



Jus Corpus Law Journal

Open Access Law Journal – Copyright © 2021 – ISSN 2582-7820
Editor-in-Chief – Prof. (Dr.) Rhishikesh Dave; Publisher – Ayush Pandey

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Regulatory Inadequacy in the Maritime Industry: Analysing the Recent Developments concerning the Environment

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Received 29 August 2021; Accepted 28 September 2021; Published 01 October 2021

When its productive value is considered, shipping which transported approximately 90% of international trade is the least environmentally damaging mode of transport, however, the need to make the industry more environmentally sustainable is constantly increasing given the massive amount of trade that takes place through it. The IMO is constantly in collaboration with other regulatory authorities in bringing new regulations in order to achieve the environmental sustainability goal, furthermore, the IMO is also amending its already existing set of regulations and making them more stringent. This essay highlights the inadequacy through which the IMO has brought in new regulations and amendments. Furthermore, this essay focuses on the flaws of these regulations and highlights the key details of these regulations that can be worked upon.

Keywords: *maritime industry, marpol convention, sulphur content, decarbonisation.*

INTRODUCTION

Environmental law and regulations are often overlooked when it comes to obtaining efficiency in any given industry. The case in the Maritime industry is no different in comparison, as various important environmental factors are unheeded to ensure an efficient operation of trade in this industry. It is noticeable that the ocean-going shipping-port complex endangers the

environment and human health, and solutions to these issues are coming from a variety of sources. Traditionally, laws governing oceangoing ships have prioritised the ship's and cargo's safety, as well as the crew's health. Well-being and the regulations favouring the environment in this sector are much more recent, but they are becoming increasingly important in maritime activities. From oil spills to the various hazardous wastes being released in the ocean, the impact of the maritime industry on the environment is enormous. Just to put things into perspective, a recent review of the maritime transport at the United Nations Conference on Trade and Development (UNCTAD) stated that at the start of 2020, the total global fleet numbered 98,140 commercial ships of 100 gross tonnes or more, with a capacity of 2.06 billion dwt.¹ These numbers don't seem to decrease or level any time soon since the global commercial shipping fleet grew by 4.1 % last year which is indicative of the highest growth rate since 2014.² This essay will seek to analyse the specific provisions put in place by the diverse set of maritime regulative organisations concerning the protection of our environment.

DOCUMENTS AND CONFERENCES ON THE LAW OF THE SEA

One of the first attempts at an integrated approach to global environmental problems was at the UN Conference on the Human Environment (UNCHE), held in Stockholm in June 1972, in which the Declaration of the Human Environment (Stockholm Declaration) and the Action Plan were adopted, and special sections on marine pollution were included in both papers.³ The creation of a new United Nations institution, the United Nations Environment Programme, was one of the most significant accomplishments during the UNCHE (UNEP). In order to safeguard the marine environment, the UNEP implemented “regional seas action plans.”

The United Nations Convention on the Law of the Sea (UNCLOS) adopted in Montego Bay on 10 December 1982 provides an exhaustive document on various aspects of oceans, including marine environmental safety (came into force on 16 November 1994). This is a globalised text.

¹ UNCTAD, *Review Of Maritime Transport 2020* (United Nations Publications 2020)

² *Ibid*

³ UN General Assembly, *United Nations Conference on the Human Environment* (15 December 1972) A/RES/2994
<<https://www.refworld.org/docid/3b00f1c840.html>> accessed 22 August 2021

There are no specific guidelines on the conservation of the marine environment under this "Umbrella Convention" and only general provisions.⁴ The maritime security provisions of UNCLOS are of major global significance. They are included in the Convention, Part XII. There are general laws. The agreement declares that the States have a general responsibility to protect the marine and coastal environments and their properties (Art. 192).

The Earth Summit, held from 3-14 June 1992 in Rio de Janeiro in Brazil, has also been an important international conference for the environment and its sustainability. The UN Conference on the Environment and Development prepared this meeting (UNCED). As a result, multiple non-binding legislation, including Agenda 21, was adopted at this meeting. Agenda 21 is a global action initiative for sustainable action. "Protection of the Oceans, All Kind of Seas, including Enclosed and Semi-enclosed Seas, and Coastal Areas and the Protection, Rational Use and Development of their Living Resources" is covered by Chapter 17⁵ of this text which emphasizes the importance of the protection of marine pollution, and the activities of this chapter are linked to UNCLOS.

RECENT DEVELOPMENTS AND REGULATIONS IN THE MARITIME INDUSTRY CONCERNING THE ENVIRONMENT

Each country has its own set of legislations and regulations concerning the functioning of its respective maritime industry, however, the United Nations Geneva conference held in 1948 saw the adoption of a convention that laid down the first brick to establish the International Maritime Organisation (IMO). The IMO came into force in 1958 and acts as a regulatory authority for the global shipping industry. Shipping is a fundamentally multinational sector, and it can only function efficiently if the rules and standards are agreed upon, accepted, and enforced on a global scale, and IMO is the forum where this process occurs. The International Convention for the Prevention of Pollution from Ships (MARPOL) was adopted in 1973 at IMO, it is one of the most important features to come out of the IMO as this is the primary

⁴ Convention on the Law of the Sea, Dec 10, 1982, 1833 U N T S 397

⁵ UN Department of Economic and Social affairs, 'Agenda 21' (*Un.org*)

<https://www.un.org/esa/dsd/agenda21/res_agenda21_00.shtml> accessed 22 August 2021

international convention governing the prevention of contamination of the marine environment by ships due to operational or unintentional causes.

Recently, the marine industry faced a significant shift in the current annexation to the MARPOL Convention as a ground-breaking attempt to restrict and prevent climate change. This was one of the major actions taken by the maritime industry to control its fuel emissions, where a 0.5% sulphur content for vessels is set compared with 3.5% sulphur content for the previous standard.⁶ It was anticipated that the new sulphur legislation would raise shipping fuel prices by around \$250/tonne, which would increase industry aggregate costs by about \$ 100 billion annually. The reduction in fuel sulphur levels was put in place to increase air quality and mitigate health effects. Many critics argued that, in the context of the brief transition period and with several obstacles, the implementation of the sulphur fuel limit is not the best solution, and this paper will analyse this in more detail in the next section.

The second regulation that this essay seeks to analyse is the IMO set sustainability objectives for certain ships. The International Maritime Organization (IMO) has set a long-term target of reducing emissions by half by 2050, and at its most recent meeting of the Marine Environment Protection Committee (MEPC) in the 74th session introduced even more stringent regulations. The IMO's Energy Efficiency Design Index raises the bar for some types of ships: The Phase III level, which expected ships to reduce carbon emissions by 30 percent by 2025, has been pushed back to 2022 for many ship classes.⁷ The proposed draft amendments to the MARPOL Annex VI provide for up to a 50% reduction in carbon emissions for new containerships weighing 200,000 deadweight tonnes or more, as well as requirements for ships that operate on liquefied natural gas ("LNG"). The proposed changes were presented at the meeting of the IMO's Environment Protection Committee.

The third regulation that this essay will look into is the five-year project launched by IMO to reduce the spread of invasive species. In March, the IMO launched a 5-year project to reduce

⁶ 'IMO 2020 - Cutting Sulphur Oxide Emissions' (*Imo.org*, 2020)

<<https://www.imo.org/en/MediaCentre/HotTopics/Pages/Sulphur-2020.aspx>> accessed 14 September 2021

⁷ 'Initial IMO GHG Strategy' (*Imo.org*) <<https://www.imo.org/en/MediaCentre/HotTopics/Pages/Reducing-greenhouse-gas-emissions-from-ships.aspx>> accessed 23 August 2021

the spread of invasive species around the world by hulls. It's known as the GloFouling partnership and is between the UN Development Program (UNDP), the IMO, and the Global Environment Facility (GEF). The GloFouling collaboration is the world's first biofouling risk partnership and is notable because it tackles biofouling in all marine areas and not just shipping. This project aims to eliminate invasive species introduction in developing countries and insular countries such as Brazil, Indonesia, Jordan, Ecuador, Fiji, Madagascar, Mauritius, Mexico, Philippines, Peru, Sri Lanka, and Tonga.

ANALYSING THE IMPLICATIONS AND EFFECTIVENESS OF THESE REGULATIONS

If we assess and address the implications of the sulphur content cap put by the IMO, we could decipher several problems. To begin with, it can be inferred that the suppliers of the compliant gas are restricted and will, in most cases, be the most established refining facilities with the infrastructure and equipment to do so in such a quick transition. The viable solution for a major proportion of vessels would be to switch to Marine Gas Oil (MGO) in order to stand even with the regulations. MGO has been considered the best possible and easy way of enforcement because it requires little early investment by the owners of the ship but may be accompanied by larger bunker charges. The transition to additional gas would result in a reduction in the cost of previous (heavy) gas petroleum that would, in turn, increase MGO numbers. In reaction to this rise in fuel prices, a greater credit base will be needed to provide customer support and liquidity to sellers to stay in business. In addition, a change in the lubes complementary to each fuel would entail a shift in choices of fuel. The regulation of low sulphur caps thus raises the question of how this can be achieved within the brief timeframe, with urgent investments from sectors in the bunker supply chain.⁸ To mitigate the impact of sulphur emissions, a variety of alternative fuels and opportunity technologies can be used, fuels such as liquefied natural gas or petroleum gas may be used by the vessels. For the time being, if not indefinitely, these steps are more economically advantageous to member states than a mandatory sulphur limit.

⁸ Martyn Lasek, 'What does IMO's 0.50% Sulphur Cap Decision Mean for the Bunker Supply Chain?' (*Exxonmobil*) <<https://www.exxonmobil.com/en/marine/technicalresource/news-resources/imo-sulphur-cap-and-mgo-hfo>> accessed 24 August 2021

The goal to reduce carbon emissions may sound extremely promising, however this same is accompanied by various challenges. It is reported that there is no continuous, widespread use of pollution reduction measures at the necessary speed.⁹ The causes may vary and may concern barriers to both the complicated combination of determining the decision-making process in the shipping industry and the maturity of the steps. The results of this sluggish implementation may not be the same. Several studies have shown that, while some cost-cutting initiatives appear to be cost-effective, their implementation remains poor, with an "efficiency gap" between the actual level of implementation and the higher level which is predicted focused on techno-economic modeling.¹⁰ Furthermore, despite their high CO₂ reduction potential, smoother substitutes such as biofuels, methanol, hydrogen, etc. are expected to be not feasible on a large scale shortly due to a variety of technological, economic, and safety challenges. The new IMO legislation would cost the shipping industry approximately \$60 billion per year, according to industry experts. At present, MGO is about 60% higher than traditional HFO.¹¹ Given that the costs of bunkers constitute approximately 47% of the operating costs of the ship, IMO regulations would bring in substantially higher costs for the marine sector. This higher cost would lead to a 10 percent rise in transport prices per TEU for consumers, and it is not a basic question about who is to bear these higher costs.¹² However, fuel prices are not the only significant expense as capital and maintenance costs must also be taken into account when assessing cleaner energy options. The IMO while working upon such regulations should bear in mind the real challenge for the future, which is to successfully integrate environmental sustainability with financial stability and shipping requirements.

⁹ Evert A Bouman & Others, 'State-of-the-Art Technologies, Measures, and Potential for Reducing GHG Emissions from Shipping – A Review' (*Sciencedirect*, 2017)

<<https://www.sciencedirect.com/science/article/pii/S1361920916307015>> accessed 25 August 2021

¹⁰ Nishatabbas Rehmatulla and Tristan Smith, 'Barriers to Energy Efficient and Low Carbon Shipping' (*Sciencedirect*, 2015) <<https://www.sciencedirect.com/science/article/pii/S0029801815005028>> accessed 25 August 2021

¹¹ 'Press Release: IMO 2020 Regulation could Cost Shippers Extra US\$60 Billion a Year' (*Woodmac.com*, 2017) <[https://www.woodmac.com/press-releases/imo-2020-regulation-shippers-us\\$60-billion-year/](https://www.woodmac.com/press-releases/imo-2020-regulation-shippers-us$60-billion-year/)> accessed 25 August 2021

¹² 'How the New Fuel Regulations Change the Entire Shipping Industry - Hapag' (*Hapag-lloyd.com*, 2018) <<https://www.hapag-lloyd.com/en/company/about-us/newsletter/2018/08/why-the-new-fuel-regulations-change-the-entire-shipping-industry.html>> accessed 25 August 2021

The project launched by the IMO to stop the spread of invasive species carries several environmental challenges with it as well. To maintain their stability, ships routinely take on seawater in tanks called Ballast water. This is a type of water that may contain a variety of aquatic organisms, including microscopic or larval forms. If ballast water is released unmanaged in a new location at the end of an ocean voyage, these may become intrusive and dangerous. The IMO adopted the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (the BWM Convention) to resolve this issue. Since September 2017, ships have been expected to control their ballast water to prevent the transfer of potentially invasive aquatic species under the Ballast Water Management Convention. A ship-specific ballast water management plan and a ballast water record book are required for all ships. It has not been shown that all of the proposed methods of IMO-approved ballast water treatment are beneficial; the IMO has also approved some ballast water treatment proposals showing disadvantages. For instance, ballast water cannot be unloaded from ships of all forms, so certain ships must release the ballast to load cargo, for example, bulk carriers and tankers. Furthermore, the use of chlorine to treat ballast water still works, but the discharge of chlorine's extremely poisonous ballast water has a harmful effect on the surroundings. Essentially, IMO needs to identify more methods of ballast water treatment that conform to the present safety, environmental, functional, and cost-effective requirements.

CONCLUSION

The recent developments by the IMO showcase a real intent to bring a change in the environment, however, they lack clarity, and the implications for the same can be seen through the disadvantages presented by these regulations. All the regulations have a few things in common, firstly, all the regulations seemed rushed, and this represents a larger pattern that showcases an urgency for the IMO to bring about amendments in its already existing plans and documents. Secondly, an integral drawback that these regulations present are the economical disbalance that would prevent a large sector from adapting to be regulations in such a short period of time. Lastly, even though these regulations aim to protect our

environment, all of them in some way or the other end up hurting it as well which showcases the lack of depth and urgency through which these regulations have been enforced.