«The market will be in complete chaos»

Scrubbers, residuals, payback and blending – the »sulphur cap« creates huge discussions, i.e. about both technical and financial aspects for shipowners and fuel suppliers. For HANSA, Barry Parker collected views and talked to industry players.

By now, shipping readers are all too familiar with »D Day« (De-Sulphur Day), slated for January 1, 2020. By way of background, maximum sulphur content (mass) in marine fuels in most geographies is currently 3.5%. On January 1, 2020, maximum sulphur content will ratchet downward to 0.5%.

Indeed, at a late June conference in New York, Nicolas Busch, CEO of diversified shipowner Navig8, said that discussions of such strategies for coping with the new regulations were now the most attended at such events.

On the economic side, great uncertainties surround the price of fuels. In the words of Paddy Rodgers, CEO of tanker company Euronav, speaking at the same event, »the size of the disruption that’s coming will be mind boggling.« He went on to say that »the residual fuel market is about 7 mill. bbl/day and the bunker fuel portion is about 4 mill. bbl/day.«

However, there is no consensus on how to best comply with the low-sulphur regulation, with proposals ranging from scrubbers, various low-sulphur fuel blends, and even LNG as fuel.

Phillip Verleger, a noted energy economist, wrote in an opinion piece, that: »The problem is that oil refiners may not be able to supply enough of the low-sulphur fuel by 2020. There are too few sophisticated plants that can make the required marine gasoil without also churning out noncompliant fuel oil as a byproduct.« He expressed further concerns that these constraints butting head-on into a tightening oil market, with refiners playing catch-up until at least 2022.

Hamish Norton, the CEO of Star Bulk, said that the large Greek bulk carrier owner that will be installing scrubbers on 22 vessels explained the straightforward reason: »We certainly hope that the scrubbers will allow us to burn cheaper fuel … which we hope will give us a competitive edge in the market.« Navig8-CEO Busch also painted a positive economic case for scrubbers (with a quick investment payback) but stated that, due to constraints in supply, »not everyone who wants a scrubber will be able to get one.«

Paddy Rodgers said, »the residual fuel pricing situation will be very dynamic, but, in a desktop exercise, it looks like you could make a very quick payback on a..."
scrubber. But quick payback is not guaranteed; Rodgers did hint at possible spanners in the works — traders might store residual fuel, or refiners might use it as a feedstock for upgrading through their own facilities.«

Norton of Star Bulk used different words, saying: »I think that for Q1 2020, the market will be in complete chaos.«

Increasingly, a view is emerging throughout the industry that the price of low-sulphur diesel and gasoils will rise. It is by no means a certainty that refiners will be able to supply the needed fuels, at least initially on January 1, 2020, and likely with difficulties in the months following.

Kim Ullman, CEO of tanker owner Concordia Maritime, told HANSA: »There is a price established already on the paper/term market and that is roughly 350 $/t which, in turn, is ca. 100-150 $/t higher than today’s physical.« Ullman got into specifics of the price spread, saying:

»However, there is no doubt in my mind that this can spike, temporarily, even further between now and 2020, maybe in the 4-500 $ range. Again however, and there will be a lot of however, when the oil/trading community have started to come up with a) alternative use of HFO and b) successful blends.«

Navig8-CEO Busch, after identifying marine gasoil (MGO) as the lowest risk fuel — but also the most expensive —, said: »The challenge is how do we move shipowners to sail towards low-sulphur fuel which has a terrible reputation today — even though it doesn’t exist.« The one-time oil trader estimated the price advantage of low-sulphur blends (compared to MG) of between 70 and 100 $/t.

Aboard: new procedures

Economics and spreads aside, there are practical considerations surrounding the introduction of new fuels. As new blends come into the marketplace, vessel crews will have greater responsibilities. ExxonMobil’s marine Fuels Technical Advisor John R. LaRese — describing fuels that had been developed for ECAs to meet tighter sulphur rules — said at the CMA-conference (Connecticut Maritime Association) »these ECA fuels are excellent fuels, but the compatibility with residual fuels is not great so there was a need to educate ship crews about fuel segregation and management.«

John Stirling, Marine Technical Quality Manager, World Fuel Services, added two more key watchwords to compatibility: stability and wax. The International Bunker Industry Association (IBIA) noted in its write up of the CMA session: »Stirling reminded the audience that no supplier will guarantee that the fuels they supply are compatible with other fuels today either, so this is not new, but ships’ crews need to be aware.« The IBIA pointed out: »As for 0.50 % sulphur..."
blends, if you take typical ECA-compliant MGO and blend it with today’s typical heavy fuel oil (HFO), the blend ratio would be about one part HFO to six parts MGO. This would not be a good blend and would often make unstable blends, especially if the MGO is very paraffinic (waxy) and the HFO very aromatic. The ship’s chief engineer needs to know the viscosity and other key parameters of the fuels they receive, in particular the fuel’s cold flow properties.«

Another perspective comes from bunker broker Mike Martino, from Glander International: »Now, think about when 2020 kicks in – suppliers will be able to produce a similar ULSFO, but can blend down to 0.5% sulphur for the global cap, but that would not comply with the 0.1% ECA limit. So, will it make sense to blend two different ULSFO products? Probably not.«

Sludges and blending
Steve Bee, Veritas Petroleum Services’ (VPS) Business Development Director, was asked by HANSA about the chemistry and physics that go along with blending. He explained: »Mixing any fuels, where residuals are involved can potentially result in a detrimental effect upon the chemistry of the fuels involved. Such blending can cause a weakening of the Reserve Stability of the residual fuel, causing long chain asphaltenes within the fuel to fall out of solution and form thick sludge which can block filters and pipework and starve an engine of fuel.«

He also cautioned that: »Other cutters and diluents can potentially introduce forms of contamination which, can set off chemical reactions which can seriously effect a vessel’s operations, such as the polymerisation of monomers within the fuel, or the presence of phenolic compounds, which can then produce sticky material capable of seizing fuel pumps/injectors.«

The practical problems from blends, even those using distillate fuels, will require close supervision from experts, certainly during the likely manic days...
The commercial perspective II – Kim Ullman from Concordia Maritime

This UN directive is for the refiners/traders to fix. We produce, own and operate ships and happy to run on any technically acceptable compliant fuel. Bunker prices don’t dictate freight markets. Supply and demand of vessels does.

If all ships pay the same amount – the cost will be transferred to the oil co/charterer who will charge it at the pump and the end consumer will pay. As it should with the market economy … on a more economical and practical point of view – market forces will fix this in the longer run. And it is working on it as we speak. The oil industry will find new/alternative use of cheap HFO – there is always a home for something that is «cheap» and the oil industry will find ways of blending, cracking or otherwise produce compliant fuels.

If the shipping industry – read tankers, in my case, are providing continued use of HFO through scrubbers – I don’t think that is good. Let market forces play its role.

In early 2020. Steve Bee says: »Distillate fuels are also not exempt from the effects of treatment and blending, where numerous processes or blending can result in reduced lubricity and oxidation stability.»

The process of hydro-desulphurisation can remove the natural lubricating species and stability species within fuels. It is also regularly seen blending result in reduced Flash-Point, and wax-precipitation due to cold-flow property issues. In addition under certain storage conditions, microbial growth can be witnessed with distillate fuels. New blends will need to ensure handling, treatment and storage conditions are suitable to avoid any of the above, especially compatibility and stability, he adds. »Therefore testing of the fuel pre-burn, with expert fuel management advice is key to ensuring safe, compliant vessel operation.«

In July, the International Standardisation Organisation (ISO) stated that its ISO 8217 standards would apply to low-sulphur blends.

Cooperation needed

Kim Ullman from Concordia Maritime stressed the need for cooperation between the oil refiners and their shipping customers: »We have cooperations via our contacts in the oil industry in general and bunkers in particular. We are following it quite closely and we are convinced that there will be compliant blends available at the time, or close thereabouts. There is going to be a lot of testing etc. and there are legitimate concerns about some of the blends and also about the mixing/switching of blends between bunkering. This needs to be developed together between oil and shipping industry.« He added, »if the oil industry and shipping industry cooperate, then the spike/hike might not occur – or quickly change back to normal: 200 $ range. My main point is that, over time, market forces will prevail and what the industry needs the industry will make sure it gets.«