# Quantity of Gas Discharged by Fixed Carbon Dioxide Fire-extinguishing Systems

**Amended Guidance**

Guidance for the Survey and Construction of Steel Ships Part R
Guidance for the Survey and Construction of Passenger Ships
Guidance for the Survey and Construction of Inland Waterway Ships

**Reason for Amendment**

(1) Paragraph 2.2.1.7 in Chapter 5 of the Fire Safety System Code (FSS Code) specifies that the system controls for fire-extinguishing systems for container and general cargo spaces are to be arranged to allow the setting of three different quantities of carbon dioxide gas to be discharged within the space. However, it is not clearly specified whether the quantity of gas to be discharged is to be determined based upon the volume of the largest cargo space on the ship or the respective volumes of each cargo space.

As a result of a discussion by the IMO, a unified interpretation was developed at the 2nd Session of the IMO Sub-Committee on Ship Systems and Equipment (SSE2) held in March 2015 which specifies that the configuration of system controls for the three set points for the discharge of carbon dioxide gas is to be based upon the volume of the largest cargo space. This UI was approved as MSC.1/Circ.1528 at the 96th Session of IMO Maritime Safety Committee (MSC96) held in May 2016.

Accordingly, relevant requirements were amended in accordance with MSC.1/Circ.1528.

(2) Taking into account the rules of the Japanese Government, etc., the ClassNK Rules had originally specified that the volume of starting air receivers is to be added to the gross volume of a machinery space when calculating the quantity of carbon dioxide gas needed to protect the machinery space, provided that a discharge pipe from the safety valves fitted to the starting air receivers is led to the machinery space and the volume of starting air receivers is greater than 10% of the gross volume of the machinery space.

At this time, relevant requirements were amended so as to specify that the volume of starting air receivers is to be added to the gross volume of the machinery space regardless of the volume of starting air receivers.

**Outline of Amendment**

(1) Specified that the three setting points for the quantity of carbon dioxide gas to be discharged are to be based upon the volume of the largest cargo space.
(2) Specified that the volume of starting air receivers is to be added to the gross volume of a machinery space when calculating the quantity of carbon dioxide gas needed to protect the machinery space, regardless of the volume of starting air receivers.

**Amended Requirements**

Guidance for the Survey and Construction of Steel Ships
Part R: R10.4.3, R25.2.1, R25.2.2
Guidance for the Survey and Construction of Passenger Ships Annex 7-1 Table 7-1-B1
Guidance for the Survey and Construction of Inland Waterway Ships Part 9 8.4.3