

FUELS,
MARINE ENGINES

03 DECEMBER 2019

Heading for IMO 2020

Inevitable change for marine industry stakeholders ahead



The new International Maritime Organization legislation on fuel sulphur will have a huge impact across the shipping and its associated industries. Watch video footage as Infineum fuels and marine lubricant experts, Steve Benwell and Marco Corradi, discuss the implications for industry stakeholders and explain their thoughts on future fuels and lubricant requirements.

From 1 January 2020, new International Maritime Organization (IMO) legislation means ships will be unable to use fuels containing more than 0.50% sulphur, unless fitted with an appropriate exhaust gas cleaning system. This change is set to have huge implications across the industry, from refiners and bunkerers to ship operators/owners and right through to lubricant, base stock and additive suppliers. Industry may have been talking about IMO 2020 for several years, but it's only now, as the new fuels become available, that the full extent of the fuel and lubricant challenges are becoming clear.

A multifuel future seems inevitable and, while initially most ship operators are likely to opt for low sulphur marine gas oils (MGO) before transitioning to very low sulphur fuel oils (VLSFO), there will still be some high sulphur fuel oils used in conjunction with scrubbers and a limited use of alternative fuels. Marco wanted to hear about how the anticipated change in fuel use might impact refiners.

What is evident is that there is a disconnect in the way refiners look at fuel production and availability versus the expectations of ship operators post IMO 2020. The refiners are looking to maximise refinery economics by producing the most profitable streams. This means they may feed areas other than marine fuels, which may impact the availability of low sulphur fuels, something that is somewhat lost on the broader industry.

And, the challenges do not stop with fuel availability concerns. The changes brought about by IMO 2020 at the refinery level could also impact base stock availability, which, as Steve and Marco explain, may also have knock on effects to lubricant formulations.

With the fuels options broadening, there are a lot of questions coming from the wider marine industry about the compatibility and stability of the various fuels that will be available post IMO 2020.

Looking ahead, the number of fuels-related issues is expected to increase. Stability is certainly a concern and one issue could arise from the fact that there really is nowhere else for the materials that would typically go into high sulphur fuel oil to go. For example, the levels of slurry oil in marine fuels is expected to increase post IMO 2020, which may contribute to fuel instability. Complexity is increasing and ship operators should demand fuels that give trouble-free operation throughout their use onboard.

One of the biggest concerns coming from the marine industry is the uncertainty around whether using the new IMO 2020 compliant fuels will impact operability. This not only raises issues of the cost and expense of being out of action but also the safety implications of being on the ocean with no power.

Currently the focus of industry attention is on the implications the IMO sulphur reduction might have on the refinery and the quality of the various products that might be available. But, it is important that it does not lose sight of the fact that changes here are also likely to affect marine lubricant formulation requirements.

The VLSFO future that is expected means some marine lubricants will need reformulation in order to maintain engine cleanliness. And, with a wide variety of options available, finding the optimum solutions and understanding the pros and cons of the different routes has been at the centre of much of Infineum's marine lubricant R&D activity in recent years.

The fuels are brand new, and only just starting to come into the market, which means many operators are waiting until as late as possible in the fourth quarter of this year before they make the transition. While some degree of testing has been undertaken, both Steve and Marco can see a period of some uncertainty ahead.

The exact impact IMO 2020 may have across the marine and related industries remains uncertain. But, one thing that seems clear is that IMO emissions reduction programmes do not stop here. There is much more to come in the next five years, with further sulphur

cuts and wider NOx controls expected. In addition, IMO is working to reduce greenhouse gases, with its initial strategy targeting to reduce CO₂ emissions per transport work, as an average across international shipping, by at least 40% by 2030, pursuing efforts towards 70% by 2050, compared to 2008. [Visit IMO](#) for more details.

As these new regulations come into force, some of the technology innovations from automotive applications will be applied to the next generation of marine diesel engines. Infineum will continue to draw on the experience it has gained from research on diesel fuels and lubricants in heavy-duty diesel vehicles and diesel passenger cars to anticipate future operability challenges.

[Watch this video](#) to find out more about Infineum technology solutions for IMO 2020.

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