19-460

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 2019 AMENDMENT NO.2
Guidance for the Survey and Construction of Steel Ships
Part R 2019 AMENDMENT NO.2

Rule No.103 / Notice No.70 27 December 2019
Resolved by Technical Committee on 26 July 2017 / 31 January 2018 /
22 July 2019/ 29 November 2019

ClassNK
NIPPON KAIJI KYOKAI

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

2019 AMENDMENT NO.2

Rule No.103 27 December 2019

Resolved by Technical Committee on 26 July 2017 / 31 January 2018 / 22 July 2019

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

Rule No.103 27 December 2019
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 2-1

Chapter 3 DEFINITIONS

3.2 Definitions

Paragraph 3.2.54 has been amended as follows.

3.2.54 Vehicle Carrier*

Vehicle carrier is a cargo ship ~~with multi deck~~ which only carries cargo in ro-ro spaces or vehicle spaces, and which is designed for the carriage of ~~empty cars and trucks as cargo~~ unoccupied motor vehicles without cargo, as cargo.

Chapter 10 FIRE FIGHTING

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.)

Chapter 17 ALTERNATIVE DESIGN AND ARRANGEMENTS

17.1 General

17.1.2 General

Sub-paragraph -1 has been amended as follows.

1 Fire safety design and arrangements may deviate from prescriptive requirements set out in **Chapters 4** to **20<u>A</u>** except this Chapter, provided that the design and arrangements meet the fire safety objectives and the functional requirements of this Part.

Chapter 20 PROTECTION OF VEHICLE AND RO-RO SPACES

20.2 General Requirements

Paragraph 20.2.1 has been amended as follows.

20.2.1 Application*

1 In addition to complying with the requirements of **Chapters 4** to **16**, as appropriate, vehicle and ro-ro spaces are to comply with the requirements of this Chapter.

2 On all ships, vehicles with fuel in their tanks for their own propulsion may be carried in cargo spaces other than vehicle or ro-ro spaces, provided that all the following conditions are met:

(1) the vehicles do not use their own propulsion within the cargo spaces;

(2) the cargo spaces are in compliance with the appropriate requirements of **Chapter 19**; and

(3) the vehicles are carried in accordance with the *IMDG Code*, as defined in regulation VII/1.1 of *SOLAS*.

EFFECTIVE DATE AND APPLICATION (Amendment 2-1)

1. The effective date of the amendments is 1 January 2020.

Amendment 2-2

Chapter 3 DEFINITIONS

3.2 Definitions

Paragraphs 3.2.55 and 3.2.56 have been added as follows.

3.2.55 Helicopter Landing Area

Helicopter landing area is an area on a ship designated for occasional or emergency landing of helicopters but not designed for routine helicopter operations.

3.2.56 Winching Area

Winching area is a pick-up area provided for the transfer by helicopter of personnel or stores to or from the ship, while the helicopter hovers above the deck.

Chapter 18 HELICOPTER FACILITIES

18.2 Application

18.2.1 Application*

Sub-paragraph -3 has been added as follows.

1 In addition to complying with the requirements of **Chapters 4** to **16** as appropriate, ships equipped with helidecks are to comply with the requirements of this Chapter.
2 Where helicopters land or conduct winching operations on an occasional or emergency basis on ships without helidecks, fire-fighting equipment fitted in accordance with the requirements in **Chapter 10** may be used. This equipment is to be made readily available in close proximity to the landing or winching areas during helicopter operations.
3 Notwithstanding **-2** above, ships constructed on or after 1 January 2020, having a helicopter landing area, are to be provided with foam firefighting appliances which comply with **Chapter 37**.

18.5 Fire-fighting

18.5.1 Fire-fighting Appliances*

Sub-paragraphs (6) and (7) have been renumbered to Sub-paragraphs (7) and (8), and Sub-paragraph (6) has been added as follows.

In close proximity to the helideck, the following fire-fighting appliances are to be provided and stored near the means of access to that helideck:
((1) and (2) are omitted.)
(3) a suitable foam application system consisting of monitors or foam making branch pipes capable of delivering foam to all parts of the helideck in all weather conditions in which helicopters can operate. The system is to be capable of delivering a discharge rate as required in **Table R18.1** for at least five minutes;
(4) the principal agent is to be suitable for use with salt water and a type deemed as appropriate by the Society;
(5) at least two nozzles of a dual-purpose type (jet/spray) complying with the provisions of **10.2.3** and hoses sufficient to reach any part of the helideck;
(6) in lieu of the above **(3)** to **(5)**, on ships constructed on or after 1 January 2020 having a helideck, foam firefighting appliances which comply with **Chapter 37**.
(~~6~~7) in addition to the requirements of **10.10**, two sets of fire-fighter's outfits complying with the requirements of **Chapter 23**; and
(~~7~~8) at least the following equipment is to be stored in a manner that provides for immediate use and protection from the elements:
((a) to (j) are omitted.)

Chapter 37 has been added as follows.

Chapter 37 Helicopter Facility Foam Firefighting Appliances

37.1 General

37.1.1 Application

This chapter details the specifications for foam firefighting appliances for the protection of helidecks and helicopter landing areas as required in this Part.

37.2 Definitions

37.2.1 D-value

D-value means the largest dimension of the helicopter used for assessment of the helideck when its rotors are turning. It establishes the required area of foam application.

37.2.2 Deck Integrated Foam Nozzles

Deck integrated foam nozzles are foam nozzles recessed into or edge mounted on the helideck.

37.2.3 Foam-making Branch Pipes

Foam-making branch pipes are air-aspirating nozzles in tube shape for producing and discharging foam, usually in straight stream only.

37.2.4 Helicopter Landing Area

Helicopter landing area is as defined in **3.2.55**.

37.2.5 Helideck

Helideck is as defined in **3.2.26**.

37.2.6 Hose Reel Foam Station

Hose reel foam station is a hose reel fitted with a foam-making branch pipe and non-collapsible hose, together with fixed foam proportioner and fixed foam concentrate tank, mounted on a common frame.

37.2.7 Monitor Foam Station

Monitor foam station is a foam monitor, either self-inducing or together with separate fixed foam proportioner, and fixed foam concentrate tank, mounted on a common frame.

37.2.8 Obstacle Free Sector

Obstacle free sector is the take-off and approach sector which totally encompasses the safe landing area and extends over a sector of at least 210 *degrees*, within which only specified obstacles are permitted.

37.2.9 Limited Obstacle Sector

Limited obstacle sector is a 150 *degrees* sector outside the take-off and approach sector that extends outward from a helideck where objects of limited height are permitted.

37.3 Engineering Specifications

37.3.1 General

The system is to be capable of manual release, and may be arranged for automatic release.

37.3.2 Foam Firefighting Appliances for Helidecks

1 For helidecks the foam system is to contain the following **(1)** and **(2)**.

(1) At least two fixed foam monitors or deck integrated foam nozzles.

(2) At least two hose reels fitted with a foam-making branch pipe and non-collapsible hose sufficient to reach any part of the helideck.

2 The minimum foam system discharge rate for fixed foam monitors is to be determined by multiplying the D-value area by 6 $l/min/m^2$.

3 The minimum foam system discharge rate for deck integrated foam nozzle systems is to be determined by multiplying the overall helideck area by 6 $l/min/m^2$.

4 Each monitor is to be capable of supplying at least 50 % of the minimum foam system discharge rate, but not less than 500 *l*/*min*.

5 The minimum discharge rate of each hose reel is to be at least 400 *l*/*min*.

6 The quantity of foam concentrate is to be adequate to allow operation of all connected discharge devices for at least 5 *min*.

37.3.3 Foam Monitors

Where foam monitors are installed, the distance from the monitor to the farthest extremity of the protected area is to be not more than 75 % of the monitor throw in still air conditions.

37.3.4 Foam Firefighting Appliances for Helicopter Landing Areas

1 For helicopter landing areas, at least two portable foam applicators or two hose reel foam stations are to be provided, each capable of discharging a minimum foam solution discharge rate, in accordance with **Table R37.1**.

2 The quantity of foam concentrate is to be adequate to allow operation of all connected discharge devices for at least 10 *min*. For tankers fitted with a deck foam system, the Society may consider an alternative arrangement, taking into account the type of foam concentrate to be used.

Table R37.1 Foam Discharge Rates for Helicopter Landing Areas

Category	Helicopter overall length (D-value)	Minimum foam solution discharge rate (*l*/*min*)
H1	up to but not including 15 *m*	250
H2	from 15 *m* up to but not including 24 *m*	500
H3	from 24 *m* up to but not including 35 *m*	800

37.3.5 Manual Release Stations

1 Manual release stations capable of starting necessary pumps and opening required valves, including the fire main system, if used for water supply, are to be located at each monitor and hose reel.

2 A central manual release station is to be provided at a protected location.

3 Activation of any manual release station is to initiate the flow of foam solution to all connected hose reels, monitors, and deck integrated foam nozzles.

4 The foam firefighting system is to be designed to discharge foam with nominal flow and at design pressure from any connected discharge devices within 30 *s* of activation.

37.3.6 Manufacture and Testing

The system and its components are to be designed to withstand ambient temperature changes,

vibration, humidity, shock impact and corrosion normally encountered on the open deck, and are to be manufactured and tested to the satisfaction of the Society.

37.3.7 Performance of Hose Reels, Monitors and Deck Integrated Foam Nozzles*

1 A minimum nozzle throw of at least 15 *m* is to be provided with all hose reels and monitors discharging foam simultaneously.

2 The discharge pressure, flow rate and discharge pattern of deck integrated foam nozzles are to be to the satisfaction of the Society, based on tests that demonstrate the nozzle's capability to extinguish fires involving the largest size helicopter for which the helideck is designed.

37.3.8 Materials

Monitors, foam-making branch pipes, deck integrated foam nozzles and couplings are to be constructed of brass, bronze or stainless steel. Piping, fittings and related components, except gaskets, are to be designed to withstand exposure to temperatures up to 925 °C.

37.3.9 Foam Concentrates*

The foam concentrate is to be demonstrated effective for extinguishing aviation fuel spill fires and is to conform to performance standards not inferior to those acceptable to the Society. Where the foam storage tank is on the exposed deck, freeze protected foam concentrates are to be used, if appropriate, for the area of operation.

37.3.10 Height of Obstacle*

Any foam system equipment installed within the take-off and approach obstacle-free sector is not to exceed a height of 0.25 *m*. Any foam system equipment installed in the limited obstacle sector is not to exceed the height permitted for objects in this area.

37.3.11 Means of Access

All manual release stations, monitor foam stations, hose reel foam stations, hose reels and monitors are to be provided with a means of access that does not require travel across the helideck or helicopter landing area.

37.3.12 Oscillating Monitors

Oscillating monitors, if used, are to be pre-set to discharge foam in a spray pattern and have a means of disengaging the oscillating mechanism to allow rapid conversion to manual operation.

37.3.13 Use of Air-aspirating Nozzles

1 If a foam monitor with flow rate up to 1,000 *l/min* is installed, it is to be equipped with an air-aspirating nozzle.

2 If a deck integrated nozzle system is installed, then the installed hose reel is to be equipped with an air-aspirating handline nozzle (foam branch pipes).

3 If only portable foam applicators or hose reel stations are provided, these are to be equipped with an air-aspirating handline nozzle (foam branch pipes).

4 Use of non-air-aspirating foam nozzles (on both monitors and the hose reel) is permitted only where foam monitors with a flow rate above 1,000 *l/min* are installed.

EFFECTIVE DATE AND APPLICATION (Amendment 2-2)

1. The effective date of the amendments is 1 January 2020.

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.

* For high speed craft, "1%" is to be read as "3%".

Amendment 2-3

Chapter 20A REQUIREMENTS FOR VEHICLE CARRIERS FOR CARRIAGE OF MOTOR VEHICLES WITH COMPRESSED HYDROGEN OR COMPRESSED NATURAL GAS IN THEIR TANKS FOR THEIR OWN PROPULSION AS CARGO

20A.2 General Requirements

Paragraph 20A.2.1 has been amended as follows.

20A.2.1 Application

In addition to complying with the requirements of ~~e~~**C**~~vehicle and ro-ro spaces of~~ **hapter 20**, as appropriate, vehicle carriers intended for the carriage of motor vehicles with compressed hydrogen or compressed natural gas in their tanks for their own propulsion as cargo are to comply with the requirements in **20A.3** to **20A.5**.

EFFECTIVE DATE AND APPLICATION (Amendment 2-3)

1. The effective date of the amendments is 1 January 2020.

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 1 January 2016.
(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.
* For high speed craft, "1%" is to be read as "3%".

Amendment 2-4

Chapter 28 AUTOMATIC SPRINKLER, FIRE DETECTION AND FIRE ALARM SYSTEMS

28.2 Engineering Specifications

28.2.4 Installation Requirements

Sub-paragraph -1 has been amended as follows.

1 General

(1) Any parts of the system which may be subjected to freezing temperatures in service is to be suitably protected against freezing.

(2) Special attention is to be paid to the specification of water quality provided by the system manufacturer to prevent internal corrosion of sprinklers and clogging or blockage arising from products of corrosion or scale-forming minerals.

EFFECTIVE DATE AND APPLICATION (Amendment 2-4)

1. The effective date of the amendments is 1 January 2020.

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

2019 AMENDMENT NO.2

Notice No.70 27 December 2019
Resolved by Technical Committee on 22 July 2019/ 29 November 2019

Notice No.70 27 December 2019
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 2-1

R9 CONTAINMENT OF FIRE

Table R9.2.3-1 has been amended as follows.

Table R9.2.3-1

Control stations	Spaces containing navigational apparatus (steering stand, compass and radar equipment) Electric rooms (where charging/discharging panels or battery charges are located), battery rooms, motor-generator rooms for navigational apparatus, radio or inverter rooms Spaces containing control systems and storage rooms of fire-extinguishing medium for fixed fire extinguishing systems (See Note **(1)** below) Navigation lockers that can only be accessed from the wheelhouse
Accommodation spaces	Telephone rooms (Telephone booths)
Service spaces with low risk of fire	Shore connection box rooms Electric rooms (where transformers, switchboards (see Note **(2)** below), motor-generators, etc. of less than 50 *kVA* (*kW*) are located and having area s of less than 4 m^2) Space where distribution panels and starters are located Accommodation ladder winch machinery rooms Ballast control rooms, main cargo control rooms
Other machinery spaces	Electric rooms (except those categorized as "control stations" or "service spaces with low risk of fire") Storage rooms for hydraulic units for deck machinery and cargo gears Propulsion motor rooms, Propulsion motor control rooms Steering gear rooms (See Note **(3)** below) Emergency fire pump rooms (See Note **(4)** below) Spaces containing deck foam systems (See Note **(5)** below) Spaces other than machinery spaces of category *A* where fuel oil piping lines are located Inert gas fan rooms <u>Spaces where urea or sodium hydroxide solution tanks for selective catalytic reduction systems, exhaust gas recirculation systems or exhaust gas cleaning systems are installed (except in cases where such tanks are installed in machinery spaces of category *A*)</u>
Service spaces with high risk of fire	Storage rooms for gaseous fuel (See Note **(6)** below) Storage rooms for gas welding equipments (See Note **(7)** below) Jumper lockers Mail rooms, specie rooms and workshops Provision store rooms (See Note **(8)** below) Refrigerating chambers (See Note **(9)** below)
Other spaces	1. To duct spaces and cable trunks, the requirements of **9.2.3-6, Part R of the Rules** for lift trunks are to apply. 2. Under deck passages of container ships with self-closing gas-tight doors separating the spaces from cargo spaces effectively, are to be regarded as void spaces. However, in case where they serve as escape route, they are to be regarded as corridors.

Notes: (Omitted)

R9.7 Ventilation Systems

R9.7.4 Exhaust Ducts from Galley Ranges

1 With respect to the requirements in **9.7.4, Part R of the Rules**, the exhaust ducts from galley ranges are to be in accordance with the following requirements **(1)** to **(43)**:

(1) The exhaust ducts from galley ranges are, in principle, to be independent from other ducts. In case where this is impracticable, i.e., where the ducts are connected to other ducts for other ventilation purposes, self-closing type fire dampers which can be remotely-operated are to be fitted to the other branch ducts in order to be capable of closing these dampers together with those for galley ranges simultaneously.

(2) Unless otherwise permitted by the Society, the term of "spaces containing combustible materials" will normally apply to all spaces in accommodation.

~~(3) In case where the carbon dioxide gas fire extinguishing system specified in **Chapter 25, Part R of the Rules** is provided as fixed means for extinguishing a fire within the exhaust duct, the quantity of fire extinguishing medium is to be 100% or more of the volume of the duct spaces to be protected.~~

(43) With respect to ~~fixed means for extinguishing a fire specified~~ the requirements in **9.7.4(4), Part R of the Rules**, ~~reference is to be made to *ISO* 15371: 2009 "*Ships and marine technology – Fire-extinguishing systems for protection of galley cooking equipment*".~~ fixed means for extinguishing a fire is to be in accordance with either of the following:

(a) *ISO* 15371: 2009 "*Ships and marine technology – Fire-extinguishing systems for protection of galley cooking equipment*",

(b) **10.6.2-1(1), Part R of the Rules**, or

(c) other standards accepted by the Administration

2 With respect to the application of **9.7.4, Part R of the Rules**, when a part of an exhaust duct for galley range is contiguous to accommodation spaces or other spaces containing combustible materials, at outside the galley, such ducts are to be in accordance with the provisions of **R9.7.2-2**.

R19 CARRIAGE OF DANGEROUS GOODS

R19.3 Special Requirements

R19.3.5 Bilge Pumping

Sub-paragraph -3 has been renumbered to Sub-paragraph -4, and Sub-paragraph -3 has been added as follows.

1 (Omitted)
2 (Omitted)
3 With respect to the provisions of **19.3.5-4, Part R of the Rules**, provisions of reduced air changes as per Note 3.a of **Table R19.1** may be correspondingly applied when the bilge pump is located directly inside a container cargo space. In such cases where several container cargo spaces are served by the same bilge pump, the bilge pump is to be installed in the container cargo space with the highest ventilation rate, compared to the other container cargo spaces.
~~3~~**4** With respect to the provisions of **19.3.5, Part R of the Rules**, bilge systems for cargo holds of open-top container ships are to be independent of the machinery space bilge system and be located outside of the machinery space.

EFFECTIVE DATE AND APPLICATION (Amendment 2-1)

1. The effective date of the amendments is 1 January 2020.
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.

Amendment 2-2

R9 CONTAINMENT OF FIRE

R9.4 Protection of Openings in Fire Resisting Divisions

R9.4.4 Fire Integrity for Watertight Doors

Sub-paragraph -3 has been added as follows.

3 If it is not practicable to ensure self-closing, means of indication on the bridge showing whether these doors are open or closed and a notice stating “To be kept closed at sea” can be used as an alternative to self-closing.

EFFECTIVE DATE AND APPLICATION (Amendment 2-2)

1. The effective date of the amendments is 1 January 2020.

2. Notwithstanding the amendments to the Guidance, the current requirements apply to ships other than ships that fall under the following:

(1) for which the contract for construction* is placed on or after the effective date; or

(2) in the absence of a contract for construction, the keels of which are laid or which are at *a similar stage of construction* on or after 1 July 2020; or

(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.

(3) the delivery of which is on or after 1 January 2024.

* "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.

Amendment 2-3

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 -8 has been deleted as follows.

~~**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
(Ommitted)

Notes:
(N to y are omitted.)
((1) 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 need not be provided.
((5) is omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 2-3)

1. The effective date of the amendments is 1 January 2020.

Amendment 2-4

R13 MEANS OF ESCAPE

R13.4 Means of Escape from Machinery Spaces

R13.4.2 Dispensation from Two Means of Escape

Sub-paragraph -5 has been amended as follows.

1 With respect to the requirements of **13.4.2, Part R of the Rules**, where the second means of escape is dispensed with, the means of escape is, in principle, to be of a protected enclosure.
2 The wording "emergency steering position" specified in **13.4.2, Part R of the Rules** means all steering positions other than that in the navigation bridge.
3 With respect to the requirements of **13.4.2, Part R of the Rules**, steering gear spaces which do not contain the emergency steering position need to have only one means of escape.
4 With respect to the requirements of **13.4.2, Part R of the Rules**, steering gear spaces containing the emergency steering position can have one means of escape provided it leads directly onto the open deck. Otherwise, two means of escape are to be provided but they do not need to lead directly onto the open deck.
5 ~~With respect to the requirements of **13.4.2, Part R of the Rules**, escape routes that pass only through stairways and/or corridors are considered as providing a~~ "~~d~~Direct access to the open deck" specified in **13.4.2, Part R of the Rules**, ~~provided that the escape routes from the steering gear spaces have fire integrity protection equivalent to:~~means escape routes by the stairways or fixed ladders installed in steering gear spaces without passing through other spaces (including enclosed stairway rooms or enclosed trunks). In addition, access doors to the other spaces are not to be provided in such escape routes.
~~(1) the steering gear spaces; or~~
~~(2) the stairways / corridors, whichever is more stringent.~~

EFFECTIVE DATE AND APPLICATION (Amendment 2-4)

1. The effective date of the amendments is 1 January 2020.
2. Notwithstanding the amendments to the Guidance, 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.

Amendment 2-5

R15 TRAINING MANUAL AND FIRE CONTROL PLAN

R15.2 General Requirements

Paragraph R15.2.3 has been amended as follows.

R15.2.3 Means of Recharging Breathing Apparatus Cylinders and Spare Cylinders

With respect to the provisions of **15.2.3, Part R of the Rules**, "a suitable number of spare cylinders" to be carried on board to replace those used for fire drills is to be at least one "set of cylinders" for each mandatory breathing apparatus required by **10.10.2** and **18.5.1(~~6~~7), Part R of the Rules**. If additional spare cylinders are required by the shipboard safety management system (*SMS*), the number of spare cylinders carried on board is to be in accordance with the *SMS*. "Set of cylinders" means the number of cylinders which are required to operate the breathing apparatus. No additional cylinders are required for fire drills for breathing apparatus sets required by **Chapter 19, Part R ~~of the Rules~~**, **Part N** and **Part S of the Rules**, and *IMSBC Code*.

Chapter R37 has been added as follows.

R37 Helicopter Facility Foam Firefighting Appliances

R37.3 Engineering Specifications

R37.3.7 Performance of Hose Reels, Monitors and Deck Integrated Foam Nnozzles

With respect to the requirements of **37.3.7-2, Part R of the Rules**, reference is made to following standards for deck integrated foam nozzles.

(1) *BS EN 13565-1:2003+A1:2007*

(2) Standards which are acceptable to the Administration

R37.3.9 Foam Concentrates

For the performance standards "acceptable to the Society" specified in **37.3.9, Part R of the Rules**, reference is to be made to either "*the International Civil Aviation Organization Airport Services Manual, part 1 Rescue and Fire Fighting, chapter 8 Extinguishing Agent Characteristics, paragraph 8.1.5, Foam specifications table 8-1, Performance Level B*" or "*Revised Guidelines for the performance and testing criteria, and surveys of foam concentrates for fixed-extinguishing systems*" (*MSC*.1/*Circ*.1312).

R37.3.10 Height of Obstacle

1 With respect to the requirement of **37.3.10, Part R of the Rules**, the permitted height for foam firefighting system is as following **(1)** or **(2)**.

(1) Cases where the helicopter lands at the ship's side

(a) Permitted height for foam firefighting system is to be as given in "*The International Chamber of Shipping Guide to Helicopter/Ship Operations (4th edition), Chapter 4 Figure 4.1*". (See **Fig. R37.3.10-1**)

(b) Notwithstanding **(a)** above, foam firefighting systems exceeding the height specified in **Fig. R37.3.10-1** are acceptable where the following **i)** and **ii)** measures are taken.

i) Clearly marking the systems

ii) Providing written information to the helicopter operator

(2) Cases where the helicopter lands at the amidships centreline

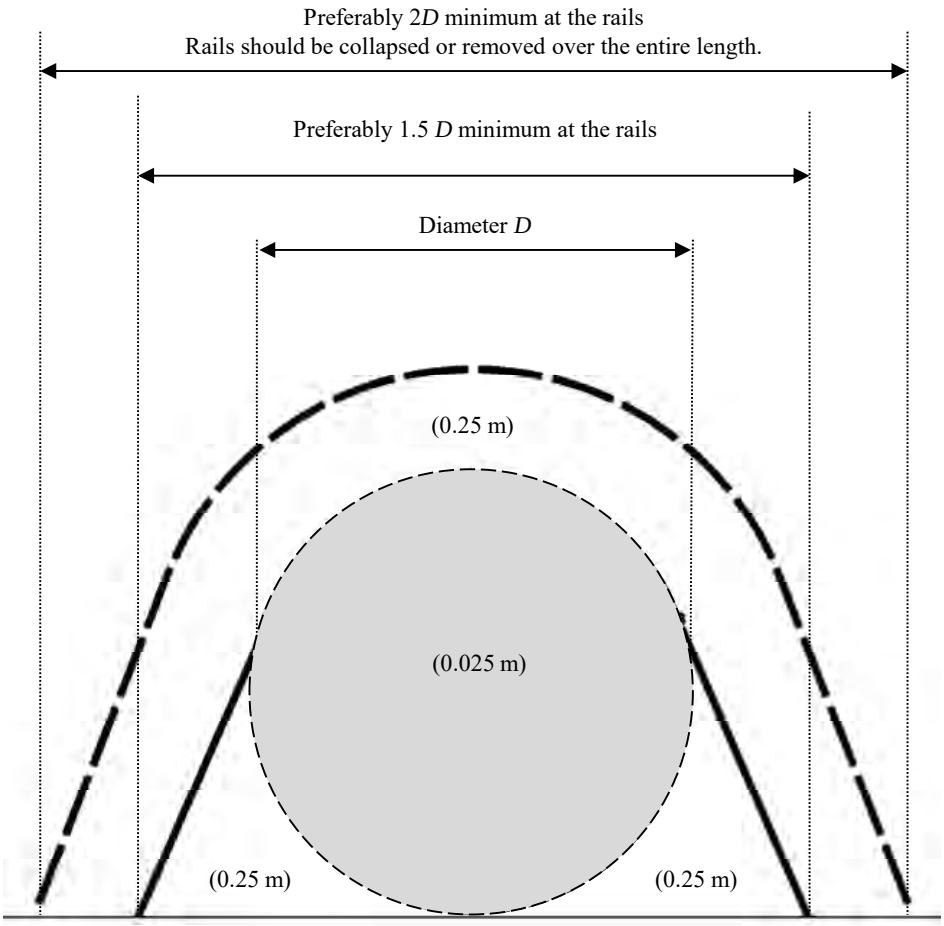
(a) Permitted height for foam firefighting system is a height that does not exceed *OBSTACLE HEIGHT LIMITS* which is defined by "*The International Chamber of Shipping Guide to Helicopter/Ship Operations (4th edition), Chapter 4 Figure 4.2*". (See **Fig. R37.3.10-2**) In **Fig. R37.3.10-2**, permitted height for foam firefighting systems within the central clear zone is 0.025 *m*.

(b) Notwithstanding **(a)** above, foam firefighting appliances exceeding the heights specified in **Fig. R37.3.10-2** are acceptable where the following **i)** and **ii)** measures are taken. However, even if these measures are taken, foam firefighting systems installed within obstacle free sectors, including the central clear zones, are not to exceed a height of 0.25 *m*.

i) Clearly marking the systems

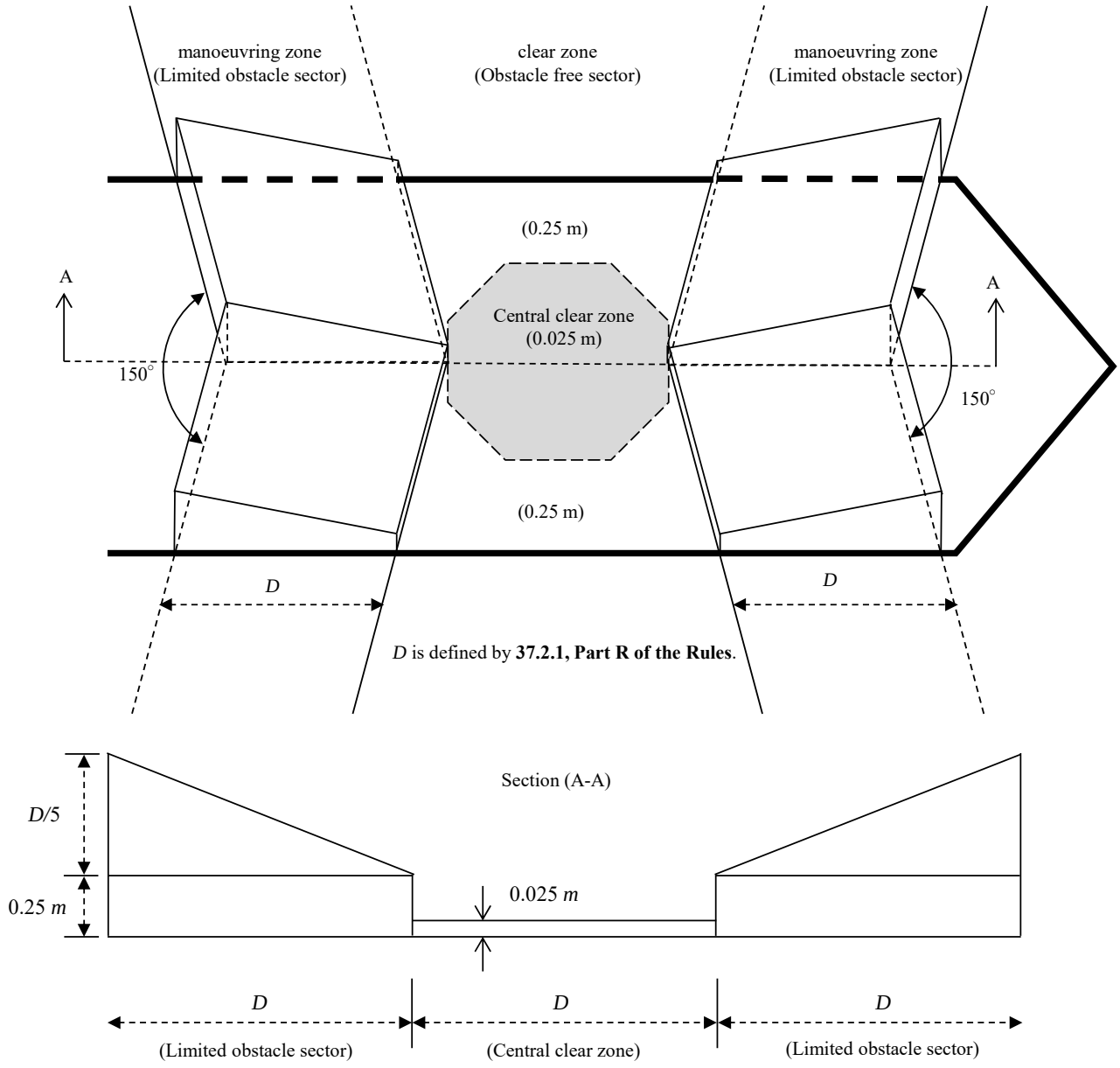
ii) Providing written information to the helicopter operator

Fig. R37.3.10-1　Permitted height for foam appliance (at the ship's side)



D is defined by **37.2.1, Part R of the Rules**.

Fig. R37.3.10-2 Permitted height for foam appliance (at amidships centreline)



2 Notwithstanding **-1** above, reference is to be made to **17.3.2(3)** or **17.3.3(3), Part P of the Rules** where single main rotor helicopters are used for structures that are positioned for a long period of time or semi-permanently at a specific sea area and that comply with the requirements in **Part P of the Rules**.

EFFECTIVE DATE AND APPLICATION (Amendment 2-5)

1. The effective date of the amendments is 1 January 2020.

2. Notwithstanding the amendments to the Guidance, 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.

* For high speed craft, "1%" is to be read as "3%".