

November 2019

MS  **Amlin**

Time is running short for the Sulphur Cap 2020



A good beginning makes a good ending, so get prepared and don't be misled. The Sulphur Cap is just one of many emission restrictions to come, all trying to battle climate change and global warming.

The Sulphur Cap is the popular name of the amended Annex VI of MARPOL¹. From the 1st of January 2020, the allowed sulphur content in ships' bunker fuel oil will be reduced from 3.5% mass by mass (m/m) to 0.5% m/m for ships operating outside designated emission control areas. The MARPOL Emission Control Area (ECA) limit of 0.1% will still apply, as will the applicable local regulations. Furthermore, from the 1st of March 2020 a carriage ban will be enforced, which means that ships are not allowed to carry any fuels on board with a sulphur content of more than 0.5% m/m², unless they use a scrubber.

In order to comply, shipowners, operators and charterers need to take precautionary measures and plan the transition as thoroughly as possible. With this circular, MS Amlin wishes to inform its clients about the impacts and risks, and provides recommendations for compliance.

For further reference please also read our circular from December 2018 ([Click here](#)).

How to comply?

The first question that arises is how to comply with the new sulphur limit(s). Shipowners, operators and charterers need to take action themselves, as non-compliance can result in all kinds of costs and liabilities. High Sulphur Fuel Oil (HSFO) cannot be used and eventually not even carried on board anymore, unless a scrubber is installed, one of the following measures have to be taken.

Burning compliant residual fuel

A number of compliant products with a sulphur content <0.5% m/m are being developed by producers. Whereas products specially produced to be compliant are commonly referred to as 'hybrids', those resulting from the mix of distillate and residual fuels are known as 'blends'. Terms commonly used for residual fuels complying with the sulphur limit are Low Sulphur Fuel Oil (LSFO) for fuel with a sulphur content of <0.5% m/m and Ultra Low Sulphur Fuel Oil (ULFO) for fuel with a sulphur content of <0.1% m/m.

Burning compliant distillate fuel

Contrary to marine fuel residuals, which are the heavy products from the refinery, distillates are the lighter grade fuels from the refining process. Distillates with a low sulphur content are a direct route to compliance. The most common distillates are the marine gas oil (MGO/DMA) and marine diesel fuel (MDO/DMB).

Using "equivalent" means of compliance, such as a scrubber or Liquefied Natural Gas (LNG)

Scrubbers are designed to allow continued use of HSFO as the scrubber effectively washes the exhaust gas. At this moment, scrubbers are seen as a temporary solution and only a small percentage of the world fleet will be fitted with them by 2020.

Another option is to use LNG as fuel, but to be able to use LNG the vessel needs severe modifications. Furthermore, LNG is not widely available yet.

Decisions on how to comply in January 2020 may vary considerably depending on the type of ship, nature of the trade and the area of operation.

¹ International Convention for the Prevention of Pollution from Ships (MARPOL)

² Regulation 14 MARPOL Annex VI

What are the main challenges when switching over?

Successful implementation of the Sulphur Cap will depend on the availability and quality of low sulphur fuel oils. In order to lower the sulphur content, HSFO will be blended with other substances.

As the new fuels are not yet widely available, the possibility exists that shipowners may face a situation where fuel delivered on board could be compliant with the 0.5% limit, but not compliant with the fuel parameters as stated in ISO 8217 and in ISO/PAS 23263:2019. Therefore, it is of importance that the below stated fuel properties are carefully considered.

- **Sulphur content**

The sulphur content of fuel oil being bunkered must be stated on the Bunker Deliver Note (BDN) and should furthermore be verified by independent laboratory analysis. Besides the non-compliance risk, the sulphur content of fuel oil dictates the quantity and quality of cylinder lubrication, which is required to neutralise corrosive oxides.

- **Stability**

Unstable fuel can result in increased sludge formation in filters and purifiers, which may lead to loss of power and propulsion and ultimately engine failure.

- **Compatibility**

Mixing two compliant and stable but incompatible fuels may result in increased sludge formation inside filters and purifiers. If not rectified in time, this may lead to loss of propulsion and auxiliary power.

- **Viscosity**

Viscosity is important for ensuring optimum combustion efficiency. If viscosity is too high, this will result in incomplete combustion. Or, if viscosity is too low, this may also lead to inadequate lubrication of fuel pumps resulting in jammed plungers.

- **Cat fines**

Excessive presence of catalyst particles of aluminium silicate (also known as cat fines) in fuel oil may lead to damage to engine fuel pumps, injectors and cylinder liners.

- **Acid number**

Fuel oil with a high acid number may cause accelerated damage to various parts of the combustion unit including the fuel injection equipment.

- **Cold flow properties**

Incorrect cold flow properties of distillate fuel can lead to flaky or frozen fuel when temperatures are dropping. Flakes in the fuel cause fuel filters to clog resulting in loss of power or a black out of the engine.

- **Availability**

When compliant fuel is not available or available fuels are not suitable, this should be reported to the Flag State and the next port of destination using a Fuel Non-Availability Report (FONAR)³. The IMO has developed further guidance, including a standard format for a FONAR, which can be found [here](#).

When using a FONAR for bunkering non-compliant fuel it should be considered that the higher costs of compliant fuel will not be a valid basis for claiming non-availability and the shipowner has to ensure that there is adequate documentary evidence of communication between the ship and the fuel supplier. Furthermore, any non-compliant fuel must be disposed of upon arrival in the next port and the tanks and lines must be cleaned, which can be very expensive.

“A FONAR is not a “get out of jail free card” and can only be used in exceptional cases”.

³ Regulation 18 MARPOL Annex VI



How can these risks be mitigated?

Ship implementation plan

To facilitate a smooth transition, shipowners are encouraged to create and follow a Ship Implementation Plan. The IMO has developed a format for such Ship Implementation Plan, which can be found via this link [here](#).

The Ship Implementation Plan could be used as a tool to identify any specific safety risks related to sulphur compliant fuel oil, as may be relevant to the ship, and to develop an appropriate action plan to address and mitigate the concerns identified. The Ship Implementation Plan is not a mandatory document but is recommended as Port State Control may consider it when verifying compliance.

Risk assessment

In addition, a detailed risk assessment of the available compliant fuels should be conducted prior to deciding which option will be used as from January 2020 and action plans should be developed in order to address and identify any specific safety risks. These action plans will be valid for the duration of the operation of the ship and should be included in the ship's Safety Management System (SMS).

The risk mitigation plan should include at least the following information:

- Procedures to segregate different types of fuels from different sources.
- Procedures for compatibility testing and segregating fuels from different sources until compatibility can be confirmed.
- Plans to address any mechanical restrictions with respect to using specific fuels, including ensuring that minimum/maximum characteristics of fuel oil as identified in fuel standards such as ISO 8217 can be safely handled on board the ship; and procedures to verify machinery performance using fuel oil with characteristics with which the ship has no prior experience.
- Training of the crew on the use of new fuel types.

Tank cleaning

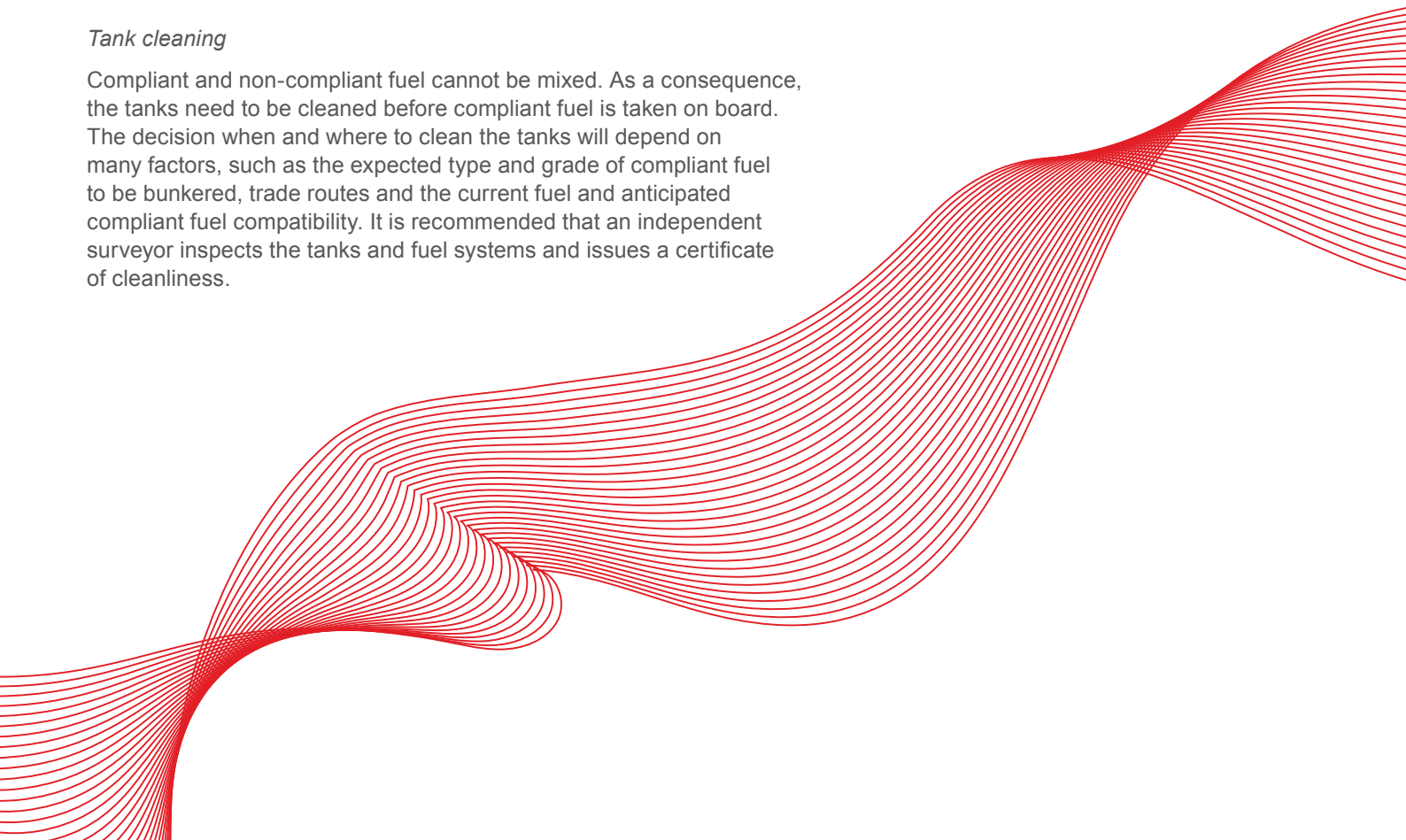
Compliant and non-compliant fuel cannot be mixed. As a consequence, the tanks need to be cleaned before compliant fuel is taken on board. The decision when and where to clean the tanks will depend on many factors, such as the expected type and grade of compliant fuel to be bunkered, trade routes and the current fuel and anticipated compliant fuel compatibility. It is recommended that an independent surveyor inspects the tanks and fuel systems and issues a certificate of cleanliness.

How will the Sulphur Cap be enforced?

A robust and consistent approach to compliance is expected by all Port State Control (PSC) regimes. PSC inspections will be carried out in accordance with the IMO PSC procedures and the 2019 guidelines for PSC under MARPOL Annex VI.

In order to establish whether a ship is in compliance, PSC inspectors will likely focus their attention on documents and procedures maintained on board. In certain jurisdictions PSC inspectors may carry portable sulphur testing kits and if the results of these tests are inconclusive or indicate potential non-compliance then additional sampling will take place for verification ashore.

If the results indicate non-compliance, PSC can impose a fine, detain the vessel or even ban the vessel from sailing in its waters. Consequently, it is important that ships' crews are aware and familiar with the new regulations, associated documentation and procedures.



Contractual considerations

With the Sulphur Cap vastly approaching, the charter parties need to be carefully reviewed and amended where necessary. In particular, time charter parties require close attention, as it will be the charterer who will supply and pay for the fuels. The shipowners will only state the specifications for the fuel that are suitable for the particular vessel in the charter party and the charterers will thus be the ones contracting with the bunker supplier.

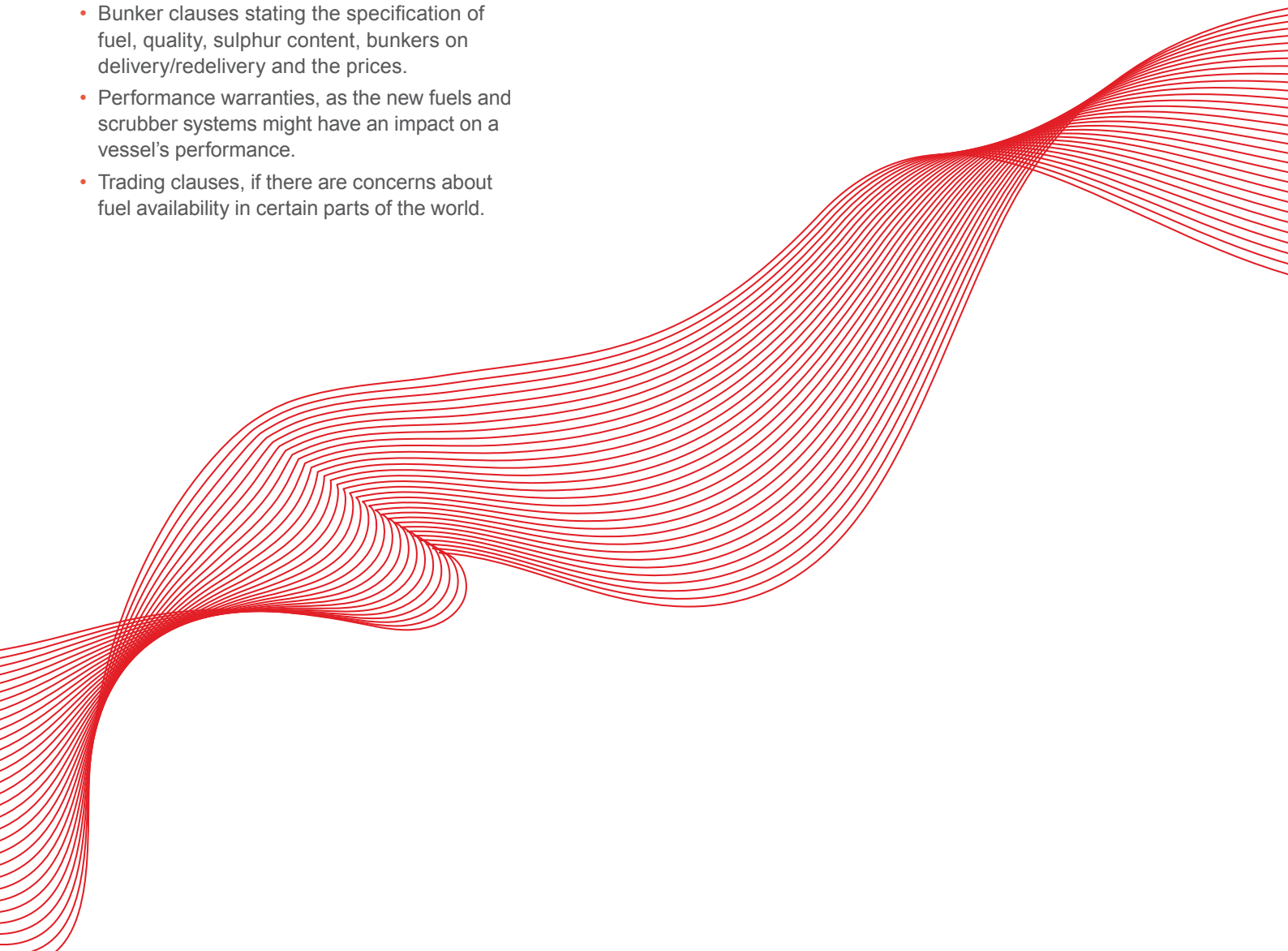
It is up to the parties to decide which clauses they contract on, and they can negotiate the terms further. Which clause would suit the parties best depends on the term of the charter, type of vessel, trading area and available bunker ports, and all other facts and circumstances. Both BIMCO and Intertanko have issued clauses that aim to assist the parties, but these are very general. Therefore, other clauses in the charter party should be carefully considered, such as:

- Definition of 'high sulphur' and 'low sulphur' as there are three sulphur types (<0.10%, <0.50% and >0.50%).
- Bunker clauses stating the specification of fuel, quality, sulphur content, bunkers on delivery/redelivery and the prices.
- Performance warranties, as the new fuels and scrubber systems might have an impact on a vessel's performance.
- Trading clauses, if there are concerns about fuel availability in certain parts of the world.

Insurance cover

It is recognized that the Sulphur Cap could result in P&I liabilities not previously seen. Penalties for non-compliance are likely to include fines, detentions and possibly, in extreme cases, PSC banning orders.

Under our new 2020 policy wordings for Shipowners P&I and Charterers' Liability, fines for infringements of MARPOL are excluded. Whilst every case will depend on its individual circumstances, fines for purely accidental discharge of non-compliant emissions might be covered as MS Amlin has discretionary power to provide cover for such fines if the Assured is able to demonstrate it that they acted in good faith and did everything that could reasonably be expected of him to ensure compliance. This is similar to the cover provided by the International Group of P&I Clubs.



Conclusions and recommendations

- Ideally, in order to avoid difficulties during the first few months of 2020, shipping companies are encouraged to operate their ships on distillate fuels initially and change to 0.5% blended residual fuels once sufficient reliability is ensured with regards to availability and safety.
- The implementation of a well-considered Ship Implementation Plan is of utmost importance for compliance with the Sulphur Cap and therefore MS Amlin strongly recommends shipowners to utilize it.
- Contact the engine manufacturer to find out if any engine modifications are required and if any changes in lubrication oil type and schedule are deemed necessary.
- It is recommended that an independent surveyor inspects the tanks and fuel systems and issues a certificate of cleanliness.
- Bunkering different grades of fuel oil into the same bunker tank should be avoided. If fuels with a different sulphur content are bunkered through the same bunker hose/line, the fuel with the lowest sulphur content should be loaded first.
- The bunker hose and lines must be properly blown through after the delivery of each grade of fuel oil to avoid blending of non-compatible grades.
- Bunkered fuel oil should not be used until it is properly tested by an independent laboratory and the test results are confirmed to be in order.
- The crew has to be trained properly and correct bunker and sampling procedures have to be implemented.

For any queries on this topic, please do not hesitate to contact our Client Services Desk:
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Disclaimer

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