
GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part N

Ships Carrying Liquefied Gases in Bulk

GUIDANCE

2015 AMENDMENT NO.2

Notice No.82 25th December 2015

Resolved by Technical Committee on 28th July 2015

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 N SHIPS CARRYING LIQUEFIED GASES IN BULK

N9 ENVIRONMENTAL CONTROL

N9.5 Inert Gas Production on Board

Paragraph N9.5.1 has been amended as follows.

N9.5.1 Inert Gas Production Equipment

1 For the purpose of the requirements in **9.5.1, Part N of the Rules**, inert gas systems are to comply with the following (1) through (4).

- (1) Materials used in inert gas systems are to be suitable for their intended purpose.
- (2) Each system component of the inert gas systems using oil fired inert gas generators, inert gas storage systems and liquid nitrogen storage tanks is to be approved in accordance with the Annex 1 “GUIDANCE FOR SURVEY AND CONSTRUCTION OF EQUIPMENT AND FITTINGS OF SHIPS CARRYING LIQUEFIED GASES IN BULK”. Where the oil fired inert gas generator is fitted for the purposes of 9.2 and 9.3 of the Rules, the requirements of 8.2.2-4, 8.2.2-8, 8.2.2-9, 8.2.2-10, 8.2.2-12 and 8.2.3-2 of the Annex 1 may not apply.
- (3) Inert gas systems using nitrogen generators are to comply with the following requirements in (a) and (b). ~~the requirements of the Annex R35.2.2-2 “GUIDANCE FOR INERT GAS SYSTEMS USING NITROGEN GENERATORS” under the following conditions:~~
 - (a) 35.2.2-2(2), 35.2.2-2(4), 35.2.2-4(2), 35.2.2-4(3), 35.2.2-4(5)(a) (except (a)iii) through v)), 35.2.2-4(5)(d), 35.2.4(1)(c), 35.2.4(1)(d), 35.2.4(1)(f), 35.2.4(1)(g), 35.2.4(1)(h), 35.2.4(1)(i), 35.2.4(1)(j), 35.2.4(2), Part R of the Rules and the requirements of 8.2.2-11 in the Annex 1 “Guidance for Survey and Construction of Equipment and Fittings for Ships Carrying Liquefied Gases in Bulk” are to apply.
 - (b) The two non-return devices as required by 35.2.2-3(1)(a) are to be fitted in the inert gas main. The non-return devices are to comply with 35.2.2-3(1)(b) and 35.2.2-3(1)(c), Part R of the Rules, however, where the connections to the cargo tanks, to the hold spaces or to cargo piping are not permanent, the non-return devices required by 35.2.2-3(1)(a) may be substituted by two non-return valves.
- ~~(1) The requirements of 8.2.2-11 in the Annex 1 “GUIDANCE FOR SURVEY AND CONSTRUCTION OF EQUIPMENT AND FITTINGS FOR SHIPS CARRYING LIQUEFIED GASES IN BULK” may apply in place of the requirements of 35.2.6-3, Part R of the Rules as referred to in 1.1.1-2 of the Annex R35.2.2-2.~~
- ~~(2) The requirements of 9.4.4, Part N of the Rules may apply in place of the requirements of 1.2.4 in the Annex R35.2.2-2.~~
- ~~(3) The requirements of 35.2.10-4, Part R of the Rules as referred to in 1.1.1-2 of the Annex R35.2.2-2 may not apply.~~
- ~~(4) Where the systems are fitted for the purposes of 9.2 and 9.3, Part N of the Rules, the requirements of 4.5.3-4(2), 4.5.6-3, 11.6.3-4 and 35.2.7 (except 4), Part R of the Rules as~~

referred to in ~~1.1.1-2~~ of the ~~Annex R35.2.2-2~~ and ~~1.2.1-1~~ and ~~1.2.2-1~~ of the ~~Annex R35.2.2-2~~ may not apply, in addition to (1) to (3) above.

- (~~3~~4) Inert gas systems using boiler flue gases are to comply with the requirements of **Chapter 35, Part R of the Rules** under the following conditions.
- (~~a~~a) The requirements of **8.2.2-11** in the **Annex 1 “GUIDANCE FOR SURVEY AND CONSTRUCTION OF EQUIPMENT AND FITTINGS FOR SHIPS CARRYING LIQUEFIED GASES IN BULK”** may apply in place of the requirements of ~~35.2.6-3~~**35.2.3(1)(b)i) and ii), Part R of the Rules.**
- (~~b~~b) The requirements of **9.4.4, Part N of the Rules** may apply in place of the requirements of ~~35.2.5 (except 6) and 35.2.6-4~~**35.2.2-3(1)(a) through (i), Part R of the Rules.**
- (~~c~~c) The requirements of ~~35.2.5-6, 35.2.10-1.(7) and 35.2.10-4~~**35.2.2-4(5)(c) and 35.2.3(2)(b)vii), Part R of the Rules** may not apply.
- (~~d~~d) Where the systems are fitted for the purposes of **9.2** and **9.3, Part N of the Rules**, the requirements of **4.5.3-4(2), 4.5.6-3, 11.6.3-4, 35.2.2-2, 35.2.2-1(2)(d), 35.2.2-2(4)**~~35.2.2-5, 35.2.2-3(2) (except (d)), 35.2.3-1, 35.2.4-1 and 35.2.7(except 4)~~**35.2.3(1)(c)i) and 35.2.3(1)(d)i), Part R of the Rules** may not apply, in addition to (1) to (3) above.
- (e) Where the connections to the cargo tanks, to the hold spaces or to cargo piping are not permanent, the non-return devices required by 35.2.2-3(1)(a), Part R of the Rules may be substituted by two non-return valves.

N11 FIRE PROTECTION AND FIRE EXTINCTION

N11.1 Fire Safety Requirements

N11.1.1 General

Sub-paragraph -1 has been amended as follows.

1 ~~“Where an Alternative arrangements for inert gas system specified in 11.1.1, Part N of the Rules means the arrangements which comply with the requirements specified in 4.5.5-4(1), Part R of the Rules. are provided” specified in 11.1.1, Part N of the Rules, means the cases which come under either of followings:~~

- (1) ~~In case where ships carrying liquefied gases in bulk are provided with the system conforming to **S11.1.1-2, Part S of the Guidance** (in this case, the term “ships carrying dangerous chemicals in bulk” is to be read as “ships carrying liquefied gases in bulk”), for carrying crude oil and petroleum products having a flashpoint not exceeding 60°C and having Reid vapour pressure below the atmospheric pressure, or other liquid cargoes having a similar fire hazard.~~
- (2) ~~In case where carriage of flammable cargo other than crude oil or petroleum products specified in **Chapter 17 and 18, Part S of the Rules** by ships carrying liquefied gases in bulk is intended where the capacity of each tank carrying such cargo does not exceed 3,000m³, the discharge rate of each nozzle of the tank washing machine does not exceed 17.5m³/hr and the aggregate total discharge rate of the tank washing machines simultaneously used in one tank does not exceed 110m³/hr.~~

**Annex 1 GUIDANCE FOR EQUIPMENT AND FITTINGS OF SHIPS
CARRYING LIQUEFIED GASES IN BULK**

**Chapter 8 INERT GAS GENERATOR/STORAGE SYSTEM AND LIQUID
NITROGEN TANK**

8.2 Inert Gas Generators (IGG)

8.2.2 Construction and Installation

Sub-paragraph -15 has been added as follows.

15 The two non-return devices as required by **35.2.2-3(1)(a), Part R of the Rules** are to be fitted in the inert gas main. The non-return devices are to comply with **35.2.2-3(1)(b) and 35.2.2-3(1)(c), Part R of the Rules**. However, where the connections to the cargo tanks, to the hold spaces or to cargo piping are not permanent, the non-return devices required by **35.2.2-3(1)(a), Part R of the Rules** may be substituted by two non-return valves.

8.2.4 Control, Alarm and Safety System

Sub-paragraphs -6 to -12 have been added as follows.

6 An automatic control capable of producing suitable inert gas under all service conditions is to be fitted to IGG.

7 Automatic shutdown of the inert gas system and its components parts are to be arranged on predetermined limits being reached, taking into account the provisions of paragraphs **35.2.2-4** and **35.2.3(2), Part R of the Rules**.

8 The system is to be designed to ensure that if the oxygen content exceeds 5% by volume, the inert gas is to be automatically vented to atmosphere.

9 Instrumentation is to be fitted for continuously indicating and permanently recording the followings, when inert gas is being supplied.

(1) Pressure of the inert gas mains forward of the non-return devices

(2) Oxygen content of the inert gas.

10 The indicating and recording devices are to be placed in the cargo control room where provided. But where no cargo control room is provided, they are to be placed in a position easily accessible to the officer in charge of cargo operations.

11 Audible and visual alarms are to be provided, based on the system designed, to indicate failure of the power supply to the indicating devices as referred to in -9 above.

12 Two oxygen sensors are to be positioned at appropriate locations in the space or spaces containing the inert gas system. If the oxygen level falls below 19%, these sensors are to be trigger alarms, which are to be both visible and audible inside and outside the space or spaces and are to be placed in such a position that they are immediately received by responsible members of the crew.

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 1 January 2016.
2. Notwithstanding the amendments to the Guidance, the current requirements may 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.