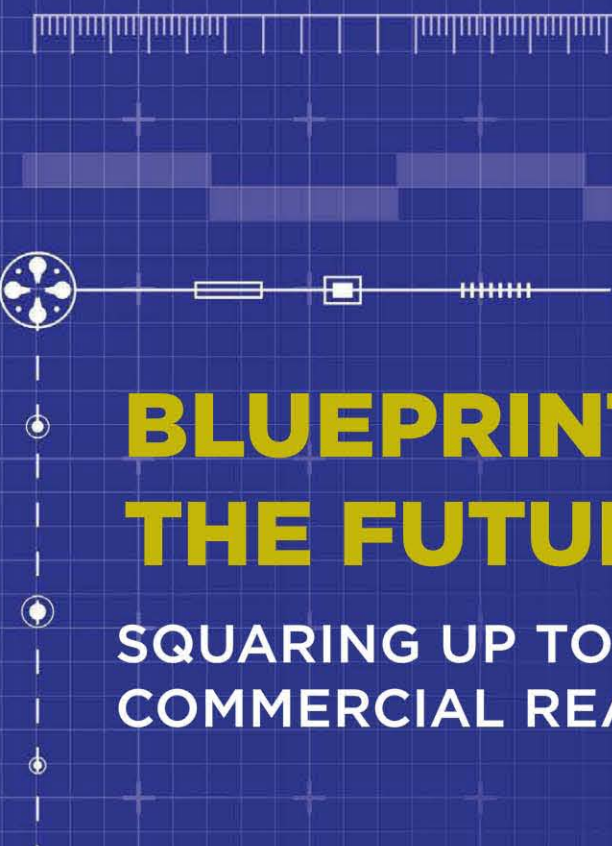


BUNKERSPOT



BLUEPRINT FOR THE FUTURE

SQUARING UP TO NEW
COMMERCIAL REALITIES

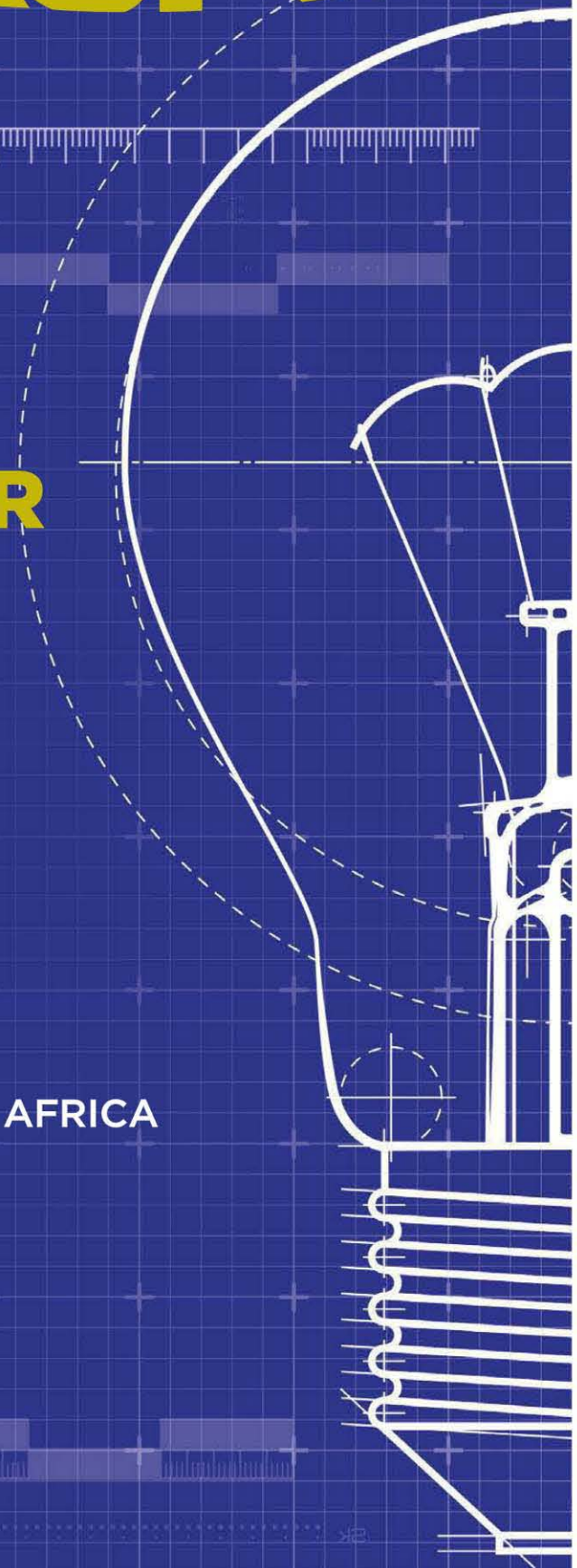
INSIDE:

REGIONAL FOCUS: SOUTH AFRICA

LNG

HYBRID VESSELS

MASS FLOW METERS





Game on!

Steve Simms of Simms Showers considers the protagonists in the upcoming 'battle' to ensure compliance with the 0.5% global sulphur regulation – a heroic struggle which has parallels with a certain *Game of Thrones*...

By 1 January, 2020, who will be sitting on the Iron Throne?

Since it began in 2011 the *Game of Thrones* HBO fantasy television series has gained a world wide following. Try this out: ask five people anywhere about the Iron Throne, the centrepiece of the series' plot. Probably at least three will tell you that the one who sits on the Iron Throne will control the Seven Kingdoms of Westeros. The series has queens, kings, rogues, knights, men and women of integrity and dishonesty, from two powerful families fighting each other to gain the Throne or be free from it. They also unite to protect the Kingdoms from outsiders.

Game of Thrones' viewers and maritime industry International Maritime Organization (IMO) 'viewers' actually have a few things in common. Both know that by the end of 2019, either someone of their 'kingdoms' or some outsider will control the Iron Throne.

The Iron Throne for the marine fuel (and specifically bunker) industry is enforcement of the 1 January 2020 global 0.5% marine fuel sulphur content regulations.

Like *Game of Thrones*, the maritime industry has its contending kingdoms: shipowners and charterers, classification societies and engine manufacturers, fuel producers, suppliers,

traders, brokers and testing labs. There also are government regulators and environmentalists, the outsiders, seeking to invade the kingdoms.

Also like *Game of Thrones*, the episodes of the IMO's rule over marine fuel content have had their seasons. The first season began on 19 May, 2005, when the IMO introduced MARPOL Annex VI and its regulation for ships' sulphur oxide (SOx), nitrogen oxide (NOx) and volatile organic compounds (VOCs) emissions.

With MARPOL Annex VI came national implementing legislation including the US *Act to Prevent Pollution from Ships* ('APPS'), 33 U.S.C. Sections 1901 – 1913. Then the IMO in 2008, entering into force in July 2010, made effective the 1 January 2015 reduction from 1.0% to 0.1% sulphur content in marine fuel used in Sulphur Emission Control Areas (SECAs).

The next season was the IMO Marine Environmental Protection Committee (MEPC 70) session on 24-28 October 2016. The decision taken here, and confirmed by MEPC 71 in July, was that the maximum global sulphur content of marine fuel should be reduced from 3.5% to 0.5%

2019 is the last 'season' before the 1 January 2020 0.5% change of the IMO's marine fuel sulphur regulation. 2019 is also *Game of Thrones'* projected last season.

Some events of each 'last season' are certain. In the TV series' last season, some of the Seven Kingdoms of Westeros may win their 'independence' from the Iron Throne. In the IMO's 'last season' (before the global sulphur cap comes into effect), some in the maritime 'kingdoms' also will win independence from the IMO's Iron Throne (or sulphur regulation) by using scrubbers and LNG, and thereby gaining new business supporting these compliance options.

It is also certain that at the end of the IMO and *Game of Thrones'* 'last seasons' someone will control their respective Iron Thrones and so control their 'kingdoms'. However, it is still uncertain who will control the Iron Throne of 2020 enforcement and how they will control it, just as *Game of Thrones* viewers don't know who will rule the Iron Throne over the Seven Kingdoms of Westeros.

Game of Thrones is based on George R.R. Martin's *A Song of Ice and Fire* book series, so readers familiar with this will probably have a good guess how *Game of Thrones* will end. The IMO sulphur regulation 'series', however, at least in terms of enforcement, is still being written. Forces of the maritime 'kingdoms', and outsiders, are now engaged in our own *Game of Thrones* to decide the end.

To police the present 0.1% SECA sulphur limitations, authorities have set up sensing stations and they also fly drones and aircraft to detect non-compliance. Enforcement depends on monitoring tens of thousands of vessels of various sizes and speeds, and then on detecting non-compliance, and prosecuting the offending vessel owner or charterer. By that time, however, the offending vessel already has caused environmental harm (at least as the underlying regulation has identified that). Compliance inspection and reporting also extends to individual vessels, but this stretches the already limited resources of Port State Control (PSC).

Although about 96% of vessels are flagged by states which are parties to MARPOL Annex VI, for competitive reasons flag State authorities may be uninterested in exercising their enforcement authority (those which do enforce, may find shipowners moving to more lenient registries). At present, 63 out of 153 countries with a sea coast are not MARPOL Annex VI signatories, and so have no obligation to enforce MARPOL restrictions.

Enforcement also continues to require individual vessels to pay for fuel sample tests and retention, not only as a record of fuel quality but also to prove sulphur content compliance. When a non-compliant vessel is caught, there also are widely varying penalties and prosecution times, depending on which port State prosecutes.

The 0.5% world wide sulphur limitation magnifies the chance of a non-compliance 'epidemic'. First, most vessels for most of their voyages will be on the open ocean and outside Port State Control. Second, projections are that compliant marine fuel prices will rise notably as 2020 approaches. The price of non-compliant residual fuel (unless used in combination with scrubbers) will decrease (some even speculate that refineries might pay to have it taken away, as coking facilities will not have enough capacity to coke residual).

Ships with scrubbers still can compliantly consume residual, but scrubber operation requires consuming more fuel and also costly (if compliant) disposal of scrubbed material. So, even otherwise compliant vessels fitted with scrubbers may be tempted to cheat, by bypassing or shutting off scrubbers (just as 'magic pipes' are used to cheat on vessels with compliant wastewater management systems).

Even in SECAs, with present enforcement levels, non-compliance could be seen to have irresistible economic rewards. The Danish Shipowners' Association recently observed that:

A medium-sized container ship can

currently save up to \$150,000 on a return trip through the Northern European SECA by illegally operating on heavy fuel oil. This number can be up to \$400,000 or even higher on a return trip from Northern Europe to e.g. Japan with the 0.5 % global sulphur limit from 2020.

* * *

Non-compliance has only rarely been penalised and penalties hardly ever exceed the savings that ship operators make by not complying with sulphur emission regulations. These challenges would need to be resolved before the 0.50% requirements enter into force . . .

'What if, as a part of implementing MARPOL 2020 enforcement, the IMO also required states parties' implementing legislation, to include whistleblower incentives?'

The way to avoid this could be to stop the epidemic 'at the pump', the source of marine fuels, before they reach the vessels consuming the fuels.

In July 2017, the IMO MEPC resolved that there be significant amendment to reporting on bunker delivery notes (BDNs). The BDN amendments, which are a part of MARPOL regulations (amending Appendix V, Regulation 18.5) are to enter into force on 1 January 2019 (the 'final season' before 2020). They require supplier reporting on the BDN of situations where the supplier loads otherwise non-compliant fuel on a ship using equivalent means (such as scrubbers). Specifically, beginning 1 January 2019, as resolved by MEPC 71, July 2017, each BDN:

As completed by the fuel oil supplier's representative and on the basis of the purchaser's notification that the fuel oil is intended to be used:

1. in combination with an equivalent means of compliance in accordance with regulation 4 of this [MARPOL] Annex; or
2. is subject to a relevant exemption for a

ship to conduct trials for sulphur oxides emission reduction and control technology research in accordance with regulation 3.2 of this [MARPOL] Annex.

This raises questions for suppliers, including, how to document the 'purchaser's notification', and when not to rely on even documented notification? How much detail must the notification include, and what form must the 'fuel oil supplier's representative' require? How does the supplier educate its barge crew member or truck driver about confirming compliance and accurately recording it on the BDN? What is the role of bunker traders in obtaining 'purchaser's notification' and transmitting it to suppliers? May (or should) suppliers rely on notifications from their trader-customers? What consequences are there for suppliers which incorrectly (intentionally or not) record compliance on a BDN?

But, the BDN change does re-focus compliance to be 'at the pump'. The purchaser must now notify that its purchase will be compliant, and will have to think more in advance about whether it will cheat. The supplier must consider whether, if it maintains supply of otherwise non-compliant fuel, it also might have liability for selling the fuel. Basically, the BDN changes prompt suppliers to better monitor their pumps, so their multiple consumers aren't impacted in the first place.

Some in the bunkering industry have resisted this and other proposals for increased regulation focused on fuel suppliers. But, the IMO's focus on fuel suppliers began a few 'seasons' ago, with Regulation 18 ('Fuel Oil Availability and Quality') of the October, 2008 Revised MARPOL Annex VI Regulations (paragraph 9):

Parties undertake to ensure that appropriate authorities designated by them:

1. maintain a register of local suppliers of fuel oil;
2. require local suppliers to provide the bunker delivery note and sample as required by this regulation, certified by the fuel oil supplier that the fuel oil meets the requirements of regulations 14 and 18 of this Annex;
3. require local suppliers to retain a copy of the bunker delivery note for at least three years for inspection and verification by the port State as necessary;
4. take action as appropriate against fuel oil suppliers that have been found to deliver fuel oil that does not comply with that stated on the bunker delivery note;

* * *

5. inform the Organization for transmission to Parties and Member States of

the Organization of all cases where fuel oil suppliers have failed to meet the requirements specified in regulations 14 or 18 of this Annex.

To recall *Game of Thrones*, the wildings almost since IMO 'season one' have been at the Northern Kingdom's wall. Is it time to make peace with the regulatory and environmental 'outsiders', before an unfavourable invasion?

There also are other 'outsiders' who could be allies: whistleblowers.

The United States *Act for Prevention of Pollution from Ships*, which implements MARPOL, provides as follows:

33U.S. Code § 1908 - Penalties for violations

(a) Criminal penalties; payment for information leading to conviction

A [any] person who knowingly violates the MARPOL Protocol, Annex IV to the Antarctic Protocol, this chapter, or the regulations issued thereunder commits a class D felony. In the discretion of the Court, an amount equal to not more than ½ of such fine may be paid to the person giving information leading to conviction.

What if, as a part of implementing MARPOL 2020 enforcement, the IMO also required State parties' implementing legislation, to include whistleblower incentives?

In the United States, these incentives have encouraged seamen, who observe oily water and garbage discharges in the open ocean, to report the violations on arrival in the country. The seamen have received significant rewards, and at least as vessels bound for the United States are concerned, many MARPOL and related pollution law violations have been deterred.

On the open ocean, who better than the seamen, working with fuels, their samples, and equipment to scrub otherwise non-compliant fuel, to report open ocean violations, or violations in countries which are not

'The BDN change does re-focus compliance to be 'at the pump'. The purchaser must now notify that its purchase will be compliant, and will have to think more in advance about whether it will cheat'

MARPOL parties? The seamen would know, for example, when a BDN (requiring the newly-detailed reporting) has been falsified.

Whistleblowing could extend not only to seamen, but to anyone knowing of a sulphur content violation. Most of the bunker industry's suppliers and traders will comply with 2020 limitations, including with the further BDN reporting requirements beginning in 2019. But, some will cheat. Whistleblowing provisions, which should also include explicit protections against retaliation, would also give honourable suppliers and traders, who do the right thing even though it's expensive, a weapon to 'level the battlefield' against the dishonourable ones.

Those in the marine fuel industry who might advocate alliance with 'wilding' regulators and environmentalists, and advocate including mandatory whistleblower incentives (as protections) to be a part of MARPOL enforcement, probably will find themselves in a similar position to that of the character of Jon Snow in previous *Game of Thrones* seasons. Those


would be unpopular positions, but they could be the right ones. Improved compliance monitoring of the tens of thousands of world vessels always will be necessary, but violations are best stopped at the (mostly stationary) tanks and 'pumps' supplying the many vessels.

Like the fictional Jon Snow, the marine fuel industry comes from humble beginnings. The industry flourished on the selling of the 'bottom of the barrel' – the residue remaining after distilling out more valuable products. The residual product it sells, however, has since the 'first season' of IMO regulation been identified as the one of the greatest sources of environmental damage. Just 16 of the world's largest vessels burning higher sulphur residual are reported to emit more sulphur dioxide than all of the world's automobiles. It should, particularly with the increasing seasons of IMO/MARPOL regulation, be clear to all in the marine fuel industry 'kingdoms' that, without a change of strategy, they may be overrun by not only outsiders but by those of other marine industry 'kingdoms'.

Will Jon Snow be the *Game of Thrones* character who finally, at the end of the last *Game of Thrones* season, sits on the Iron Throne? He has taken the risk of alliance with outsiders, and of doing the unpopular and even dangerous – but right – thing. He also is one of the few characters from the series' beginning, who has remained not only alive, but generally admired.

Could it be that by doing the right thing, although difficult, that the marine fuel industry will sit on the regulatory Iron Throne, or at least nearer to it?

1. Reducing Sulphur Emissions from Ships, the Impact of International Regulation, OECD Corporate Partnership Board Report, International Transport Forum, 2016

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