

Shipping

March 2014

GREEN SHIPPING BULLETIN



Welcome to the March edition of our Green Shipping Bulletin.

Our second Bulletin in this series starts by analysing the European Ship Recycling Regulation which entered into force in the last week of 2013. We look at the new restrictions placed on recycling by the Regulation and the implications for recycling EU-flagged vessels. We consider what the Regulation means for the future and the immediate impact in relation to hazardous materials on board.

Marine spatial planning seems set to go global, so that in future mapping is likely to create a comprehensive picture of usage of marine areas. We review what has happened so far and what the shipping industry needs to know.

Due to the increasing global demand for commodities, technological advances and a progressive reduction in sea ice, ship traffic in the Arctic is expected to increase significantly in the future. We examine the implications of growing shipping operations in this ecologically sensitive region.

Finally, we analyse the likely impact on the bunkering industry of increasingly stringent emissions controls and review some of the potential green technologies and alternative fuels being explored by some proactive owners.

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hfw The European Ship Recycling Regulation comes into force

On the 10th of December 2013, the new European Ship Recycling Regulation (Regulation (EU) No 1257/2013) (the Regulation) was published in the Official Journal of the European Union. It entered into force on the 30th of December 2013.

The Regulation will apply to ships at the earliest two years and at the latest five years after its entry into force, depending on when the recycling capacity of facilities on the European List exceeds the 2.5 million light displacement tonnes threshold.

The purpose of the Regulation is (i) to prevent, reduce, minimise and, to the extent practicable, eliminate accidents, injuries and other adverse effects on human health and environment caused by ship recycling and (ii) to enhance safety, the protection of human health and of the Union marine environment throughout a ship's life-cycle, in particular to ensure that hazardous waste from such ship recycling is subject to environmentally sound management (Article 1 of the Regulation).

The Regulation also looks to provide an interim solution for the recycling of ships owned by EU companies or registered in EU States pending the entry into force of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships 2009 and is aimed at facilitating early ratification by national parliaments of this Convention of the International Maritime Organisation both within and outside the EU by applying proportionate controls to ships and ship recycling facilities.



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The Regulation will apply to commercial seagoing vessels over 500 gross tonnage flying the flag of an EU Member State (Article 2 of the Regulation) and prohibits and/or restricts the installation or use of certain hazardous materials on EU flagged ships such as asbestos, ozone-depleting substances and certain anti-fouling compounds and systems (Article 4 of the Regulation). It also requires EU-flagged ships to establish and maintain during their whole operating life an inventory of the hazardous materials present on board the vessel. The inventory will have to be verified by the relevant competent authority and will have to specify the location and approximate quantities of hazardous materials. This is immediately compulsory for new ships whilst there is a grace period of seven years for existing ships, except when sent for dismantling before this date.

The Regulation will also require ships flying the flag of a third country calling at a port or anchorage of an EU Member State to establish and maintain during their whole operating life an inventory of the hazardous materials present onboard the vessel. Again, there will be a grace period of seven years for such ships.

The owners of EU flagged ships will have to ensure that their ships are only recycled in recycling facilities that have been approved and included in a "European List" which will be published by the Commission and put on its website no later than the 31st of March 2015.

Facilities located in European Member States will have to be authorised by the competent authorities of that member's State before they are included on the European List. Facilities located outside of European Member States, on the other hand, will have to apply individually to the Commission for their inclusion in the European List. In order to conduct ship recycling, all ship recycling facilities will have to comply with the requirements set out in Article 13 of the Regulation, which generally mirror the relevant provisions of the Hong Kong Convention which establish standards that are safe for workers and are environmentally sound.

Additional requirements were also included in Article 13 of the Regulation to exempt certain yards in South Asia who scrap on beaches (and in particular yards in India, Bangladesh and Pakistan) from being included on the European List. The Regulation



requires recycling to be conducted using “built structures” which must be designed, constructed and be operated in a safe and environmentally sound manner. These facilities must also contain and hold hazardous materials present on board throughout the recycling process and handle these materials and their waste only on impermeable floors with effective drainage.

The Regulation does not however impose specific penalties on shipowners for recycling their ships at facilities not included in the European List. Although the Regulation looks to encourage South Asian yards to improve their scrapping methods, the European Council was not prepared to include a complete ban on beaching (probably because of pressure from South Asian governments and European shipowners who obtain higher rates per LDT of steel from South Asian yards who use beaching methods).

Concerns have been expressed over the effectiveness of the Regulation as it does not prevent shipowners from circumventing the Regulation by changing the registration of their ships to non-EU flags before ships are sent to be recycled. The Regulation may also have the unintended effect of decreasing the current amount of tonnage registered under an EU flag.

Although it is not expected that the Regulation will have much direct impact at this stage on how vessels are scrapped, shipowners should be aware of the immediate paperwork requirements regarding hazardous materials on board.

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hfw Marine Spatial Planning: the future?

Due to rapidly increasing demand for maritime space from differing sources, including shipping, renewable energy installations, tourism and fishing there has been rising interest in the concept of marine spatial planning (MSP), which is a process that brings together multiple users of the ocean to make informed and coordinated decisions about how to use marine resources sustainably. This is generally achieved through using maps to create a comprehensive picture of a marine area identifying how it is being used, the natural resources present and the habitat that exists. It is therefore very similar to land use planning, which has been in use in terrestrial town and country planning since the 1960s, but for marine waters.

Whilst the idea of zoning of uses in the seas is not new, for example it has been used to protect environmentally sensitive areas such as the Great Barrier Reef since the 1970s, it is a concept that has only gained traction relatively recently. However, its commercial benefits are also being promoted. For example it is argued that MSP allows more effective co-ordination of policies on land and sea; a swifter, more transparent and accountable system of licensing for marine activities; minimisation of conflicts between incompatible uses of the seas; and greater certainty for investment, with lower exploration, administration and transaction costs for operators who would be assured of the natural and legal risks to operating in any particular area of the sea.

Many of the most significant developments in policy on MSP have occurred in the European Union (EU). This started with a Recommendation published by the European Parliament and Commission on Integrated Coastal Zone Management in May 2002, resulting in the setting of a maritime strategy later that year. Part of this strategy included the publication in 2008 of “roadmap towards maritime spatial planning by Member States”, which sets out a series of key principles emerging from MSP.

Ultimately, the roadmap resulted in the European Commission publishing a proposal for a new directive establishing a framework for marine spatial planning and integrated coastal management in March 2013. The preamble to this proposed directive states that its objective is to “support the sustainable development of seas and oceans and to develop coordinated, coherent and transparent decision-making in relation to the Union’s sectorial policies affecting the oceans, seas, islands, coastal and outermost regions and maritime sectors, including through sea-basin strategies or macro-regional strategies”.

Whilst this proposed directive is laudable and will provide an impetus for integrated management of the seas in the EU, there are issues with the current draft. In particular, some of the drafting is arguably ambiguous and focuses on the plan-making stage rather than setting targets which can be enforced. In addition, shipping routes are already governed at supranational level and comparatively little has been said so far as to how these rules will integrate with those on MSP.



Individual countries are also taking their own steps towards introducing MSP policies. For example, in the UK the Marine and Coastal Access Act 2009 requires marine plans to be drawn up by different countries of the UK. Each is to have its own Marine Planning Statement (MP Statement), which sets out the sectoral and activity specific policy objectives that the government is seeking to achieve in the marine area. The MP Statement will therefore form the framework for preparing marine plans and taking decisions that will affect the marine environment in the UK.

Based on the increasing focus on MSP, it is therefore not a question of whether MSP is the future, rather when it will become a global practice. As a result, the shipping industry will want to monitor developments in this area as MSP could potentially have a significant impact on how shipping operates in practice, with an increasing focus on optimising the use of the seas' resources alongside balancing the protection of the maritime environment and its economic use.

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hfw A new shipping shortcut: the challenges of the Arctic

Fuelled by rising global demand for commodities like energy and mining products, technological advances and a yearly decline in sea ice, ship traffic in the Arctic is expected to increase significantly in the future. Environmental changes have also called for greater political and social focus. The result: increased overall pressure on this already fragile and dangerous place.

The melting of Arctic ice is accelerating and climatologists have said they believe that within 12 years it will be possible to sail through the Arctic for around six weeks a year. The Arctic route can cut a vessel's journey time between some Asian and European ports by a third, which could reduce costs significantly. This news is moving fast through the various maritime industries and has sparked billions of dollars of investment in tankers capable of cutting through ice. It has been reported that by 2020 as much as 15% of China's international trade alone could potentially be shipped through the Arctic. The Arctic's value is, of course, not limited to vessel transits. It is also rich in hydrocarbons and offshore activity is increasing.

In the summer of 2013, the *YONG SHENG* became the first Chinese commercial vessel to reach Europe through the new northern "shortcut" above Russia. She took 33 days to reach Rotterdam, whereas the traditional route, via the Suez Canal and the Mediterranean, would have taken 48 days, provided there is no piracy intervention.

In September 2013, the *NORDIC ORION* made history as the first bulk carrier to pass through the North West Passage of the Arctic, taking a cargo of coal from Vancouver to Finland. Since the Panama Canal restrictions did not apply, the vessel carried her full capacity of cargo (25% more cargo than she could load to pass through the canal).

Despite developing interests in the Arctic, many uncertainties remain. In particular, its weather conditions are unpredictable and navigation routes are yet to be properly identified (volatile ice movements makes this increasingly difficult). Having said that, once the channels of the polar ice cap thaw, it will be a hard task to control ships from taking a more direct route between Europe to Asia, across the Arctic channels. Major maritime casualties, such as the recent *DEEPWATER HORIZON* and *COSTA CONCORDIA* – and not forgetting the famous *TITANIC* casualty more than a century ago – have created a surge of media attention towards maritime developments and prompted the increased call for regulation and sustainable use of marine, coastal areas and resources.

The logistical and environmental difficulties encountered in the severe and unpredictable conditions in this region were highlighted by the grounding of the Shell *KULLUK* rig, in which HFW was instructed for one of the parties. *THE KULLUK* (an MODU designed for drilling in harsh offshore arctic environments) was being towed by *THE AIVIQ* from the field in Alaska, destined for Seattle for scheduled maintenance.



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However, on 27 December 2012 in an Alaskan winter storm *THE AIVIQ* lost power and connection to the unpowered *KULLUK*. The rig eventually grounded near Sitkalidak Island, Alaska. Although there was no indication of oil leakage, and the rig remained intact, the incident posed a serious potential threat to the ecosystem: the endangered stellar sea lion inhabits the nearby Island, which is also a key area for tanner crab fishery in January. The causes of the grounding are the subject of ongoing investigation (expected to be completed this Spring).

The concerns about maritime casualties have led to an increased interest in industry sectors discussing common challenges, and exchanging knowledge and best practices to support safe and sustainable operations in the Arctic. One group dedicated to this and to enhancing private sector response to Arctic stakeholder needs, by facilitating collaboration and action across industry sectors on responsible and sustainable development of the Arctic, is the World Ocean Council (Arctic Group) (the WOC AG). The WOC AG

aims to be a leading international, multi-industry forum for private sector operators committed to the safe and responsible use of Arctic space and resources. It works to provide its members with an adequate forum to discuss concerns in the Arctic and to develop task teams to address specific priority issues.

The WOC AG is open for all WOC members with an interest in the Arctic. It has a diverse membership which includes multinational shipping, energy and petrochemical companies, fisheries, law firms and environmentalists. HFW is an active member of the WOC AG and one of our partners, Jonathan Webb, was recently appointed to the WOC Board.

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hfw Emissions regulations: a brave new world for the bunkering industry

Due to an ever-increasing demand and the finite supply, the trend of rising oil prices is likely to continue. This, combined with the introduction of increasingly stringent emissions regulations, begs the question whether the symbiotic relationship between the oil and shipping industries will lessen as shipping looks to new technologies and possibly alternative fuel sources to overcome these obstacles.

The most talked about emissions regulations are contained in MARPOL Annex VI, which aims to prevent air pollution from vessels' exhaust gases. MARPOL VI focuses on a progressive reduction globally in sulphur oxide (SOx) and nitrous oxide (NOx) emissions, as well as the introduction of Emission Control Areas (ECAs).

Two sets of emission and fuel quality requirements are defined by Annex VI, which are: (i) global and (ii) more stringent requirements applicable to ships in ECAs. An ECA can be designated for either SOx or NOx and the existing ECAs include the Baltic Sea (SOx), the North Sea (SOx), North American ECA (SOx and NOx) and US Caribbean ECA (SOx and NOx).

Since 2010, MARPOL Annex VI has required ships operating in ECAs to use fuels with 1% sulphur content, but this limit is due to drop to a tougher 0.1% or less sulphur content from 2015. In addition, the IMO has indicated that regions outside the ECAs will be subject to a decreased sulphur content in fuel from 3.5 to 0.5% in 2020.



Under regulation 13 of MARPOL Annex VI, NOx emission limits are set for diesel engines depending on the engine maximum operating speed. There are three levels of allowable NOx emissions from diesel engines, depending on the vessel's keel laying date or the engine installation date. The emission levels are called Tier I (applicable from 1 January 2000), Tier II (applicable from 1 January 2011) and Tier III (applicable from 1 January 2016, to ECAs only).

Outside the IMO, the EU has also actively legislated to combat sulphur emissions, although it has never adopted NOx emissions regulations for ships. Directive 2005/33/EC requires Member States to ensure ships berthed in EU ports do not consume fuel with a sulphur content exceeding 0.1%. This applies to all vessels, irrespective of flag, tonnage or age, and came into force as of 1 January 2010.

Additional EU measures came into effect in December 2012, with the implementation of Directive 2012/33/EC. This goes beyond the requirements of MARPOL, aligning sulphur ECAs and non-sulphur ECAs with the revised MARPOL Annex VI.

There is therefore a plethora of different measures, which have the same aim of achieving reduced SOx and NOx emissions. While many would accept that efforts to improve air quality are laudable, it has been questioned whether there is the necessary technology, infrastructure and finance in place to enable these regulations to work in practice.

One particular issue is the availability and cost of low sulphur fuels. Concerns have been raised that there will be an insufficiency of low sulphur fuels to meet the requirements, with significant investment still being required to upgrade refineries to



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produce the necessary quantities of fuel. The scarcity of low sulphur fuels means they are now significantly more expensive than regular fuels.

An alternative option is for owners to install scrubbers, which remove sulphur from the engine exhaust gas. Installing scrubbers has the advantage of allowing ships to use cheaper, more readily available high sulphur fuel without falling foul of the regulations. However, the initial installation costs can be significant, as modifications have to be made to fit the scrubbers, and the "green" credentials of scrubbers have also been called into question because they increase power consumption, thereby increasing the total CO2 emissions.

In terms of NOx reduction measures, one option is for owners to install Selective Catalytic Reactors. This is a proven land based technology, but has experienced some teething problems with implementation onboard vessels.

An alternative measure that should be commercially available in the near future is Exhaust Gas Recirculation, which involves feeding exhaust gas into the combustion process.

Rather than looking at means of reducing SOx and NOx in oil, some owners are exploring the use of cleaner alternative fuels. LNG is widely regarded as the future marine fuel due to its "clean" credentials and the potential to make production economically attractive. Compared to heavy fuel oil, LNG delivers a 100% reduction in SOx emissions, an 85-90% reduction in NOx emissions and a 15-20% reduction in CO2 emissions. However, LNG still emits a significant amount of CO2.

It is clear that there is no single solution and that until alternative fuel sources and technologies become more reliable and economically viable, the shipping industry will remain heavily reliant on oil as its main source of fuel for the foreseeable future. However, the regulations are here to stay and the shipping industry will want to be proactive to avoid falling foul of the increasingly stringent SOx and NOx emissions targets, including through investment in sustainable and economically viable technologies.

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Conferences and events

OSV Chartering Contract Management – North America

Houston

24–25 March 2014

Presenting: Paul Dean

12th Intermodal Africa North 2014

Africa

27–28 March 2014

Presenting: Wole Olufunwa

Collisions Claims Seminar

HFW London

24 April 2014

Presenting: Martin Dalby, Guy Main
and Alex Kemp

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