

Protected Areas of Ships Fitted with Additional Cargo Transfer Equipment

Amended Guidance

Guidance for the Survey and Construction of Steel Ships Part N

Reason for Amendment

The requirements of the IMO International Code of the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), amended by Resolution MSC.370(93) in May 2014, have already been incorporated into the Part N of the NK Rules and they apply to ships subject to the IGC Code whose keels are laid or which are at a similar state of construction on or after 1 July 2016.

In recent years, there has been an increase in ships carrying liquefied gases in bulk which are also provided with additional equipment (transfer loading arms, bunker booms, transfer hoses, etc.) for bunkering. The application of the IGC Code to such additional equipment, however, is unclear.

At the 8th Session of Sub-Committee on Carriage of Cargoes and Containers (CCC8) held in September 2022, IACS proposed a unified interpretation stating that additional cargo transfer equipment is to be protected by water spray systems, dry chemical powder fire-extinguishing systems and fire detection systems as stipulated in the IGC Code. After some discussion, the proposed unified interpretation was agreed upon and was approved at the 107th Session of the IMO Maritime Safety Committee (MSC107) in June 2023.

Accordingly, relevant requirements were amended in accordance with the unified interpretation approved at MSC107.

Outline of Amendment

Amended requirements related to protected areas of ships provided with additional cargo transfer equipment.

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

Part N SHIPS CARRYING LIQUEFIED GASES IN BULK

N 5 PROCESS PRESSURE VESSELS AND LIQUID, VAPOUR, AND PRESSURE PIPING SYSTEMS

N5.7 Installation Requirements

N5.7.2 Precautions Against Low Temperatures

Sub-paragraph -3 has been added as follows.

3 Where liquid leakages from additional cargo transfer equipment (including transfer loading arms, bunkering booms, transfer hoses, reducers, spool pieces and transfer hose reels) is anticipated, protection for the hull sections located beneath such equipment is to be provided in accordance with 5.7.2, Part N of the Rules.

Paragraph N5.7.3 has been added as follows.

N5.7.3 Precautions against Low Temperatures

Ships provided with additional cargo transfer equipment (including transfer loading arms, bunkering booms, transfer hoses, reducers, spool pieces and transfer hose reels) are also to be provided with water distribution systems in way of hull sections beneath the equipment provided for shore connections in accordance with 5.7.3, Part N of the Rules.

N11 FIRE PROTECTION AND EXTINCTION

N11.3 Water Spray System

N11.3.1 Area to Be Covered

Sub-paragraphs -3 and -4 have been renumbered to Sub-paragraphs -4 and -5, and Sub-paragraph -3 has been added as follows.

1 For the purpose of the requirements in 11.3.1(1), **Part N of the Rules**, the area to be covered at the exposed tank dome is to include the areas where stop valves for cargo tanks and emergency shutdown valves specified in the requirements in 5.5, **Part N of the Rules** are fitted.

2 For the purpose of the requirements 11.3.1(4), **Part N of the Rules**, the area of the load/unload connections is to include the areas where emergency shutdown valves specified in the requirements in 5.5.3, **Part N of the Rules** are fitted. Further, the “control valve” referred to in the requirements in 11.3.1(4), **Part N of the Rules** is to include stop valves for the transfer of cargo line to and from vapour line.

3 Ships provided with additional cargo transfer equipment (including transfer loading arms, bunkering booms, transfer hoses, reducers, spool pieces and transfer hose reels) are also to be provided with water spray systems covering cargo liquid and vapour discharge and loading connection areas (including presentation flanges), areas where their control valves are situated, and all exposed emergency shut-down (ESD) valves in cargo liquid and vapour pipes (including the master valves) used for supplying gas consumers in accordance with 11.3.1(4) and (5), Part N of the Rules. The expression “discharge and loading connection” here refers to the parts where such additional equipment connects to the cargo transfer equipment of other ships, except where not deemed appropriate by the Society.

~~**34**~~ The “high fire risk items” referred to in the requirements in 11.3.1(6), **Part N of the Rules** are not to include the hydraulic machinery and electric motors (*See R2.3.1-7*).

~~**45**~~ With respect to the requirements of 11.3.1(7), **Part N of the Rules**, the survival crafts on board including remote survival crafts (ref. SOLAS III/Reg. 31.1.4) facing the cargo area are to be protected by a water-spray system taking into consideration cargo area extension for fire-fighting purposes as stated in 11.1.4, **Part N of the Rules**. Remote liferafts located in areas covered by water-spray protection as required in 11.3.1(6), **Part N of the Rules** may be considered as adequately protected.

N11.4 Dry Chemical Powder Fire-extinguishing Systems

Paragraph N11.4.1 has been amended as follows.

N11.4.1 General

1 “Fixed dry chemical powder fire-extinguishing system approved by the Society” referred to in **11.4.1, Part N of the Rules** are to comply with “*Guidelines for the approval of fixed dry chemical powder fire-extinguishing systems for the protection of ships carrying liquefied gases in bulk*” (MSC.1/Circ.1315).

2 Ships provided with additional cargo transfer equipment (including transfer loading arms, bunkering booms, transfer hoses, reducers, spool pieces and transfer hose reels) are also to be provided with dry chemical powder fire-extinguishing systems for the purpose of firefighting on decks in cargo areas (including any cargo liquid and vapour discharge and loading connection areas) in accordance with 11.4.1, Part N of the Rules. The expression “discharge and loading connection” here refers to the parts where such additional equipment connects to the cargo transfer equipment of other ships, except where not deemed appropriate by the Society.

Paragraph N11.4.2 has been added as follows.

N11.4.2 Performance of the Systems

Additional cargo transfer equipment (including transfer loading arms, bunkering booms, transfer hoses, reducers, spool pieces and transfer hose reels) is also to be regarded as exposed cargo liquid and vapour piping as stipulated in 11.4.2, Part N of the Rules, and dry chemical powder fire-extinguishing systems are to be capable of delivering powder to any part of the piping as well as the loading and unloading connection areas. The expression “loading and unloading connection” here refers to the parts where such additional equipment connects to the cargo transfer equipment of other ships, except where not deemed appropriate by the Society.

Paragraph N11.4.3 has been amended as follows.

N11.4.3 Monitors and Hand Hose Lines, etc.

1 For the purpose of the requirements in **11.4.3, Part N of the Rules**, loading and unloading connection areas may be protected by only one monitor provided that it can be so fixed to protect the load/unload connection area used for cargo operation even if there are load/unload connections on both sides of the ship.

2 Ships provided with additional cargo transfer equipment (including transfer loading arms, bunkering booms, transfer hoses, reducers, spool pieces and transfer hose reels) are also to be provided monitors capable of actuation and discharge both locally and remotely to protect any loading and unloading connection areas in accordance with 11.4.3, Part N of the Rules. The expression “loading and unloading connection” here refers to the parts where such additional equipment connects to the cargo transfer equipment of other ships, except where not deemed appropriate by the Society.

N18 OPERATING REQUIREMENTS

N18.3 Cargo Emergency Shutdown (*ESD*) System

N18.3.1 Cargo Emergency Shutdown (*ESD*) System

Sub-paragraph -7 has been renumbered to Sub-paragraph -8, and Sub-paragraph -7 has been added as follows.

(-1 to -5 are omitted.)

6 The confirmation of the actual valve position by the position of the handle device for *ESD* valves is not accepted as “positive indication of the actual valve position” referred to in **18.3.1-2(1)(b), Part N of the Rules**.

7 Additional cargo transfer equipment (including transfer loading arms, bunkering booms, transfer hoses, reducers, spool pieces and transfer hose reels) is also to be regarded as cargo manifolds as stipulated in **18.3.1-3(1)(b), Part N of the Rules**, and the method of detection used on weather decks is to cover such cargo manifolds as well as the areas where liquid piping is regularly disassembled.

~~**78**~~ In applying Note 1)d of Table **N18.1**, a hardware system such as an electric or mechanical interlocking device is to be provided to prevent inadvertent operation of cargo pumps and inadvertent opening of manifold *ESD* valves.