

# Gas Combustion Units for Gas-fuelled Ships and Ships Carrying Liquefied Gases in Bulk

## Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Parts B and GF  
Guidance for the Survey and Construction of Steel Ships Parts D, GF and N

## Reason for Amendment

When liquefied natural gas is transported as cargo or stored as fuel in the liquefied gas fuel tanks of gas-fuelled ships and the cargo tanks of ships carrying liquefied gases in bulk, excess vapour such as boil-off gas would raise tank pressure. Therefore, for the purposes of maintaining it below the designed permissible range of tank pressure, it is necessary to deal with this excess vapour by suitable methods such as reliquefaction, thermal oxidation, pressure accumulation and liquid cargo cooling.

Although the use of Gas Combustion Units (hereinafter referred to as “*GCU*”), as the methods is recently becoming common, relevant requirements related to them in the IGF Code and IGC Code are not very well organized . Therefore, ClassNK has been discussing way to best sum up and specify such requirements in its Rules.

Accordingly, relevant requirements are amended by reference to the IGF Code and IGC Code to reorganize requirements to *GCU*s and have them be consistent with those related to gas fuel boilers.

## Outline of Amendment

The main contents of this amendment are as follows:

- (1) Specified in Part B of the Rules for the Survey and Construction of Steel Ships that general examinations and performance tests for safety devices and alarms of *GCU*s are to be conducted at Annual Surveys, Intermediate Surveys and Special Surveys.
- (2) Specified requirements related to *GCU*s respectively in Annex 2A of both the Guidances for the Survey and Construction of Steel Ships for Parts GF and N as follows:
  - (a) Submission of plans and documents
  - (b) Construction and arrangement
  - (c) Control systems and safety systems
  - (d) Shop tests
  - (e) Gas trials
- (3) Amended requirements related to gas fuel boilers to match (2) above.

## Amended Requirements

Rules for the Survey and Construction of Steel Ships  
Part B: 2.1.2, Table B3.7, Table B5.27, Table 5.29, Table B7.1  
Part GF: 1.1.3, 6.9.4  
Guidance for the Survey and Construction of Steel Ships  
Part D: Table D1.1.6-1  
Part GF: Annex 2 1.1 to 1.3, 2.2, 3.2.1, 4.3, 4.4, Annex 2A (Added)  
Part N: N16.1.1, Annex 2 2.2, Chapter 3, Chapter 4, Chapter 5(deleted),  
Annex 2A (Added)