South African Maritime Safety Authority

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Marine Notice No. 8 of 2019

Effective Implementation of IMO 2020 0.50% Sulphur Cap

TO ALL SHIP OWNERS, SHIP OPERATORS, MASTERS, BUNKER SUPPLIERS AND PRINCIPAL OFFICERS

Summary

The purpose of this marine notice is to advise of the global implementation of the International Convention for the Prevention of Pollution from Ships (MARPOL) Annex VI limit of 0.50 mass per cent concentration (0.50% m/m) Sulphur content in fuel oil, for all ships, from 1 January 2020.

1. INTRODUCTION

The main type of "bunker" oil for ships is heavy fuel oil, derived as a residue from crude oil distillation. Crude oil contains sulphur which, following combustion in the engine, ends up in ship emissions. Sulphur oxides (SOx) are known to be harmful to human health and the environment.

Limiting SOx emissions from ships will improve air quality and protects the environment. IMO regulations to reduce sulphur oxides (SOx) emissions from ships first came into force in 2005, under Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL Convention). Since then, the limits on sulphur oxides have been progressively tightened. There is an even stricter limit of 0.10% m/m already in effect in emission control areas (ECAS) which have been established by IMO.

From 1 January 2020, the limit for sulphur in fuel oil used on board ships operating outside designated emission control areas will be reduced to 0.50% m/m (mass by mass).

IMO published the First Greenhouse Gas Emissions Study in 2000 and the Second Study in 2009. The latest and Third Study was published in 2014. It estimates that international shipping SOx emissions represents about 12% of global SOx emissions from anthropogenic sources. The implementation of the 2020 Global Sulphur Cap will significantly reduce the amount of Sulphur Oxides emanating from ships. Studies have shown that limiting SOx emissions from ships is expected to improve air quality and results in major environmental and health benefits especially for the population living close to ports and coastal areas.

2. APPLICATION

All sizes of ships will need to use fuel oil that meets the 0.50% limit from 1 January 2020. The 0.50% Sulphur limit extends to carriage of bunker fuel with Sulphur content of more than 0.50% for vessels not fitted with Exhaust Gas Cleaning Systems (EGSC). The carriage ban will come into effect on 1 March 2020.

3. GENERAL

Ships must operate using compliant fuels of 0.50% sulphur or less from 1 January 2020 unless they are provided with an approved 'equivalent' means of compliance.

3.1 Open-Loop, Closed-Loop Or Hybrid Systems

The use of exhaust gas cleaning systems, also known as scrubbers, is a commercially available option for the shipping industry. Ships installed with scrubbers mean they can continue to burn high-sulphur bunker fuel from 2020 and comply with the 0.5% sulphur limit.

The abatement technology works by spraying alkaline water into a vessel's exhaust to remove sulphur and other unwanted chemicals, either via open-loop system, closed-loop system, or hybrid (open-and-closed loop) system.

The acceptance of exhaust gas cleaning systems (scrubbers) as an equivalent arrangement under Regulation 4 of MARPOL Annex VI for compliance with the sulphur limit is currently based on the criteria stipulated in the 2015 Guidelines for Exhaust Gas Cleaning Systems (resolution MEPC.259(68)).

2015 Guidelines for Exhaust Gas Cleaning Systems (resolution MEPC.259(68)

UNTIL FURTHER NOTICE
SOUTH AFRICA ACCEPTS ALL TYPES OF APPROVED SCRUBBERS

3.2 Compliant Fuels

The most straightforward way for ships is to simply switch to burning MGO (distillates) to meet IMO's sulphur limits.

3.3 Other – [Liquefied Natural Gas (LNG), Marine Biofuel]

The viability for ships to burn LNG and "Marine Biofuels" as fuel depends very much on the availability. From a bunkering perspective, South Africa does have no restrictions on vessels using this type of fuel when entering South African waters.

3.4 Low Sulphur Fuel Oil (LSFO)

The world's leading oil majors have not mentioned anything on a mass production of 0.5% blends, neither have they announced commitments to invest in reconfiguring their refineries to produce 0.5% fuels.

Although discussions are ongoing with bunker suppliers, there has been no firm commitment to import low sulphur fuels.

The International Bunker Industry Association has expressed confidence that the compliant fuel will be available in South African Ports by 1 January 2020.

4. SHIPOWNERS

IMO has developed the Guidance on the Development of a Ship Implementation Plan (SIP) for the consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI (MEPC.1/Circ.878).

MARPOL Annex VI (MEPC.1/Circ.878)

This MEPC Circular consists of a guidance on developing the non-mandatory SIP, which also includes a sample format for the implementation plan, potential impacts of low sulphur fuel oil on machinery systems and guidance for fuel oil tank cleaning. It should be emphasized that the SIP is not mandatory. However, the SIP can be utilised by ship operators to help them plan and demonstrate the actions taken by their ships to prepare for compliance with the 0.50%m/m sulphur limit come January 1, 2020. Preparatory measures such as modifications to fuel oil systems, fuel oil capacity and segregation capability, tank cleaning and bunkering plans, complemented with the record of implementation in the lead-up to the compliance date would serve to facilitate the documentation check by inspectors.

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