Classification of Hazardous Areas for the Insides and Surroundings of Gas Admission Valves

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part GF
Guidance for the Survey and Construction of Steel Ships Part GF

Reason for Amendment

For the purpose of preventing explosions and reducing the effects of explosions on ships using low-flashpoint fuels, the International Code of Safety for Ships Using Gases or Other Low-flashpoint Fuels (IGF Code) specifies standards for the classification of hazardous areas on such ships as well as for the selection of appropriate apparatuses and other equipment used in such areas.

Although the IGF Code provides examples related to the classification of hazardous areas, it also allows for classification based on risk assessment. It is, however, unclear as to which classification should be applied to hazardous areas when the result classification based on risk assessment differs from classification based on the examples included in the code.

For the above reason, an interpretation which clarifies that the classification of hazardous areas regarding gas admission valves can be based on risk assessment was adopted at the 101st Session of the IMO Maritime Safety Committee (MSC101) held in June 2019 as MSC.1/Circ.1605.

Accordingly, relevant requirements are amended based on MSC.1/Circ.1605.

Outline of Amendment

Stipulates for gas admission valves on gas-fuelled engines that an appropriate explosion-protected type can be chosen not only according to the classification of hazardous areas specified in 12.5, Part GF of the Rules for the Survey and Construction of Steel Ships, but also according to classification by risk assessment based on relevant international standards.

"Rules for the survey and construction of steel ships" has been partly amended as follows:

Part GF SHIPS USING LOW-FLASHPOINT FUELS

Chapter 12 EXPLOSION PREVENTION

12.4 Hazardous Areas (*IGF Code* 12.4)

Paragraph 12.4.2 has been amended as follows.

12.4.2 Classification of Hazardous Areas*

In order to facilitate the selection of appropriate electrical apparatus and the design of suitable electrical installations, hazardous areas are divided into zones 0, 1 and 2 ~~in accordance with the requirements of **12.5**~~ See also **12.5** below.

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

Part GF SHIPS USING LOW-FLASHPOINT FUELS

GF12 EXPLOSION PREVENTION

Section GF12.4 has been amended as follows.

GF12.4 Hazardous Areas

1 Risk assessments in accordance with the relevant standards on hazardous area classification in **12.4, Part GF of the Rules** are to be understood as a procedure equivalently applicable to the examples for hazardous area zones laid out in **12.5, Part GF of the Rules** for the categorisation of gas admission valves for dual fuel engines and gas engines. Above-mentioned "relevant standards" means those listed below.
(1) *IEC* 60092-502
(2) *IEC* 60079-10-1
2 The provision of **12.4.2, Part GF of the Rules** is to be interpreted as the guiding methodology for the categorisation of gas admission valves at dual fuel engines and gas engines. If no additional safety measures and no corresponding risk assessment in accordance with **-1** are available, the examples in **12.5, Part GF of the Rules** are to apply.
3 In applying **12.4.2, Part GF of the Rules**, applicable requirements of **Chapter 4, Part H of the Rules** are to be complied with.

~~**GF12.4.2 Classification of Hazardous Areas**~~
~~In applying **12.4.2, Part GF of the Rules**, applicable requirements of **Chapter 4, Part H of the Rules** are to be complied with.~~

Section GF12.5 has been amended as follows.

GF12.5 Hazardous Area Zones

In applying **12.5, Part GF of the Rules**, **GF12.4-1** and **-2** are to be taken into account.

GF12.5.2 Hazardous Area Zone 1
1 Measuring instruments and electrical equipment are to be capable of being used in the hazardous area zone 1.
2 Fuel storage hold spaces for type *C* tanks are normally not considered as hazardous area zone 1. The detailed classification of such fuel storage hold spaces are as follows:
(1) Fuel storage hold spaces with all potential leakage sources in a tank connection space and having no access to any hazardous area, are to be considered non-hazardous.
(2) Where the fuel storage hold spaces include bolted access to the tank connection space, they are to be considered hazardous area zone 2.
(3) Where the fuel storage hold spaces include potential leak sources, e.g. tank connections, they are to be considered hazardous area zone 1.
3 The wording "areas on open deck, or semi-enclosed spaces on deck, within 3 *~~metre~~* of any fuel tank outlet, gas or vapour outlet" specified in **12.5.2(3), Part GF of the Rules** means, for

example, all areas within 3 *~~metre~~* of fuel tank hatches, ullage openings or sounding pipes for fuel tanks located on open deck and gas vapour outlets.

GF12.5.3 Hazardous Area Zone 2

Measuring instruments and electrical equipment are to be capable of being used in the hazardous area zone 2.