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RULES CHANGE NOTICE No. 1
Part 1 Seagoing Ships

RULES FOR SHIPS CARRYING LIQUEFIED GASES IN BULK

Volume IX

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Foreword

This Rules Change Notice (RCN) No.1 gives additions and amendments to the Rules for Ships Carrying Liquefied Gases in Bulk (Pt.1, Vol. IX), 2022 Consolidated edition along with the effective dates from which these changes are applicable.

Amendments to the preceding Edition are marked by strikethrough, red color and expanded text. These new addition and amendments are to be read in conjunction with the requirements given in the Corrigenda No.1 and 2022 consolidated edition of the Rules

The summary of current amendments for each section including the implementation date are indicated in **Table 1 - Amendments incorporated in This Notice**

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Further queries or comments concerning these Rules are welcomed through communication with BKI Head Office.

Rules Change Notice No.1 - October 2023

Table 1- Amendments Incorporates in This Notice

These amendments will come into force on 1st January 2024, except stated otherwise as indicated in the Table

Paragraph	Title/Subject	Status/Remark
Section 1 - General, Character of Classification, Definitions, Surveys and Certification		
1.A	**General**	
1.A.4	-	Deleting information related to the interpretation of the IGC Code and replacing it with a new reference to relevant Guidance.
Section 3 - Ship Arrangements		
3.2	**Pressure relief systems**	
3.2.6	-	Changing the reference related to the interpretation of the closing device in item 3.2.6.
Section 8 - Vent Systems for Cargo Containment		
8.2	**Pressure relief systems**	
8.2.17	-	Changing the reference related to vapor pockets in pressure relief systems
Section 11 - Fire Protection and Extinction		
11.3	**Water-spray system**	
11.3.17	-	Adding reference related to water spray protection
Section 15 - Filling Limits for Cargo Tanks		
15.4	**Determination of increased filling limit**	
15.4.1.2	-	Adding reference for determination of PRV inlet

Paragraph	Title/Subject	Status/Remark
15.4.1.3	-	Adding a new note to provide a reference for the calculation of allowances and acceptance criteria for increased filling limits
Section 18 - Operating Requirements		
18.10	**Cargo emergency shutdown (ESD) system**	
18.10.2	**ESD valve requirements**	
18.10.2.1	**General**	
18.10.2.1.2	-	Adding new requirements for ESD valves actuated by hydraulic or pneumatic systems

Section 1 General, Character of Classification, Definitions, Surveys and Certification

A. General

4. These Rules incorporate the IMO-Resolution MSC.5 (48) "International Code for the Construction and Equipment of Ships carrying liquefied Gases in Bulk" (IGC-Code), 1993 edition as amended. Specific requirements of BKI which are additional to the provisions of the IGC-Code have been identified by a special paragraph. No. (e.g. C3.5) and highlighted. ~~Interpretations of some Code requirements (e.g. IACS UI GC) have been identified by italic fonts and included in the Notes.~~

Differing from the standard construction of the Rules, which is given in this Section 1, Sections 2 - 19 for direct comparison with the IGC-Code are arranged accordingly.

For interpretation of IGC-Code, Guidance for Code and Convention Interpretation (Pt.1, Vol.Y) is to be observed.

end

Section 3 Ship Arrangements

3.2 Accommodation, service and machinery spaces and control stations

3.2.6 All air intakes, outlets and other openings into the accommodation spaces, service spaces and control stations shall be fitted with closing devices. When carrying toxic products, they shall be capable of being operated from inside the space. The requirement for fitting air intakes and openings with closing devices operated from inside the space for toxic products need not apply to spaces not normally manned, such as deck stores, forecastle stores, workshops. In addition, the requirement does not apply to cargo control rooms located within the cargo area.

Note:

1) *Compliance with other relevant paragraphs of the Rules and in particular with paragraphs 3.2.4.1, 3.2.4.2, 3.2.4.3, 3.8, Section 8.2.10 and 12.1.6 where applicable would also ensure compliance with this paragraph.*

2) *Air outlets are subject to the same requirements as air inlets and air intakes. This interpretation also applies to paragraphs 3.2.2, 3.8.4.1, 3.8.4.2, 3.8.4.3, 3.8.4.4 and Section 8.2.10.*

3) *Doors facing the cargo area or located in prohibited zones in the sides are to be restricted to stores for cargo-related and safety equipment, cargo control stations as well as decontamination showers and eye wash.*

The item 3.2.6 above is to be interpreted ~~as follows:~~ in accordance with Guidance for Code and Convention Interpretations (Pt.1, Vol.Y), Section 4, GC 15

~~a) The closing devices that need not be operable from within the single spaces and may be located in centralized positions~~

~~b) Engine room casings, cargo machinery spaces, electric motor rooms and steering gear compartments are generally considered as spaces not covered by paragraph 3.2.6 and therefore the requirement for closing devices need not be applied to these spaces.~~

~~c) The closing devices should to give a reasonable degree of gas tightness. Ordinary steel fire-flaps without gaskets/seals should not to be considered satisfactory.~~

~~d) Regardless of this interpretation, the closing devices shall be operable from outside of the protected space (SOLAS regulation II-2/5.2.1.1)~~

end

Section 8 Vent Systems for Cargo Containment

8.2 Pressure relief systems

8.2.17 PRVs shall be connected to the highest part of the cargo tank above deck level. PRVs shall be positioned on the cargo tank so that they will remain in the vapour phase at the filling limit (FL) as defined in Section 15, under conditions of 15° list and 0.015**L** trim, where **L** is defined in Section 1,C.31.

Note:

See also ~~IACS Rec. No 150~~ Guidance for Marine Industry (Pt.1, Vol.AC), Section 8, R-150 related to vapour pockets not in communication with cargo tank vapour/liquid domes on liquefied gas carrier.

end

Section 11 Fire Protection and Extinction

11.3 Water-spray system

11.3.1 On ships carrying flammable and/or toxic products, a water-spray system, for cooling, fire prevention and crew protection shall be installed to cover:

.1 exposed cargo tank domes, any exposed parts of cargo tanks and any part of cargo tank covers that may be exposed to heat from fires in adjacent equipment containing cargo such as exposed booster pumps/heaters/re-gasification or re-liquefaction plants, hereafter addressed as gas process units, positioned on weather decks;

.2 exposed on-deck storage vessels for flammable or toxic products;

.3 gas process units positioned on deck;

.4 cargo liquid and vapour discharge and loading connections, including the presentation flange and the area where their control valves are situated, which shall be at least equal to the area of the drip trays provided;

.5 all exposed emergency shut-down (ESD) valves in the cargo liquid and vapour pipes, including the master valve for supply to gas consumers;

.6 exposed boundaries facing the cargo area, such as bulkheads of superstructures and deckhouses normally manned, cargo machinery spaces, store-rooms containing high fire-risk items and cargo control rooms. Exposed horizontal boundaries of these areas do not require protection unless detachable cargo piping connections are arranged above or below. Boundaries of unmanned forecastle structures not containing high fire-risk items or equipment do not require water-spray protection;

.7 exposed lifeboats, liferafts and muster stations facing the cargo area, regardless of distance to cargo area [4]; and

Note:

Survival crafts protection:

With reference to sub-paragraph 11.3.1.7. The survival crafts on board including remote survival crafts (see SOLAS III/Reg. 31.1.4) facing the cargo area shall be protected by a water-spray system taking into consideration cargo area extension for firefighting purposes as stated in 11.1.4. Remote liferafts located in areas covered by water-spray protection as required in 11.3.1.6 may be considered as adequately protected.

.8 any semi-enclosed cargo machinery spaces semi-enclosed cargo motor room.

Ships intended for operation as listed in Section 1, A.7.12 shall be subject to special consideration (see 11.3.3.2).

end

[4] Water spray protection should be considered ~~for exposed embarkation stations and exposed launching routes from the life rafts stowage location to the ship side unless the life rafts are located and ready for launching at both sides~~ in accordance with Guidance for Marine Industry (Pt.1, Vol.AC), Section 8, R-152

Section 15 Filling Limits for Cargo Tanks

15.4 Determination of increased filling limit

15.4.1 A filling limit greater than the limit of 98% specified in 15.3 may be permitted under the trim and list conditions specified in Section 8.2.17, providing:

.1 no isolated vapour pockets are created within the cargo tank;

.2 the PRV inlet arrangement shall remain in the vapour space; and

Note:

*The PRV inlet shall remain in the vapour space at a minimum distance of 40% of the diameter of the suction funnel measured at the centre of the funnel above the liquid level under conditions of 15° list and 0,015**L** trim,(see also Guidance for Marine Industry (Pt.1, Vol.AC), Section 8, R-149)*

.3 allowances need to be provided for:

.1 volumetric expansion of the liquid cargo due to the pressure increase from the MARVS to full flow relieving pressure in accordance with Section 8.4.1;

.2 an operational margin of minimum 0.1% of tank volume; and

.3 tolerances of instrumentation such as level and temperature gauges

Note:

For guidance on calculating allowances and acceptance criteria for increased filling limits, see Guidance for Marine Industry (Pt.1, Vol.AC), Section 6, R-109 and Section 8, R-149

15.4.2 In no case shall a filling limit exceeding 99.5% at reference temperature be permitted.

end

Section 18 Operating Requirements

18.10 Cargo emergency shutdown (ESD) system

18.10.2 ESD valve requirements

18.10.2.1 General

18.10.2.1.1 The term ESD valve means any valve operated by the ESD system

18.10.2.1.2 ESD valves shall be remotely operated, be of the fail-closed type (closed on loss of actuating power), be capable of local manual closure and have positive indication of the actual valve position. As an alternative to the local manual closing of the ESD valve, a manually operated shut-off valve in series with the ESD valve shall be permitted. The manual valve shall be located adjacent to the ESD valve. Provisions shall be made to handle trapped liquid should the ESD valve close while the manual valve is also closed.

C18.10.2.1.2 When ESD valve is actuated by hydraulic or pneumatic system, the following shall be complied with.

- Audible and visible alarm shall be given in the event of loss of pressure that causes activation of fail-close action. The alarm shall be provided in a normally manned control station (e.g. Cargo Control Room and/or the navigation bridge, etc.).
- The following conditions shall also be complied to ensure the fail-close action:
  1. Failure of hydraulic or pneumatic system shall not lead to loss of fail-close functionality (i.e. activated by spring or weight); or
  2. Hydraulic or pneumatic system for fail-close action shall be arranged with stored power and separated from normal valve operation

18.10.2.1.3 ESD valves in liquid piping systems shall close fully and smoothly within 30 s of actuation. Information about the closure time of the valves and their operating characteristics shall be available on board, and the closing time shall be verifiable and repeatable.

Note:

Emergency shutdown valves in liquid piping shall fully close under all service conditions within 30 s of actuation as measured from the time of manual or automatic initiation to full closure. This is called the total shut-down time and is made up of a signal response time and a valve closure time.

end