2), Part R of the Rules**, the automatic shutdown of the inert gas system and its components is to involve the following:

(1) shutdown of fans and closing of regulating valve for the following:
  (a) high water level in scrubber (not applicable for N_2);
  (b) low pressure/flow to scrubber (not applicable for N_2); or
  (c) high-high temperature of inert gas supply.

(2) closing of regulating valve in the event of:
  (a) high oxygen content (in excess of 5% by volume); or
  (b) failure of blowers/fans or N_2 compressors.

(3) activation of double-block and bleed arrangement upon (for ships with double block and bleed replacing water seal):
  (a) loss of inert gas supply; or
  (b) loss of power

6 With respect to the requirements of **35.2.2-3(2)(b), Part R of the Rules**, unambiguous information regarding the operational status of stop valves in branch piping leading from the inert

gas main to cargo tanks means position indicators providing open/intermediate/closed status information in the control panel required in **35.2.2-4(1), Part R of the Rules**. Limit switches should be used to positively indicate both open and closed positions. Intermediate position status is to be indicated when the valve is in neither open nor closed position.

7 With respect to the requirements of **35.2.2-4(5)(c), Part R of the Rules**, the term "alarm system independent" means that a second pressure sensor, independent of the sensor serving the alarms for low pressure, high pressure and pressure indicator/recorder is to be provided. Notwithstanding the above, a common programmable logic controller (PLC) is, however, to be accepted for the alarms in the control system. The independent sensor is not to be required if the system is arranged for the shutdown of cargo pumps. If a system for shutdown of cargo pumps is arranged, an automatic system shutting down all cargo pumps is to be provided. The shutdown is to be alarmed at the control station. The shutdown is not to prevent the operation of ballast pumps or pumps used for bilge drainage of a cargo pump room.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 1 July 2019.

2. Notwithstanding the amendments to the Guidance, the current requirements apply to ships for which the date of contract for construction* is before the effective date.

* "contract for construction" is defined in the latest version of IACS Procedural Requirement (PR) No.29.

IACS PR No.29 (Rev.0, July 2009)

1. The date of "contract for construction" of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.

2. The date of "contract for construction" of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.

For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a "series of vessels" if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:

(1) such alterations do not affect matters related to classification, or

(2) If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.

The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.

3. If a contract for construction is later amended to include additional vessels or additional options, the date of "contract for construction" for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a "new contract" to which **1.** and **2.** above apply.

4. If a contract for construction is amended to change the ship type, the date of "contract for construction" of this modified vessel, or vessels, is the date on which revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder.

Note:
This Procedural Requirement applies from 1 July 2009.