

# bunkerworld

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## Wiping the slate clean

**A proposal to tackle shipping emissions by replacing fuel oil with distillates has shaken the bunker industry and revealed how hard it is to find a solution that will satisfy divergent interests. Unni Einemo from Bunkerworld's London office looks at a very divisive issue.**

For half a century, fuel oil has been the main source of power for ships at sea. Although it has not always been plain sailing, it has suited both the refining and shipping industries.

Residual fuel oil, a by-product of the refining process, is cheaper than unprocessed crude and has provided an abundant source of energy at unbeatably low prices.

extend Annex VI's scope.

The IMO's Marine Environment Protection Committee (MEPC) is considering amendments to the Annex in June. It will base its discussions on proposals from the Bulk Liquids and Gases (BLG) Working Group on Air Pollution.

The pressure is for the IMO to prove it can provide emission reductions. If it fails, there could

October, some thought it too radical to be taken seriously.

By the time INTERTANKO's IMO submission came up for discussion at the November BLG session, it had gathered considerable support. IMO secretary-general Efthimios Mitropoulos said the proposal "may be as significant a change as when ships first changed from coal to oil."

The BLG holds its final meet-

One major appeal is that it would simplify the operating environment for shipowners, doing away with fuel switching.

Another argument for a global distillate regime is that monitoring and regulation of shipping fuel quality would be simplified, compared to the often onerous procedures currently required to demonstrate compliance with MARPOL Annex VI.

Apart from anything else, INTERTANKO sees a global low sulphur limit as doing away with the need for more stringent sulphur limits inside ports.

Regulations are in the making that will eventually require ships to burn fuels with a 0.1% sulphur limit while in port. It would make it impossible for tankers to work cargoes, as cargo pumps and boilers in current tanker designs run off their main engines, not auxiliary engines.

Switching to distillates would also deal with concerns about the quality of both traditional high-sulphur fuel oil (HSFO) and low-sulphur fuel oil (LSFO) as bunker material.

And according to INTERTANKO, switching from heavy fuel oil (HFO) to distillates would reduce all types of emissions including sulphur and particulate matter (PM) and, to some extent, CO<sub>2</sub>.

Other benefits include eliminating the need for retrofitting of additional bunker storage tanks, the end of onboard fuel treatment plants, and a reduction in engine room waste.

INTERTANKO's proposal has been applauded by the Hong Kong Shipowners' Association managing director Arthur Bowring.

Bowring previously supported a 'global SECA' based on 1% sulphur fuel oil, but abandoned that position after hearing from the refining industry that LSFO would not be available in the



The IMO could decide the future of bunkering as competing positions go head-to-head

Now, environmental pressures mean the status quo is not an option.

In May 2006, the world's first Sulphur Emissions Control Area (SECA), designated by the International Maritime Organization (IMO), came into force under MARPOL Annex VI.

The MARPOL regulations mean all bunker fuel must have a sulphur cap of 4.5%, and fuel used in a SECA a 1.5% sulphur cap.

But even as the shipping and bunker industry struggles to adapt, revisions are underway to

be a plethora of regional and local regulations, which is the last thing the global shipping industry wants.

In this context, the independent tanker industry association INTERTANKO has proposed that shipping abandon fuel oil bunkers in favour of distillates with a 1% sulphur cap. It suggests the switch could be made by 2010.

When INTERTANKO's technical director Dragos Rauta floated the idea at *Bunkerworld's* Sustainable Shipping Forum in

April to hammer out proposals on a range of strategies for reducing sulphur oxides (SOx), nitrogen oxides (NOx) and other emissions from ships. INTERTANKO's idea is currently one of four options under consideration.

### The INTERTANKO position

INTERTANKO's distillate proposal appears to be a 'magic bullet', providing a simple way of reducing emissions, particularly of sulphur.

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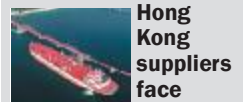
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Petromedia Ltd.  
Gainsborough House  
59/60 Thames Street  
Windsor  
Berkshire SL4 1TX  
UK

**EDITOR**

Guy Wilson-Roberts  
Tel: +1 604 692 2552  
guy@bunkerworld.com

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Adverts and subscriptions:  
Paul Davis  
Tel: +44 (0) 208 994 5777  
Fax: +44 (0) 208 994 2426  
sales@bunkerworld.com  
Petromedia Ltd  
Gainsborough House  
59/60 Thames Street  
Windsor  
Berkshire SL4 1TX  
United Kingdom

**SINGAPORE SALES:**

Adverts and subscriptions:  
Oleg Micevic  
Tel: +65 6324 0920  
Fax: +65 6324 0919  
sales@bunkerworld.com  
Petromedia Pte Ltd.  
10 Anson Road #18-10  
International Plaza  
Singapore 079903

**VANCOUVER SALES:**

Adverts and subscriptions:  
Martyn Lasek  
Tel: +1 604 692 2552  
sales@bunkerworld.com  
Bunkerworld Publishing Ltd.  
816-675 W. Hastings St.  
Vancouver V6B 1N2  
Canada

**PRODUCTION**

Vivian Chee  
Tel: +44 (0)20 8995 5540  
chee@btconnect.com

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required quantity and could only be produced by blending.

Guarded support has come from INTERCARGO, a global association for dry cargo shipping.

"The INTERCARGO Technical Committee is divided on this issue, but it has to be said that more than 50% support the principle of the INTERTANKO position on the grounds of safety," INTERCARGO spokesman Xianyong Zhou told *Bunkerworld*.

### The opposition

The distillate proposal has divided shipping organisations and sent shockwaves through industries which rely on continued use of HFO by ships to stay in business.

If ships were to burn only distillates, what would become of companies specialising in supplying shipping-grade fuel oil, many of which have made huge investments in double-hulled and highly specialised bunker tankers?

Fuel testing companies largely based on protecting shipowners against poor quality fuel oils would lose out. They test distillates too, but the vast majority of quality problems are reported in HFO.

Developments in abatement technologies for ships to allow the continued use of HSFO would be rendered obsolete, as would other technological advances in the field.

But one of the most obvious arguments against the distillate solution is the huge cost implications. If all marine fuel oil were to be replaced with distillates, a conservative estimate pegs the additional cost to shipping at around \$45 billion annually.

INTERTANKO has argued that as costs would be the same for all operators there would be an even playing field, but others say the huge fuel consumption of container ships might put them at a disadvantage.

It could also damage world trade by making it less attractive to ship low value goods, hitting developing countries especially hard.

Making shipping more costly could also drive more traffic onto roads, creating more congestion and generating higher CO2 emissions.

Another argument is that because refineries would have to process more crude oil to supply an estimated extra 200 million tonnes of distillates for ships, they would generate more CO2.

The focus of MARPOL Annex VI is to address emissions of substances associated with causing harm to human health and acid rain, such as NOx, SOx and PM. The global warming effect of CO2 is, however, arguably a more urgent concern.

Several Asian shipping associ-

ations have called for a feasibility study, fearing the refining industry would not be able to produce enough distillates.

Don Gregory, Director Environment & Sustainability at BP Marine, has suggested the IMO has lost sight of goal-based measures. He warned that if some pressure groups had their way, we could be witnessing "the begin-

BIMCO told *Bunkerworld* that it would advocate the use of distillate fuels with a 1% sulphur limit in SECAs, ports and estuaries, but it wanted ships to be able to burn HSFO on the high seas. "This could easily be implemented without any major difficulties or delays.

"The overall aim is to protect the environment of ports and adjacent



Don Gregory: The IMO has lost sight of goal-based measures.

ning of the end of the motor ship".

His suggestion is that the IMO should ask how new technology can mitigate emissions from ships and that solutions to reducing emissions should include advances in engine design and abatement technology.

### Complex problems, multiple solutions

A 'multiple-solution' approach has the support of the International Bunker Industry Association (IBIA), the International Chamber of Shipping (ICS), and the shipping interest lobby group BIMCO, which claims its owner members control 65% of the world's merchant fleet.

In its submission to the IMO, ICS advocated a range of measures to "provide a balanced and achievable package", including low-sulphur heavy fuel oil, alternative fuels, shore power standards, SOx and PM emission abatement equipment, and emission trading schemes.

"The whole subject is characterised by complex inter-relationships of cause and effect involving the global and local environment and the full range of contributory factors such as fuel type and the component parts of the fuel, the global distribution and availability of bunker fuels, the mechanisms available for reducing emissions and their relative contribution to the optimum solution," ICS said.

It said SECAs were a workable concept that recognised SOx emissions as a regional, rather than a global problem, a position also supported by BIMCO.

areas from ship generated air emissions without disrupting international trade," BIMCO concluded.

### Global vs regional SECAs

A 'global SECA' appeals to ship operators from an operational and safety perspective, but its environmental merits are less clear-cut.

Studies have found there would be a CO2 penalty if a global SECA based on desulphurised

LSFO was implemented. Many argue a global distillate requirement would also increase emissions of the greenhouse gas.

SOx emissions from shipping in coastal areas and in ports damage the environment and air quality. But studies have shown that SOx emissions from ocean traffic have no appreciable impact.

While some PM can travel as far as 400 kilometres, shipping emissions of SOx, NOx and PM close to shore, especially near population centres, are the main issue.

Even INTERTANKO's proposal for the global use of distillate fuels with a 1% sulphur cap, falling within a few years to 0.5%, might not be enough to discourage more stringent local sulphur limits.

Opponents of the distillate proposal want more research into the effect of a switch to distillate fuels near population centres. There are concerns that the fine particulates produced by diesel fuel combustion could cause cancers.

Ironically, there are also fears that cleaning up emissions of SOx could accelerate global warming by weakening the 'dimming effect' that SOx emissions can produce.

INTERTANKO and others believe distillates are the only viable long-term solution to cleaning up shipping's environmental record.

But questions remain, and the IMO is facing a balancing act between environmental benefits and divergent industry interests in revising MARPOL Annex VI. ■

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