POSITION PAPER

Fuel oil safety considerations associated with the January 2020 0.50% sulphur cap requirement

IACS
International Association of Classification Societies

Our Position

Design and operational aspects associated with the new compliant fuels have to be addressed well before the January 2020 implementation date of the low-sulphur requirements. Potential safety implications (stability of blended fuel oil, compatibility including new tests and metrics appropriate for future fuels, cold flow properties, acid number, flash point, ignition quality and cat fines) were identified during the PPR intercessional meeting (ISWG-AP 1) with actions being taken to address them. Provided the actions are appropriately addressed by 01 January 2020, we consider the information will be in place to allow the major technical challenges to be addressed.

BACKGROUND

Sulphur Limits

International shipping currently contributes approximately 12% to global sulphur emissions and limits on the sulphur content in fuels used has been put into place to reduce these emissions. Currently most seagoing ships use heavy fuel oil (HFO) or marine gas oil (MGO), with a maximum sulphur limit of 3.5% m/m (mass by mass) outside Emission Control Areas and 0.10% m/m inside Emission Control Areas.

The decision of the IMO to limit global sulphur content of marine fuel oil from 1 January 2020 to 0.50%, and the ambition to reduce GHG emission by 50% within 2050 compared to 2008, is already intensifying the research in to fuels and technologies that can help the industry meet the challenges ahead.

Fuel Supply

Looking at the future with the IMO 2020 low-sulphur standards and future GHG reduction strategy in mind, it is likely that the share of conventional marine fuels will drop and the share of alternative fuels will grow.

When the sulphur content in ship fuel is limited to 0.50% in 2020, only vessels equipped with exhaust gas cleaning systems, such as SOx scrubbers will be allowed to consume HFO with >0.50% sulphur content. Other vessels must use low sulphur HFO, distillates, LNG or other fuels.

Prerequisites for introducing a new fuel include availability of sufficient supply, e.g. production and distribution facilities as well as an adequate bunkering infrastructure. In addition, new fuels may require vessel modifications, e.g. re-designed tank arrangements, piping systems, etc.

2020 low-sulphur requirements will significantly reduce the global demand for high-sulphur HFO. Currently, low sulphur HFO is not widely available on the market due to its limited use in very specific geographical locations.

The future availability of new 0.50% sulphur fuel oil, its forecasted high prices, uncertain operational aspects of its use, and the unclear uptake of scrubbers enabling continued use of high sulphur fuel are all examples of uncertainties ship owners and operators need to take into consideration when deciding on fuel strategies.

Safety

With the future use of fuels compliant with the IMO 2020 low-sulphur requirements, operators will have to become familiar with the properties associated with the new or blended fuels so that safety may be maintained. Additionally, fuel suppliers will have to specify the fuel properties and confirm compliance with industry standards such as those specified by ISO. Such properties include flashpoint, combustibility, stability, compatibility, viscosity, cat fines, lubricity, etc. Each of these properties if not properly addressed can affect vessel equipment performance and reliability which can ultimately affect safety of personnel or the safe operation of the vessel. Design and operational aspects associated with the new compliant fuels have to be considered and put into place.

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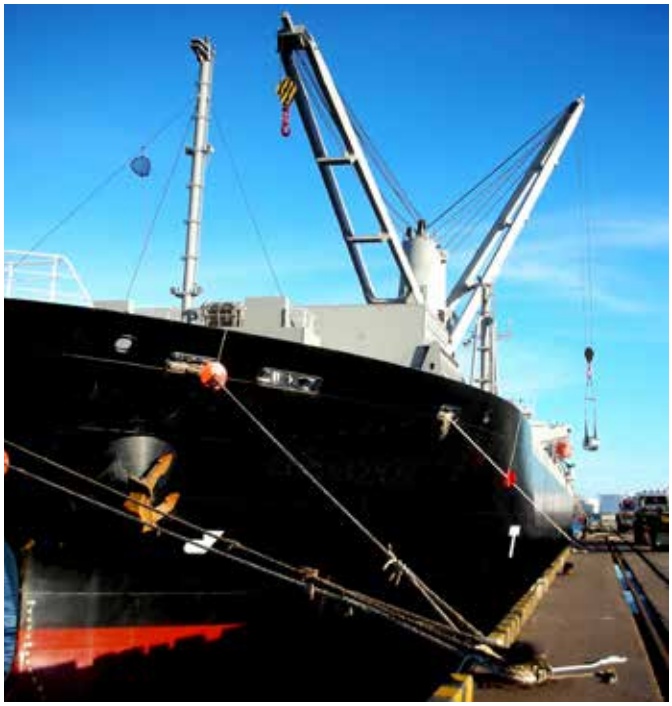
IACS POSITION

IACS holds the position that the safety associated with low-sulphur fuels has to be maintained by above mentioned actions from operators and fuel suppliers. Design and operational aspects associated with the new compliant fuels have to be addressed before the January 2020 implementation date of the low-sulphur requirements.

IACS notes that the IMO PPR Intercessional Meeting on consistent implementation of regulation 14.1.3 of MARPOL Annex VI (ISWG-AP 1) held from 9 to 13 July 2018, progressed the general aspects mentioned above for reporting to the PPR, MEPC and the MSC, including development on ship implementation planning for 2020. IACS fully supports this work. IACS will use its knowledge and expertise and engage closely with the IMO and industry in the development and technical implementation of regulations to strive for ensuring that all use of fuels satisfies IMO requirements regarding safety, including operational safety matters related to storage, fuel systems, filters, centrifuges and purifiers or potential damage to engines.



International shipping currently contributes approximately 12% to global sulphur emissions

SUMMARY OF WORK CARRIED OUT BY IACS ON THIS ISSUE TO DATE

IACS has carried out several investigations on this issue, which include:

1) *IACS UI SC255* deals with the pump arrangement & redundancy requirements re SOLAS II-1/26.3

2) *IACS Rec.151 Part I* on fuel treatment, mixing and purification plant

3) *IACS Rec.151 Part II* on testing of fuel pumps to check suitability to low viscosity fuel

4) *IACS UI SC123* deals with Service tank arrangement & redundancy requirements re SOLAS II-1/26.11

5) Engagement in IMO on new fuel types
   - LNG
   - Ethanol/Methanol
   - Hydrogen
   - Others

6) Engagement in IMO on alternative methods (Exhaust Gas Cleaning systems – EGCS i.e. Scrubbers)

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