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WORLD MARITIME UNIVERSITY

HARMONIZATION OF SIERRA LEONE'S OIL POLLUTION PREVENTION LEGAL FRAMEWORK WITH MARPOL 73/78 ANNEX I REGULATIONS

REGINA CONTEH-KHALI

A dissertation submitted to the World Maritime University in partial fulfilment of the requirements for the award of the degree of Master of Science in Maritime Affairs

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Declaration

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

(Signature):  **.. .....**

(Date): **.....**

Supervised by: **Professor Carolina Romero**

Supervisor's affiliation: **.....**

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Gratitude abounds in my heart to the Lord God Almighty for his mercies and loving-kindness towards me. My gratitude to Him will not cease. All that I am and all that I will ever be is because of Him. It is by His grace that I have made it this far in the journey of life. Thank you Jesus!

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Abstract

Title of Dissertation: **Harmonization of Sierra Leone's Oil Pollution Prevention Legal Framework with MARPOL 73/78 Annex 1 Regulations.**

Degree: **Master of Science**

This is a study of the harmonization of Sierra Leone's legal framework on oil pollution prevention from ships with the provisions of MARPOL Annex 1 regulations. The objectives of the study were to establish the national legal framework that exists for oil pollution prevention from ships in Sierra Leone, to establish the status of harmonization of these instruments using comparative legal analysis and to know the administrative process of updating the instruments. The study found the legal instruments which are used for oil pollution prevention and those used for inspections and surveys. The status of harmonization of Sierra Leone's legal framework and MARPOL Annex I regulations and the administrative process of revising and updating the laws were established.

KEYWORDS: Harmonization, MARPOL, Annex 1, Oil, Pollution, Prevention, Legal framework.

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List of Abbreviations

CBT	Clean ballast tanks
COW	Crude oil washing
EPA	Environmental Protection Agency
GDP	Goss domestic product
GNOME	GNU Network Object Model Environment
GT	Gross Tonnage
IMO	International Maritime Organization
IMSAS-	IMO Member State Audit Scheme
III Code	Imo Instruments Implementation Code
MARPOL	International Convention for the Prevention from Ships
MDAs	Ministries, Departments and Agencies
MEPC	Marine Environmental Protection Committee
MLC	Maritime Labour Convention
MOU	Memorandum of Understanding
OILPOL Convention 54	International Convention for the Prevention of Pollution of the Sea by Oil
OPA90	Oil Pollution Act of 1990
ORB	Oil Record Book
Ppm	Parts per million
RO code	Code for Recognized Organizations
SBT	Segregated ballast tanks
SDGs	Sustainable Development Goals
SLMARAD	Sierra Leone Maritime Administration International Office
SOLAS 74	International Convention for the Safety of Life at Sea (SOLAS), 1974
STS	Ship to Ship Transfer
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme

Chapter 1: Introduction

Chapter 1.1 Background

Petroleum is the major source of energy in the world. An oil spill can be classified into natural and anthropogenic causes. Natural causes are from the sea or ocean bed. Anthropogenic causes are either accidental oil spill or intentional oil discharge into the marine environment (Dhaka & Chattopadhyay, 2021). Currently spills from oil exploitation and intentional waste oil discharge have taken over accidental oil spills from tankers which made headlines in the past (Akinwumiju et al., 2020; Mba et al., 2019 and Rim-Rukeh, 2015).

Chapter 1.1.1 Geography and Economy of Sierra Leone

Sierra Leone is bordered on the north and northeast by Guinea and on the south and southeast by Liberia. It has a total area of about 27,699 square miles made up of 46 square miles of water and 27,653 square miles of land. It has a North Atlantic Ocean shoreline and is situated on the West African continent between 8.5°N and 12.1°W, between the 7th and 10th parallels north of the equator. It is a tropical country with two seasons, wet and dry, and it is nearly constantly humid. It is among the wettest places along the West African coast due to the 495 cm of annual rainfall that may be expected there. A belt of mangrove swamps and white sand beaches, an area of low plains covered in secondary forest and arable land run roughly parallel to the coast. Along the Atlantic, the coastal swamp region stretches for around 200 miles. It is between 5 and 25 miles of broad low-lying, a regularly flooded plain and is made up primarily of sands and clays. Mangrove wetlands can be found on the many creeks and estuaries. Sometimes the actual shoreline is made up of sandbars that are separated by muddy lagoons. The capital city Freetown is situated on the Sierra Leone Peninsula, a region of heavily forested mountains that extend roughly 25 miles parallel to the sea. One of the largest natural harbors in the world is found in Freetown. Local, regional and international maritime trade, shipping activities like innocent passage and other vessel operations are actively ongoing in the waters and along the coast of Sierra Leone and its sea ports. Although seabed activities constitute a small part of the general amount, marine oil pollution is principally from

shipping (Tanaka, 2015). Shipping activities in the waters of Sierra Leone make its coastline vulnerable to intentional and accidental oil discharge.

Sierra Leone is a developing country that has a population of 8,791,092 with a GDP of $3,737.00B, one of the poorest in the world despite its abundance in deposit of natural resources. It has a tropical climate and natural features which makes it a potential tourist attraction. It has a rich biodiversity, including marine biodiversity. About 80% of the animal protein consumed in coastal communities all around the Gulf of Guinea is fish; it contributes significantly to the food security of millions of people. It is the only source of animal protein in some places. Fish is the main source of protein in Sierra Leone. Coastal and rural inhabitants in Sierra Leone primarily depend on fishing for their survival.

Figure 1: Map of Sierra Leone

Source:2018 @GEOATLAS for Worldmeter.org

Chapter 1.1.2 International Shipping and Oil Pollution

The International Maritime Organization (IMO) which is the United Nations agency that specializes in maritime affairs has selected 'MARPOL at 50- Our Commitment goes on' as the 2023 World Maritime Day theme to be celebrated on 28th September 2023. Celebrating fifty years of MARPOL is celebrating a legacy of strides made in setting regulatory frameworks which have led to maritime innovations, but more so, expanding the legacy by encouraging the adoption of new measures (Vianna & Reis de Oliveira, 2022). The theme spotlights the International Convention for the Prevention of Pollution from Ships (MARPOL) which is in line with the f 2030 Agenda for Sustainable Development and the 17 Sustainable Development Goals (SDGs) **(**IMO, 2022). How far has Sierra Leone come with domesticating and harmonization of its national legal framework with this convention since it came into force fifty years ago?

International shipping plays a vital role in facilitating commerce and helps to create prosperity among nations and peoples as more than 80% in volume of goods are carried by ships. Therefore, it is essential to develop regulatory frameworks and good practices to ensure a safe, secure and efficient international shipping industry, for future sustainable green economic growth (United Nations, 2022)**.** According to (UNCTAD, 2022) international maritime trade report of Sierra Leone, 451 port calls were made in 2021, 697 merchandise export and 1803 merchandise import. Container port in Sierra Leone was reported at 78413 in 2019, according to the World Bank (TRADING ECONOMICS, 2023). Fuel makes up 10% of Sierra Leone's import. Annual cargo handling capacity at the ports is approximately 9,075,523 metric tons (Kamara, 2018) and (OECD.Stat, 2023).

Every year, oil tankers usually quietly and safely move over 2,900 million tonnes of crude oil and petroleum products around the globe (IMO, n.d.). Although other types of vessels also carry heavy bunkers, oil tankers are the major mode of oil transportation, carrying around 90% of all the oil around the world. Therefore, safety of oil transportation is crucial. Oil spill cases have decreased, but they have not

stopped happening. For example, the Sanchi oil spill in January 2018 which was carrying 136,000 tons of oil when the accident happened, and eventually sank after eight days killing all its crew members and causing serious consequences (Chen et al., 2019). Recently on 25th July 2020, MV Wakashio, a bulk carrier ran aground at Pointe- d'Esny, the southeastern coast of Mauritius during its voyage from Singapore to Brazil. The vessel was carrying 1.1 million gallons of low-Sulphur fuel oil, 63,000 gal of diesel fuel, and 26,000 gal of lube oils (Gurumoorthi et al., 2021; Rajendran et al., 2022). Remnants of the oil spill still remain at the bottom of the water (England, 2022). At least 17 of the spills between 2005 and 2021 were attributed to non-tank vessels (Hebbar & Dharmasiri, 2022). According to the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, about 450,000 tons of oil is deliberately discharged from ships into the oceans and seas throughout the world each year. Sludge oil and lubricating oil are the two types of oil wastes created during a ship's operations (de Wolf, 2019).

Detecting deliberate discharge overboard of waste oils from cargo ships, tankers, cruise ships, fishing boats, and other marine vessels is challenging because such spills are smaller in quantity compared to accidental spills and also due to the complexity of ship traffic as well as the oil spill's drifting and diffusion (Liu et al., 2021). The two main ways that engineers and crew members get around MARPOL rules are: by the use of a "magic pipe," which is a hose attached to a bilge waste pump that links to an overboard discharge valve without going through a separator and falsification of the oil record book. The usage of a magic pipe is typically accompanied by the fabrication of the oil record book (Pound, 2016).

Chapter 1.1.3 Impact of Oil Pollution

Major accidental oil spills and deliberate discharge of waste oils from ships can result in disastrous short and long term consequences on a country’s economy, coastal communities, human health, fisheries, tourism, and alteration of the diversity of marine, coastal and terrestrial ecosystems. The type of oil composition and its properties, quantity and area of spill determines the weathering process. The severity

of the damage to the marine environment depends on where the pollution occurs**.** Damage is unpredictable and the effects can persist for decades after the incident especially if they occur near coastal and estuarine regions such as beaches, salt marshes and mangrove swamps (Zhang et al., 2019). Clean up of coasts and shorelines after accumulation of oil is expensive (Michel & Fingas, 2016). According to the GNU Network Object Model Environment (GNOME) results from research done by (Momoh & Bassey, 2021), between three and five days throughout the dry and wet seasons, 15% of oil spilled accidentally would be stranded ashore in Sierra Leone. A large portion of the oil is anticipated to evaporate and spread within a few days of the spill due to the consistently warm water temperatures in the Gulf of Guinea basin.

Oil pollution causes damage to the marine ecosystem (Liu et al., 2016). Sea mammals suffer from respiratory, inflammation and neurological disorders (Dhaka & Chattopadhyay, 2021). Oil pollutions that reach seashores are detrimental to terrestrial animals (Ramesh et al., 2018). Salt marsh vegetation is also affected by accumulated oil pollutants discharged in waterways and oils from major spills can last for a decade. Impact may be permanent where oiling leads to erosion of the marshes destroying ecosystem processes and associated species (Zengel et al., 2021). Communities which live, work and play along coastlines are vulnerable as continuous pollution from oil discharged from ships affects marine ecosystems. Coastlines may not be restored and livelihoods can become permanently damaged if it is a major spill (Croisant et al., 2017). Coastal community inhabitants are at risk from the toxicological properties of the oil components when they eat sea food tainted with petroleum (Solo-Gabriele et al., 2021).They suffer physical trauma and dermal issues during a major accidental spill (Black et al., 2016). Consumption of tainted food and drinking water affects internal organs. Furthermore (Dhaka & Chattopadhyay, 2021) said psychological stress from the shock of oil spill disaster gave rise to higher consumption of alcohol and drugs, increased number of complaints of domestic violence, increased cases of flouting law and order. Shipping activities can be halted in an area until cleanup is complete and revenue is thus

affected after a major spill. Fishing communities can be destroyed when oil pollution destroys the natural habitats, spawning, and breeding grounds of fishes. The sea food industry and its affiliates are hit financially (Dhaka & Chattopadhyay, 2021). When waste oil discharges accumulate or a major spill occur close to coasts they cause damage to seashores, beaches, gulfs, deltas, and estuaries. Tourism and related industries are affected this way (Black et al., 2016; Zengel et al., 2016).

Chapter 1.2 Problem Statement

As long as ships continue to carry and use petroleum, spills and oil discharges are bound to happen (Leahy, 2019). This is why it is imperative that control measures are in place to prevent and mitigate it. Prevention starts with having adequate laws to regulate shipping activities with regards environmental protection. The history of maritime trade has many cases of oil spills, some of which have led to damages that were almost beyond repair (Menon, 2020). Some of these major oil spills triggered the development or review of oil spill legislations and reform of institutions and processes. Relatively the impact of oil pollution constitutes only a small part of a general pollution to the maritime environment but the consequences of oil spills and oil wastes are extremely damaging for marine landscape and ocean inhabitants (Chen et al., 2020). The Protocol of 1978 which is a supplement to MARPOL 73 was adopted by IMO to eradicate the intentional discharge of pollutants like oil wastes and reduce accidental discharge into the marine environment. MARPOL 73/78's Annex I regulate pollution caused by oil. Oil pollution is petroleum in any form, including petroleum-based products, fuel oil, sludge, oil refuse, refined goods, as well as oil-contaminated wastewater discharged from covered ships. MARPOL 73/78 has played an important role in the reduction of oil pollution from ships (Krata & Jachowski, 2021).

Despite this move to tackle this problem, oil wastes from daily operations of ships are still being discharged overboard into the marine environment at an astonishing rate. In order to spare ship owners and operators the expense and difficulty of legal disposal, ship crew routinely illegally throw oil-contaminated wastewater covertly,

frequently at night. The main source of marine oil pollution is deliberate discharge of operational oil wastes, which now outweighs the number of major accidental oil spills by platform or ship (de Wolf, 2019). Administrations and other international enforcement agencies may need to boost efforts at discovery and prosecution or increase penalties to deter oily waste pollution for all ship owners. For some vessels, it is commercially profitable to pollute (van Hemmen & van Hemmen, 2017). Heavy fines have been levied on ships for illegal discharge but still ships consider these fines less costly and less time consuming to installing prevention pollution systems onboard such as an incinerator (Panko & Henthorne, 2019).

Coupled with pollution from shipping activities such as oil spills, Sierra Leone is experiencing the adverse consequences of other environmental issues. Challenges which are common to developing countries such as extreme poverty, lack of education and awareness about environmental issues, food insecurity, near-debt distress, galloping cost of living, and energy deficit limit the attention Sierra Leone gives to environmental issues (Ahonsi, 2022; Irish Aid, 2017). Due to deforestation of mangroves, coastal degradation and rising sea levels many homes are being lost during flooding (Kardas-Nelson, 2018).

Kamara also said in his study that the Marine Pollution Bill drafted in 2016 is yet to be enacted. There are other existing oil spill prevention laws although these existing laws were found not to be effective in addressing events of oil spill outbreaks. Although Sierra Leone has ratified UNCLOS and MARPOL, the nation struggles to keep up with the marine industry's rapid evolution, particularly when it comes to coping with oil spills, environmental degradation, and the apparent lack of oil spill regulation. Furthermore, contrary to expectation, some stakeholder institutions in Sierra Leone are not fully aware of oil spill regulatory frameworks (Kamara, 2022).

Sierra Leone is a member of the International Maritime Organization (IMO). Once IMO regulations enter into force, they are applied to ships on a global basis. The government through the Maritime Administration takes forward IMO and other international treaties for ratification and domestication after Diplomatic Conferences

to fulfill its Flag State, Port State and Coastal State responsibilities. It is a matter of priority especially because the first stage of compliance is transposing international laws to the national legal framework.

Chapter 1.3 Justification

Good governance of Sierra Leone's natural resources which includes its maritime domain is crucial not only for the country's development, but especially because as was seen during the eleven years civil war there's a link between this and continued peace and stability, economic development, rural integration and governance capacity in Sierra Leone (Environment, 2017). The government of Sierra Leone has passed numerous environmental legislations, policies and strategies to mitigate the effects by becoming signatory to many international environmental protection treaties. Although these laws exist in Sierra Leone, harmonization and non-compliance are challenges (Jalloh et al., 2022). Therefore, it is important for oil pollution prevention laws and regulations to be updated.

Chapter 1.3.1 Obligation to protect the Marine Environment

As stated in the Constitution of Sierra Leone Chapter II, subsection 7 (1) and as a party to the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) and the United Nations Convention on the Law of the Seas (UNCLOS) Sierra Leone has an obligation to protect its maritime space from pollutants such as oil discharge from ships. Part XII of UNCLOS defines the rights and obligations of nations with regards their Coastal, Port and Flag state duties in environmental protection.

Sierra Leone operates an open ship registry and has over four hundred ships in its international registry. As a Flag State of both domestic and international ships, it has an obligation to ensure vessels that fly its flag are compliant. Its flag registry recently moved from the black list to the grey list of the Paris MOU (Hellenic Shipping News, 2022). There are four sea ports in Sierra Leone. The major oil jetty is located in a crowded area Freetown where a fire accident at the jetty as a result of an oil spill could lead to massive destruction of lives and property. An oil spill especially of a

great magnitude close to the shoreline can have huge financial, social and political implications for a developing country like Sierra Leone. Therefore, it is imperative that oil pollution prevention laws are harmonized with MARPOL Convention.

Chapter 1.3.2 Value of MARPOL

The supertanker Torrey Canyon which sank in the British waters in 1967 spilled 119,000 tons of crude oil; the largest oil spill at the time and it became a catalyst in the development of the MARPOL Convention and the 1978 MARPOL Protocol in 1973 and 1978, respectively. The combined instrument entered into force on 2 October 1983 (IMO, 2022). The principal international convention addressing the prevention of pollution by shipping is the International Convention for the Prevention of Pollution from Ships (MARPOL). It contains regulations to prevent and minimize pollution by ships, both from regular shipboard operations and from accidental discharge (Raunek, 2019; Foundation, n.d.). Oil tankers are now designed, built and operated safely as a result. Maritime Agencies of countries and industry attached importance to oil pollution. This led to developing oil pollution prevention laws, regulations and policies; it also led to continuous advancement of oil tanker transportation technologies. Significant modifications such as improved ship design and construction, training, increased navigational safety and risk mitigation has successfully and significantly decreased the number and magnitude of oil spills as evidenced by data from the last 50 years, thanks to measures introduced by the IMO. MARPOL's construction and operational regulations such as the requirement of segregated ballast tanks to avoid carrying ballast water in cargo tanks, double hull, allowable discharges of bilge water through the oily water separator (15ppm standard), or oily waters from the cargo tanks, through the oil discharge and monitoring system, and other safety regulations like the implementation of mandated traffic separation schemes and international standards for seafarer training have been successful (IMO, n.d.).

Chapter 1.4 Aim of the Research

This research aims to establish the current status of harmonization of Sierra Leone's national legal framework with the provisions of MARPOL Annex I regulations using comparative analysis.

Chapter 1.5 Objectives of Research

1. To identify the legal framework and the status of harmonization for oil pollution prevention from vessels in Sierra Leone:

    - To establish the laws that exist in Sierra Leone for oil pollution prevention from vessels
    - To determine the level of harmonization of these laws with MARPOL Annex I regulations; identify those harmonized and those not harmonized
    - To identify the regulations used for surveys and inspections

2. To know the administrative procedure of revising and updating the national legal framework for oil pollution prevention from ships.

Chapter 1.6 Research Questions

1. What legal framework exists in Sierra Leone for prevention of oil pollution by ships in accordance with MARPOL Annex I?
2. What is the level of harmonization of these laws or regulations with MARPOL Annex 1?
3. What instrument is used for inspections and surveys?
4. What is the administrative procedure for updating or revising these legal instruments?

Chapter 1.7 Methodology

This research employs a comparative legal research methodology. This method is used in the study to compare the domestic laws of Sierra Leone relating to the

control of ship pollution with MARPLO Anne 1. The goal is to determine whether Sierra Leonean Laws are in harmony with MARPOL Annex 1. The sources of the data to be used to facilitate this study include both international and national data bases. IMO docs and Sierra Leonean legislative sources would be accessed for data.

Interviews are conducted via zoom meetings. A list of approved questions is used to conduct the interview of staff from the regulatory agency which is the Sierra Leone Maritime Administration.

Question 1: 1. What legal framework exists in Sierra Leone for prevention of oil pollution by ships in accordance with MARPOL Annex I?

The primary source of data is from searching on the web and the national gazette. The primary data is the law such as an Act.

Question 2: 2. What is the level of harmonization of these laws or regulations with MARPOL Annex 1?

The objective is to establish whether the laws and regulations in Sierra Leone to prevent ship source oil pollution are harmonized with MARPOL Annex 1 regulations. This is achieved by searching for the provisions of MARPOL Annex 1 regulations in the national legal framework. An overview of MARPOL convention is done and the provisions of its Annex I regulations. A comparative analysis is then done with the existing laws and regulations of Sierra Leone to see whether they are aligned with the provisions in MARPOL Annex 1. The first step in the process of harmonization is analyzing MARPOL Annex 1 to understand its requirements.

Question 3: What instrument is used for inspections and surveys?

Interviews are conducted to establish the existence of the instruments and to verify if they are up-to-date.

Question 4: What is the administrative procedure for updating or revising these legal instruments?

This question involves who, when and how. Which ministries, departments and agencies (MDAs) are involved in the review process? When are the reviews done? What steps are involved in the process? Answers and information to these questions is from interviews conducted.

Chapter 1.8 Scope and Limitation of Study

This research is limited to investigating the status of national legal instruments used for prevention of oil pollution from ship source in Sierra Leone and that includes its harmonization with the MARPOL 73/78 Annex I only and the administrative process of updating these instruments. The study will not look at the other annexes of MARPOL. Time is a limiting factor in this research. Also, the Administration is small and does not have a legal department. As a result, only two interviews are done.

Chapter 1.9 Structure of Study

This research work is structured into six chapters. Chapter one deals with the introduction, which includes the problem statement, methodology, research question, research objectives and the limitations of the study. Chapter two deals with the literature review. Chapter three is overview of MARPOL Annex 1. Chapter four is an evaluation of the harmonization of the Sierra Leonean laws on ship pollution with MARPOL Annex 1. Chapter five is an analysis of the findings. Finally, chapter six is the conclusion and recommendations arising from the study.

Chapter 2: Literature Review

Chapter 2.1 State Obligation

The consensus of the definition of the "environmental damage" in international environmental law is the foundation of state responsibility. International environmental law is developing to define "damage" or "harm" in order to prevent, conserve, and protect the global environment. International environmental law is based on the precautionary approach and preventive management and measures (Yalda Khalatbari & Abbas Poorhashemi, 2019).

The Dictionary of Law says that the state's responsibility is "an obligation of a state to make reparation arising from a failure to comply with a legal obligation under international law", Gede et al., 2020). Whether a Monist or Dualist system, the important thing is for a state to be in compliance with treaties they become signatory to as they have an obligation to effectively implement and enforce them by enacting national laws under either strategy. They must designate a regulatory authority mandated to ensure laws are harmonized by revision and update to enable them implement and enforce their flag, coastal, and port state responsibilities (Muriithi, 2019).

Chapter 2.2 The Industry's Reactive Approach

The passing of oil spill laws and regulations, international cooperation frameworks, and compensation mechanism is only pushed forward after accidents. Major oil spills in the past triggered the development or review of oil spill legislations and reform of institutions and processes. The U.S is a good example. Such oil spills have typically gone over the line into involving and occasionally infuriating the public to the point where the political system results in actual and significant change. The international community should be proactive in continuously strengthening relevant rules and regulations on oil spill prevention, emergency handling and early-warning capacities instead of reacting to lessons learned after accidents. The fact that improvement in

implementing international legal and regulatory frameworks has consequently resulted in decreased oil spillage overall, continuous improvement pertinent to international regulations for the management of ship source pollution should be further promoted by the international community. Countries still need to align their domestic legal systems with that of international conventions (United Nations, 2019).

Chapter 2.3 Oil Spills and Legislation in Maritime History

The tanker Torrey Canyon incident resulted in modifications to OILPOL 1954 by the IMO in 1971 and creation of the International Convention for the Prevention of Pollution from Ships (Leahy, 2019). The Exxon Valdez oil spill resulted in a new law in USA, the Oil Pollution Act of 1990 (OPA90). This extensive piece of legislation completely revised the laws governing the U.S's oil and gas sector and became the gold standard for preventing and responding to oil spills by many in the shipping and oil industries (Shigenaka, 2020; Niva, 2022). It's implementation altered ship design and operation all over the world because vessels and shippers had to abide by its criteria in order to enter U.S. waters which was the world's largest crude oil importer then. Marine transportation became safer and more environmentally conscious as a direct, quantifiable outcome. Even with that, the Alaska Department of Environmental Conservation (ADEC) began revising it in March 2020 to remove red tapes and processes that do not add value to preventing and responding to the next spill (Stuart, 2020). The oil industry underwent a substantial safety regulations transformation and institutional reforms after the Deepwater Horizon oil spill (Turner, 2021). Significant groundwork and guidance has been laid for future administrations in response and repairing much of the damage through regulatory revisions (Vizcarra, 2020).

Chapter 2.4 Jurisdiction

Implementation of IMO Instruments has not been uniform globally and that is why the IMSAS Audit was introduced. There exists variance in the international community over how to define the jurisdiction of flag states and coastal states for the prevention of marine pollution (Chen et al., 2019). The flag states' dominance in

preventing and managing ship pollution is primate and cannot be challenged. Many coastal nations have inconsistent pollution prevention standards. Flag states fail in their responsibility to supervise ships in their “flags of convenience” registry. In fact it is coastal nations that end up providing rescue and salvage in oil spill incidents, so they are a necessary supplement.

Chapter 2.5 Global Implementation of MARPOL

By 2022, MARPOL had been ratified by 150 countries, representing over 98 percent of merchant shipping worldwide. This is a great achievement; however, there is a need for constant vigilance. The MARPOL Convention should continue to be updated, and new technology should be used to lessen the impact of shipping on the environment and the world’s oceans (Foundation, n.d.; Chen et al., 2019). An impact analysis of the effective implementation and enforcement of legislative developments on oil spills from tankers, MARPOL Annex 1 regulations, focusing on marine oil spills worldwide over a 50 year period from 1970 to 2020 shows the safe transportation of petroleum has had a track record of improvement. The shipping industry, IMO, port states and other organizations have taken many actions to decrease these undesirable events (Ranasinghe et al., 2022). Global trend shows that adequate national legislations and effective implementation of MARPOL Annex 1 has been successful, but is that consistent with developing states?

Chapter 2.6 Harmonization in Developing Countries

It can be seen from studies conducted by writers that most developing countries in Asia, Africa and the sub-region of West Africa face similar challenges in developing adequate legal frameworks for ship source oil pollution prevention.

Sodik found after examining the adequacy of the existing Indonesian legislation on oil pollution and MPP consistent with international environmental governance regimes that the current Indonesian domestic environmental laws and regulations for dealing with oil pollution and marine debris have significant deficiencies. The study suggests that a strict liability rule in the law on prevention and control of marine oil pollution would be beneficial, (Sodik, 2020).

Kularatne assessed the efficiency and efficacy of Sri Lanka's legislation, Marine Pollution Prevention for protecting Sri Lankan waters from oil pollution and found that although there are provisions to control pollution from ships, harbors/ports, any facility utilized by ships, and offshore petroleum exploration operations, as well as to deal with crimes, imposing both criminal and civil penalties for offenders, there were significant gaps. There is a need to amend the Sri Lanka Act monitored by MEPA in collaboration with relevant agencies taking into consideration both ratified and un-ratified international instruments relating to marine pollution control, (Kularatne, 2020).

As marine oil pollution from ships had been a constant threat to Thai waters, Gamassa examined the domestication of the provisions of relevant international conventions to which Thailand is a party regarding the prevention, preparedness, response and compensation for claimants of marine oil pollution damage. It was found that Thailand still has a weak legal framework to prevent marine oil pollution from ships even though Thailand is already a party to MARPOL 73/78 and has enacted several domestic laws to harmonize provisions of this international convention, despite this progress. Thailand has consistently delayed its ratification of or accession to relevant international, (Gamassa, 2021).

Statistics from analysis of flag state implementation of MARPOL by Saudi Arabia with reference to III Code conducted by Almutairi revealed that Riyadh and Abuja MOUs reported the lowest MARPOL related deficiencies particularly Annexes I&V; just 36 and 187 for Abuja and Riyadh MOUs respectively for the year 2019. It is clear that both of these regions do not conduct adequate inspections, nor are the inspections that are conducted thorough enough (Almutairi, 2020).

Studies about the African continent reveal deficient laws and the challenges agencies face in domesticating and updating of Oil Pollution Prevention laws and regulations.

The events in Mauritius for example, serve as a poignant example of the limitations of current international law and policy in successfully preventing or minimizing the

impact of oil spill events, particularly when they occur in Small Island Developing states (Manka, 2023). The island state had done much on paper to prevent and combat oil pollution by participating in UNEP programs and even collaborated at regional level through the Nairobi Convention but other factors such as capacity building and technical capacity affected them in preventing the spill (Damayanti & Bagensa, 2023).

Gamassa used comparative analysis to examine the laws addressing increased risk of vessel-source oil pollution as a result of, importing large quantities of oil in Mainland Tanzania and Zanzibar since the beginning of the 21st century. It was found that challenges such as domesticating ratified international laws on oil pollution prevention and domestic laws that exist were neither harmonized nor effectively implemented thereby impeding sustainability of the marine environment in Tanzania, (Gamassa, 2021b)

South Africa adopting international best practices and a significant step in bringing local legislation into compliance with international legal frameworks demonstrates the government's commitment to pollution prevention. Through the introduction of shipping certifications, sanctions, compensation, and liability programs to enable effective prevention of oil spills, the government has been indicating reasonable progress for several decades. However, issues of complex legal systems and ineffectual regulations still persist, (Sabela-Rikhotso et al., 2021).

Abubakar did a comparative analysis of Somali's legal and regulatory regime with those of Ghana and Norway to benchmark and identified gaps in Somalia's regime. The main findings of this research were that the environmental legal and regulatory framework for oil and gas activities in Somalia are inadequate and fail to comprehensively regulate the key aspects identified in Ghana and Norway regimes. The regulatory regime is still emerging and all regulatory responsibilities in the oil and gas sector including responsibilities for environmental regulation are placed under a single regulatory authority. Indeed, the concentration of many responsibilities related to oil and gas activities including environmental aspect under

a single regulatory authority can considerably increase burden on the authority, hence jeopardizing effective compliance to the overall legal regime, (Abubakar, 2019).

Findings from study done by Akeng states that Cameroon`s way of dealing with the problems caused by liquid pollution, including oil pollution, has mostly relied on the command-and-control approach based on a set of laws designed to perform a preventive or proactive role. The presence of well-drafted legislations that specify standards for various pollution and penalties for noncompliance has helped to reduce pollution to some extent. However, successful implementation of these laws and regulations has not been achieved to the required extent, starting from informal units, limited authorities of the regulators, inadequate coordination between stakeholders, bribes to inspectors, political interference, and low remuneration for the officials involved that provides an incentive for corruption, (Akeng, 2021).

From a study of ballast water management at the Nigerian ports by (Donatus Eberechukwu Onwuegbuchunam et al., 2017), pollution from ship based sources has an increasing trend hence adequate facilities are needed in the ports. It was found that in Nigeria ports, ship-generated waste control services and provision of waste reception facilities are outsourced to a private company with no requirement for activity audit. Apart from the Nigeria Port Authority (NPA), other government agencies are also involved in pollution monitoring and control. Given this scenario, it is envisaged that functions could be duplicated and monitoring/control efforts potentially weakened by conflicts of interests. An integrated regulatory administrative framework model is therefore proposed to address these managerial issues.

IMO has decreed that an offshore "mobile floating unit" should be treated as a ship on the sea (Saboohi, 2020). Although most of the literature about oil spill in West Africa is about oil exploration, common challenges were found in the sub-region. These findings give an insight into the challenges of gaps in laws.

Petroleum exploration and production in the Niger Delta region and export of oil and gas resources by the petroleum sector have substantially improved the Nigerian economy over the past fifty-five years (Ite et al., 2016). According to (Atanda, 2015) Nigeria's many laws addressing oil pollution have both beneficial and negative outcomes. Considerable progress has been made at the level of institutional developments, regional collaboration, international cooperation accords, and public participation over the last twenty years. However, the negative repercussions, foremost of which is the ongoing environmental record of oil spills; pose a threat to overshadow the favorable ones. Scholars state that the environmental pollution and degradation that has emanated from oil spill in Nigeria has led to the destruction of landscape, loss of arable farmlands, aesthetic environment, fishing operations, revenue, and sometime lives (Bello & Amadi, 2019).

Poor regulations can result in conflicts between locals and oil companies, sometimes even with authorities as was the case in Niger Delta (Siakwah, 2018). Alarmingly, the spills seem to have persisted, despite existing legislations sanctioning them (Chuks-Ezike, 2018). As a result of corrupt practices, ineffective regulations, the multinational oil companies exploit lapses in the Nigerian environmental laws to their advantage without recourse to the host communities as well as the environment (Ele, 2022). Additional issues are lack of political will, enormous ministerial discretions granted by the laws, and the security problems in the Niger Delta. Reluctance on the part of the government to develop stricter laws and policies is suggested to be largely due to the fact that the government does not wish to scare away the investors in an important sector of the economy. Pressure from stakeholder and environmental groups is pushing the Nigerian government and multinational oil companies to find ways of minimizing or eradicating the impacts of oil pollution (Anejionu et al., 2015). A holistic review of the legal framework is necessary to minimize statutory inconsistencies (Olujobi et al., 2018).

A study by Glover revealed that there was lack of a legal framework in Ghana to prevent spills from exploitation operations as of 2017. Guidelines or laid down

procedures for the avoidance and combat of spillages, from both transportation and exploitation activities, were produced in an apparent effort to remedy this deficiency. However, because these recommendations lack the legal weight of binding conventions and protocols, they are unable to address the specific issue. All the stakeholders did not seem to be on the same page with regards to measures and procedures for preventing and combating a spillage. The regulatory bodies' lines of authority and responsibility were unclear. The Navy was also under-resourced, such that they had to fall on the oil exploitation companies to provide said resources to combat a spill. This is not in the best interest of the country, as the companies are profit oriented, and would only provide the barest equipment required to comply with the law which granted them the license to exploit the marine resources (Glover, 2017).

Chapter 2.7 Regional Cooperation

Some writers suggest that joining regional agreements and programs will contribute to oil spill prevention and response but the case of Mv. Wakashio has shown that is not enough. It is a combination of every other factor that will produce success. UNEP adjudicates a regional sea program consisting of thirteen regional seas while IMO on the other hand deals with many international conventions for the protection of the marine environment (Bansal, 2022). Pollution transcends national boundaries and strongly suggests regional and international efforts to protect the marine environment given that self-interest, in its varied manifestations, motivates sovereign states to become party to international conventions or to implement them, (Ayamdoo, 2016). Clarke buttressed the need for regional agreements and action programs to facilitate marine protection aligned with international criteria, (Clarke, 2001).

Chapter 2.8 Adoption of Adequate Laws and Measures

The governing framework for oil spills in the United States remains a combination of federal, state, and international authorities. Agency responsibilities are divided into two categories: (1) oil spill response and cleanup and (2) oil spill prevention/preparedness. The U.S Coast Guard oversees oil spill prevention from vessels. Regarding oil spill prevention and preparedness duties, jurisdiction is determined by the potential sources such as vessels, facilities, pipelines of oil spills. A series of executive orders, coupled with memoranda of understanding, have established the various agency responsibilities. For example, EPA oversees onshore facilities, the Coast Guard oversees vessels, and the Department of the Interior's Bureau of Ocean Energy Management oversees offshore facilities (Ramseur, 2017).

A research conducted by (Chen et al., 2020) found the human factor to have played a major part structurally in the Sanchi incident. Human factors are the key to future oil spill management of tankers. (Fan et al., 2018) found that Taiwan created a solid legislative framework for the prevention and mitigation of marine pollution in accordance with the international norms put out by IMO, despite the fact that it is not a UN member state. The government of Taiwan realized the importance of marine pollution prevention and drafted national legislation to deal with marine pollution management, the Marine Pollution Control Act. The capabilities of Taiwan's national maritime pollution prevention system have increased with the implementation of all relevant regulations, and the mechanisms put in place such as collaboration which meant significant interaction and communication between public and private sector organizations and consultants, fines or penalties in the event of non-compliance, resulted in compliance. Also, a continual examination and amendment of these recommendations to make them more thorough and methodical in order to achieve an even more soundness of marine pollution prevention system has been found to be successful.

Institutions are necessary to compel potential polluters to provide the best possible level of care in cases of negative externality, such as those involving pollution from oil spills, by configuring the incentive structure, such as by enacting fines, non-monetary sanctions, or rules regarding liability and compensation (Soto-Oñate & Caballero, 2017). MARPOL73/78 and International Convention for the Safety of Life at Sea (SOLAS), 1974 set strict standards for the fire safety of oil tankers. Safety and oil spills go together. Beforehand prevention laws and measures which refer to taking various precautions to stop oil pollution from happening must be strengthened. Oil tanker technical preventive measures all have a lot of space for improvement, (Zhang et al., 2021).

Since shipowners are aware of the repercussions of a spill, they take all reasonable precautions to avoid getting in that situation. If there are heavy fines for oil companies, they will implement cost-effective precautions to avoid pollution and employ the highest levels of security measures. In the Deep sea Horizon trial, District Court Judge Carl J. Barbier of the United States for the Eastern District of Louisiana noted: "*A greater degree of care is required when the circumstances present a greater apparent risk*."

The challenges of harmonization of oil pollution prevention laws and the consequences of non-compliance have been discussed in several environmental journals but none addressed harmonization of international oil pollution prevention laws and that of the national legal framework for the prevention of oil pollution in Sierra Leone.

Chapter 3: Overview of MARPOL Annex I

Chapter 3.1 Role of MARPOL 73/78

After realizing that the intentional discharges as well as accidental spills of crude and refined petroleum products had become an increasingly significant source of environmental pollution, IMO adopted the International Convention for the Prevention of Pollution from Ships (MARPOL). The objective of MARPOL 73/78 which went into force on 2nd October 1983 is to achieve the elimination of intentional discharge of oil and other harmful substances into the marine environment and the minimization of accidental discharge of such substances (de Wolf, 2019). The IMO regards MARPOL and SOLAS 74 as two suitable safety and environmental protection mechanisms. Since MARPOL entered into force in 1973 and was later updated by the protocol in 1978, it makes sure that shipping stays the mode of transportation that causes the least amount of environmental damage. It guarantees the preservation of the marine environment by stopping the release of pollutants by ships. Six implemented annexes with their corresponding appendices make up this marine environmental treaty for managing and eradicating marine pollution. MARPOL 73/78 has been a turning point in regulating oil pollution in the marine environment (Krata & Jachowski, 2021).

Oil pollution of the seas was acknowledged as a problem in the early 20th century, and many governments passed national legislation to control oil flows within their territorial waters. Following a meeting on oil pollution that the United Kingdom convened in 1954, the International Convention for the Prevention of Pollution of the Sea by Oil (OILPOL), 1954, was approved. Following the IMO Convention's entry into force in 1958, the United Kingdom Government transferred to IMO the responsibilities for its secretariat and repository. In an effort to address the problem of oil contamination of the seas, the 1954 OILPOL Convention went into effect on July 26, 1958. Even while the 1954 OILPOL Convention made significant headway in tackling oil pollution, it became clear that further action was required as the oil trade expanded and industrial practices changed. Even so, the IMO's emphasis on

pollution management at the time was still quite limited, and people were only just beginning to understand the damaging impacts of a fast industrializing world on the environment. The Torrey Canyon incident, which occurred in 1967 when the ship ran aground as it entered the English Channel and spilled its entire cargo of 120,000 tons of crude oil into the water, became the largest oil pollution incident ever documented at the time.

MARPOL was finally adopted in 1973 at a global conference. Although incidental pollution was acknowledged to be spectacular, the Conference nevertheless believed operational pollution to be the greater danger. OILPOL 1954 and its revisions were thus largely included into Annex I of the 1973 Convention, which dealt with oil. However, the Convention also aimed to address other types of ship pollution, and as a result, further annexes addressed chemicals, dangerous compounds transported in packaged form, sewage, and rubbish. Two Protocols pertaining to Reports on Incidents involving Harmful Substances and Arbitration were also a part of the 1973 Convention.

Following a string of tanker incidents in 1976 to 1977, IMO conducted a conference on tanker safety and pollution prevention in February 1978. The 1978 SOLAS Protocol and the 1978 MARPOL Protocol, both of which were adopted on February 17, 1978, contained the measures that the conference adopted regarding tanker design and operation. The 1978 MARPOL Protocol incorporated the 1973 Convention because it had not yet become operative. The International Convention for the Prevention of Marine Pollution from Ships, 1973, as modified by the Protocol pertaining thereto of 1978 (MARPOL 73/78), was eventually put into effect for Annexes I and II on October 2, 1983.

Annex I, Preventing Oil Pollution and MARPOL Protocol came into effect to stop ships from accidentally or willfully releasing oil or oily mixtures. The Marine Environmental Protection Committee (MEPC) of IMO has created legally binding requirements for oil tankers by adopting Annex I of the International Convention for the Prevention of Marine Pollution from Ships (MARPOL). There are 11 chapters

and a total of 47 regulations in it. Annex I has undergone a number of revisions as a result of the Protocol such as; dedicated clean ballast tanks (CBT), crude oil washing (COW), and segregated ballast tanks (SBT). Regulations for better stripping systems were also imposed, along with changes to the Protocol's drainage and discharge arrangements. Therefore, stronger guidelines for the survey and certification of ships were imposed by the 1978 Protocol to MARPOL. The 1992 changes to Annex I made double hulls a requirement for all new oil tankers.

Chapter 3.2 Annexes of MARPOL 73/78

The main international agreement that deals with preventing intentional or unintentional marine environment contamination is the MARPOL Convention. It incorporates two ratified agreements that were modified over time and were signed in 1973 and 1978, respectively. Currently, the Convention has six technical Annexes that contain regulations aimed at preventing and controlling pollution from ships, both accidentally and as a result of routine operations:

Annex I - Regulations for the Prevention of Pollution by Oil

Annex II - Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk

Annex III - Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form

Annex IV - Prevention of Pollution by Sewage from Ships (entry into force date 27 September 2003)

Annex V - Prevention of Pollution by Garbage from Ships

Annex VI - Prevention of Air Pollution from Ships (adopted September 1997 - not yet in force). States Parties must accept Annexes I and II, but the other Annexes are voluntary (Naturaitalia, n.d.)

Chapter 3.3 Amendment Procedure

Amendments are approved by either the Conference of Parties to MARPOL or by the Marine Environment Protection Committee. Amendments to the technical Annexes of MARPOL 73/78 can be adopted using the “tacit acceptance” procedure found in Article 16, whereby the amendments enter into force on a specified date unless an agreed number of State Parties object by an agreed date.

Chapter 3.4 Annex I - Regulations for the Prevention of Pollution by Oil

Annex I covers the prevention of oil pollution from operational wastes as well as from unintentional discharges. It consists of 11 chapters and 47 Regulations.

Chapter 1 provides an overview of MARPOL Annex I and is composed of 5 regulations that describe how the chapter ‘Application’ can vary depending on the type of ship, as well as the ‘Definition’ of various terms used throughout the chapter. There is a separate section for ‘Exceptions’ and ‘Exemptions’ because the rule might not apply to all types of ships. It also specifies the circumstance under which an Administrator may let different fixtures, supplies, gadgets, etc., to be installed aboard ships in order to fulfill this Annex. The most significant clause in this Annex forbids the disposal of hazardous material within 12 nautical miles of any land. The requirement for surveys and certifications for all oil tanker ships of 150GT and other ships of 400GT is covered in Chapter 2. Criteria are listed in Chapter 3's section on the requirements for machinery spaces for all ships so that the engine room and other machinery spaces conform to MARPOL Annex 1. The Requirements of Cargo Areas in an Oil Tanker Ship are discussed in Chapter 4, which includes a list of numerous regulations (Regulations 18 to 36). How to stop pollution from an oil pollution incident is covered in Chapter 5. Chapter 6 provides information on the facility's outside and inside special sections and includes the requirements for the receiving facilities to which the ship will dispose of the oily bilge/sludge in accordance with Regulation 38. A fixed or floating platform must meet the particular criteria in Chapter 7 to comply with Annex 1 of MARPOL and Regulation 39.

The topic of pollution prevention is covered in Chapter 8, which also goes by the name Ship to Ship Transfer (STS), which is the transfer of oil cargo between tankers at sea. It consists of three rules, numbered 40 through 42. The unique need for the use of carrying oils in the Antarctica region with Regulation 43 is described in Chapter 9. The details of the application and the verification of compliance process are provided in Chapter 10, which deals with the Verification of compliance with the provisions of this agreement under Regulations 44 and 45. The fundamental requirements of the international code for ships operating in polar seas under Regulations 46 and 47 are listed in Chapter 11. This definition of this annex is set forth in Regulation 46, which is followed by Regulation 47, which addresses the requirements for ships operating in polar waters (Raunek, 2022).

Table 1: Provisions of MARPOL Annex I

Chapters	State Obligations
Chapter 1 - General	The Administrations of State Parties are required by this Annex to: 1. Interpret the definitions of terms used in the convention in their national laws 2. State the ships to which this convention applies in their national legislation, the ships that are exempted and give the conditions which will exempt a ship from complying. 3. The responsibility of states when granting exemptions and permitting equivalents
Chapter 2 - Surveys and certification	The requirement for surveys and certifications for all oil tanker ships of 150GT and other

Regulations 6 to 11	ships of 400GT. 1. Administrations are required to issue or endorse International Oil Pollution Prevention (IOPP) Certificates after surveys in the form, duration and validity conditions provided by this Annex. Another Government of a Party can issue or endorse an IOPP Certificate at the request of an Administration 2. Administrations should carry out Port State control on operational requirements on ships that call at their ports to ensure compliance with this Annex
Chapter 3 - Requirements for machinery spaces of all ships Part A-Construction Regulations 12-13	States are to: 1. Ensure their ships are constructed with sludge tanks and standard discharge connections
Part B – Equipment Regulation 14	2. Ensure their ships are equipped with an oil filtering equipment
Part C - Control of operational discharge of oil Regulation 15 to 17	States are to set laws that will control and prohibit discharge of operational oil within 12 nautical miles of any land: 1. Outside special areas 2. In special areas 3. Develop regulations for ships less than 400 gross tonnage except the Antarctic area 4. Ensure oil and ballast water are

	segregated onboard their ships and an carriage of oil in forepeak tanks 5. Ensure their ships and ships that call at their ports carry onboard an Oil record Book for Machinery space operations
Chapter 4 - Requirements for the cargo areas of oil tankers	Administrations should ensure their ships are fitted with segregated ballast tanks and tankers should be constructed with double hulls and double bottoms
Part A – Construction Regulations 18 to 30 Part B and C – Equipment Regulations 31 to 36	Administrations are to design regulations to prevent pollution by ensuring their ships are constructed taking the following into consideration: 1. Oil tankers carrying heavy grade oil as cargo 2. Pump-room bottom protection 3. Accidental oil outflow performance 4. Damage assumptions 5. Hypothetical outflow of oil 6. Limitations of size and arrangement of cargo tanks 7. Intact stability 8. Subdivision and damage stability 9. Slop tanks 10. Pumping, piping and discharge arrangement 11. Oil discharge monitoring and control system 12. Oil/water interface detector 13. Crude oil washing requirements

	14. Oil Record Book, Part II - Cargo/ballast operations
Chapter 5 - Prevention of oil pollution arising from an oil pollution incident Regulation 37	Administrations of States Parties should ensure ships in their registry and foreign ships that call at their ports have onboard a shipboard oil pollution emergency plan
Chapter 6 - Reception facilities Regulations 38 Chapter 7 - Special requirements for fixed or floating platforms Regulations 39 and 40	Administrations should ensure: 1. Ports according to the provisions of this Annex have reception facilities to collect oily wastes and mixtures from ships 2. Fixed and floating platforms operating in the state's jurisdiction meet the requirements set out in this Annex.
Chapter 8- Ship to Ship Transfer Regulations 41 to 43 Chapter 9- Carriage of oils in the Antarctica area Regulation 44	Administrations are to develop regulations for: 1. The safety and environmental protection during a Ship to Ship Transfer 2. Procedures for the transmission of Notifications 3. Use or carriage of heavy grade oils in the Antarctic
Chapter 10- Verification Regulations 45 to 46	Administrations should employ mechanisms to ensure that ships are in compliance with this Annex

Chapter 11- Requirement of the international code for ships operating in Polar waters Regulation 47	Administrations are required to develop regulations for ships operating in Polar waters
Appendices to Annex I Appendix I	List of oils
Appendix II	Form of IOPP Certificate and Supplements
Appendix III	Form of Oil Record Book
Appendices to Unified Interpretations of Annex I Appendix 1	Guidance to Administrations concerning draughts recommended for segregated ballast tankers below 150 meters in length
Appendix 2	Interim recommendation for a unified interpretation of regulations 18.12-18.15 'Protective location of segregated ballast spaces'
Appendix 3	Connection of small diameter line to the manifold valve
Appendix 4	Specifications for the design, installation and operation of a part flow system for control of overboard discharges
Appendix 5	Discharges from fixed or floating platforms

Chapter 3.5 Domestication of the Convention

Various conditions and restrictions are imposed by this treaty on certain discharges or emissions from vessels. MARPOL has so far been ratified by more than 150 nations. Countries that ratify MARPOL 73/78 MARPOL become parties to it and are obligated to enact domestic laws to ensure compliance. They are to set laws strict

enough by ensuring severe enough penalties to deter recurrence of violations (Krata & Jachowski, 2021).

Sierra Leone has taken steps towards oil pollution prevention from ships in its legislative framework. Sierra Leone has ratified MARPOL 73/78 and its Annex I. According to the Sierra Leone Maritime Administration Act in Part III, Functions of the Administration, section 12 (1), states that the objective for which the Administration is established is to ensure safety of life and property at sea, ensure the prevention and combating of marine pollution by ships, promotion of national maritime security and the promotion of national maritime interest. In Section 12 (2)(a-b) the Administration also administers the Merchant Shipping Act 2003 and any statutory amendment or replacement thereof for the time being in force; and administers any other legislation relating to maritime affairs. In the Merchant Shipping Act (Port State Control Regulations 2018), procedures are stated for port state control inspections. The Memorandum of Understanding on Port State Control for West and Central African Region (Abuja MOU), a regional instrument for port state control inspections has also been ratified by Sierra Leone. According to the Abuja MOU, port state control activity must be based on the control authority provided under national laws or international conventions. The final revised 2023 Abuja MOU contains guidelines on how port state control inspections are to be done on ships to verify IMO Instruments compliance such as MARPOL. There also exists the statutory instrument, the Sierra Leone Maritime Administration Act No. 11 of 2000 from which Fees and Levies Regulations were developed. The Environmental Protection Agency Act 2022 prohibits discharge of toxic and hazardous chemicals into the marine environment. Violation of this will result in imprisonment, a fine or both.

In a bid to harmonize MARPOL 73/78 with the national legal framework for oil pollution prevention, a Bill has been drafted for an Act entitled Marine Pollution Act 2016 that has been pushed forward to be passed in the Parliament of the Republic of Sierra Leone. This bill as stated in it will be called the Marine Pollution Act 2016

and shall come into operation on the date to be fixed by the Minister by notice in the Gazette. The Sierra Leone Maritime Administration established by the Sierra Leone Maritime Administration Act 2000 is the body charged with the responsibility to administer this Bill when it becomes an Act. The Bill contains conventions related to oil pollution prevention, containment, response, compensation and liability. It has ten parts: Preliminary, Powers and Jurisdiction under UNCLOS, Intervention on the High Seas, Prevention of Marine Pollution by Dumping of Wastes and Other Matter are the first four parts. The fifth part which deals with Prevention of Pollution from Ships has seven divisions; General Provisions, Prevention of Pollution by Oil, Prevention of Pollution by Noxious Liquid Substances in Bulk, Prevention of Pollution by Harmful Substances Carried By Sea in Packaged Form, Prevention of Pollution by Sewage, Prevention of Pollution by Garbage and Prevention of Air Pollution from Ships respectively. Part six deals with Oil Pollution Preparedness and Response while parts seven which deals with Liability and Compensation for Pollution Damage has the three divisions namely; Liability for Oil Pollution, International Oil Pollution Compensation Fund and Division Bunker Oil Pollution Damage .Part eight contains requirements for Anti-Fouling System and parts nine and ten Enforcement and Miscellaneous respectively.

For the purpose of this paper, only provisions of the preliminary in Part I, Part II which deals with powers and jurisdiction under UNCLOS, and Part V, Divisions I and II which deal with oil pollution prevention will be discussed in details. Part I contains six sections which handle the title, date of commencement, the application when it becomes and Act and the interpretation of terminologies used. Part II contains some of the requirements of the MARPOL Convention in section five to twelve; interpretations, pollution prevention measures, notification of imminent or actual damage, measures relating to seaworthiness of vessels to avoid pollution, violation of the Act by vessels navigating in territorial sea or exclusive economic zone, monitoring of the risks of effects of pollution, publication of reports, assessment of potential effects of activities. Part V, Divisions I and II, section 39 to 84 contains the requirements of MARPOL Annex 1 regulations.

Table 2: Provisions of Part V of the Marine Pollution Bill

Part	Section
Part I - Preliminary	3. Ships to which the Act will apply 4. Interpretation of terminologies used
Part II - Powers And Jurisdiction Under UNCLOS	5. Interpretation 6. Pollution prevention measures 7. Notification of imminent or actual damage 8. Measures relating to seaworthiness of vessels to avoid pollution 9. Violation of the Act by vessels navigating in territorial sea or exclusive economic zone 10. Monitoring of the risks of effects of pollution 11. Publication of reports 12. Assessment of potential effects of activities
Part V - Prevention Of Pollution From Ships Division 1 - General Provisions	38. Interpretation 39. Scope and Application of Part and Exemptions 40. Description of Special Areas 41. Violations of this Part 42. Certificates and Special Rules on Inspection of ships 43. Detection of Violations and Enforcement of the Part 44. Undue delay to ships 45. Reports on Incidents Involving

	Harmful Substances 46. Communication of Information 47. Casualties to ships 48. Promotion of Technical Cooperation 48.A. Settlement of disputes
Division 2 - Prevention of Pollution by Oil	49. Interpretation 50. Application of Division 51. Equivalents 52. Initial, Renewal and Intermediate Surveys 53. Annual Surveys and additional surveys 54. Nominated Surveyors and Recognized organizations 55. Corrective Action 56. Withdrawal of IOPP Certificate and Detention 57. Assistance to other countries where the MARPOL is in force 58. Maintenance Requirements 59. Report of Accidents and Defects 60. IOPP Certificate 61. Issue of IOPP Certificate upon request by a country where the MARPOL is in force 62. Form of IOPP Certificate 63. Duration and validity of IOPP Certificate 64. Transfer of Flag 65. Control of Discharge of Oil

	66. Ships of less than 400 Gross Tonnage 67. Special Areas 68. Control of Discharge of Oil in Special Areas 69. Voyage partly through a Special Area 70. Special provision for Antarctic Area 71. Discharges containing Chemicals, etc. Prohibited 72. Investigations 73. Retention of Oil Residues on Board 74. Tanks for Oil Residues (Sludge) 75. Exceptions 76. Provision of Reception Facilities 77. Location of Reception Facilities 78. Capacities of Reception Facilities 79. Notice of Inadequate Reception Facilities 80. Oil Record Book 81. Special Requirements for Drilling Rigs and other Platforms 82. Shipboard Oil Pollution Emergency Plan 83. Offences 84. Regulations

Chapter 4: Harmonization of the Marine Pollution Bill and Annex I Regulations

In this chapter, the provisions of MARPOL Convention and each regulation of its Annex 1 has been compared with the draft Bill for an Act entitled Marine Pollution Act 2016 to see where in the Bill provisions for oil pollution prevention are found and whether they are aligned with the provisions in the Convention. An older version of Annex 1 is used according to the Bill.

Chapter 4.1 Definitions

MARPOL Convention, Article 2 defined different terminologies used in the convention such as regulation, incident, harmful substance, discharge and what discharge does not include, ship, Administration and Organization. Furthermore, Annex 1, Chapter I, Regulation 1, gave clear definitions of terminologies used in this Annex for prevention of pollution by oil.

In the Marine Pollution Bill, Part I, Section (3) defines Administration (Sierra Leone Maritime Administration), Agency (Environmental Protection Agency), court, Director-General, Sierra Leone protected waters, territorial sea, exclusive economic zone, high seas, internal waters of Sierra Leone as provided in the Maritime Zones (Establishment) Act 1996, MARPOL consistent with international standards, owner, master, tonnage regulations, Minister according the Merchant Shipping Act 2003, and Organization (the International Maritime Organization).

Also in Part V (Prevention of Pollution from Ships), Division 1, Section (38) it gives the meaning of terminologies used in this Division: Convention (section 21), discharge of harmful substances or effluents from a ship, existing ship, from the nearest land, harmful substance; incident, MARPOL (International Convention for the Prevention of Pollution from Ships 1973 as modified by the Protocol of 1978 and Annexes, Safety Convention (in Section 249 of the Merchant Shipping Act 2003),

ship, Sierra Leonean Government ship (section 3 of the Merchant S hipping Act 2003), special area, and undue delay. Finally in Division 2 (Prevention of Pollution by Oil), Section (49) it defines: Anniversary date, clean ballast, combination carrier, crude oil, crude oil tanker, existing ship, instantaneous rate of discharge of oil content, IOPP Certificate, major conversions, new ship, oil, oil fuel, oily mixture, oil tanker, product carrier, segregated ballast, and slop tank.

Chapter 4.2 Scope of Application

MARPOL Convention, Article 3- Application: gives the scope of application and exemptions under the Convention. Annex 1 also has its own scope in Chapter I, Regulation 2. It specifies vessels to which this annex applies and the exemptions. Also provided here are the Administration's responsibilities when granting exemptions.

The Marine Pollution Bill, Section (3) (Application and Administration) has a more general scope of application. It applies to Sierra Leonean ships (registered in Sierra Leone); non-Sierra Leone ships that will call at the ports or offshore terminals; masters and seafarers in Sierra Leone's jurisdiction. It does not apply to ships and aircrafts of Sierra Leone Armed Forces including ships and aircrafts of any foreign visiting Armed Forces. The Act applies to the Republic of Sierra Leone and the Sierra Leone Maritime Administration shall administer it.

In Part V, Division 1, Section (39), the scope is narrowed down to all Sierra Leonean ships; and all other ships operating in the maritime zones of Sierra Leone; the internal waters, territorial sea, or exclusive economic zone except for Government ships, warships, naval auxiliary or Government ships of other states**.** It becomes even more narrowed down and specific to oil pollution prevention in the second division of Part V, Section (50) which applies to all Sierra Leonean ships and other ships that have oil tanks of capacity 200 cubic metres or more, including sections 65 and 66, 68 to 72, 80 and regulations that are related to what is referred to in paragraphs (g), (s) and (o) of section 84. It includes more conditions, vessels and conditions of exemptions.

Chapter 4.3 Reports and Notifications

Chapter 4.3.1 Communication of Information

Article 11of the Convention provides requirements for Communication of Information and lists the type of information, conditions and procedures for communicating such information and reports.

In the Bill, Part V, Division 1, Section 46 (Communication of information), a list of what the Administration is to communicate is given and that includes: a list of nominated surveyors or recognised organizations authorised to carry out specific responsibilities for the Administration; sufficient number of samples of certificates issued under this Part; a list of reception facilities and their details; official reports or summaries of official reports; and an annual statistical report of penalties, in a form standardised by the Organization. These are to be communicated to IMO and Parties to MARPOL.

Chapter 4.3.2 Casualties to Ship

The requirements of Casualties to Ship as provided for in Article 12 of the Convention, is found in Section (47) of the Bill. The Administration shall initiate or carry out investigation of any casualty which occurs to any Sierra Leonean ship that results in serious or irreparable effect on the marine environment. It is also responsible for communicating the findings and actions taken in the report of such investigations to the Organization to assist with future solutions.

Chapter 4.3.3 Reporting

MARPOL Convention, Article 8- Reports on Incidents Involving Harmful Substances outlines obligations and procedures for Administrations to report pollution incidents. Protocol I of the Convention, Article 1 (Duty to Report); Article 2 (Reporting Method); Article 4 (Content of Report) provide additional requirements.

In the Marine Pollution Bill, under Section (11) Publication of reports by the Authority, the Administration has a duty to send reports of the results obtained in

sub-section 9 at appropriate intervals to the Organization. Section (45) also states that discharge of oil or noxious liquid from various packages or containers, different incidents on board or at sea are listed. The master or designated person is required to promptly report to the Administration the particulars of such incidents according to this section. If report from the ship about the incident is unobtainable, incomplete or not carried out, the owner, charterer, manager or operator of the ship, or their agent shall take the responsibility of the master to report with details listed in this section. The Administration shall have a system or procedure to receive and process all reports; notify the Organization for circulation to other state parties and member States of IMO. The fastest means of communication has be employed to transmit reports giving priority to the nearest coastal State. "*Any person designated to relay information who does not comply with these provisions commits an offence and is liable on summary conviction to a fine of 5 million Leones or to a term of imprisonment for three years or both such fine and imprisonment".* The Minister may use the guidelines from IMO to make regulations for procedures to reporting of events involving discharge of oil. Additionally in Section (59) when a major accident occurs to the ship, the master or owner shall report same to the Administration or RO and an investigation launched to determine condition for survey. When in a foreign port, it shall report to the authorities of that country.

Chapter 4.4 Surveys and Inspections

Chapter 4.4.1 Surveys

Regulation 4 deals with surveys and provides requirements for initial, periodical and intermediate surveys of oil tanker of 150 GT and above, and every other ship of 400 GT and above to ascertain full compliance with Annex 1. The areas of survey, period and conditions for certification are provided.

These requirements are found in Division 2 (Prevention of Pollution by Oil) of the Bill, under:

- Section (52) - Sierra Leonean ships that are oil tankers of 150 GT and above and Sierra Leonean ships that are not oil tankers of 400GT and above are

subject to an initial, a renewal and an intermediate survey. Details of how the survey is to be done, conditions, periods for these surveys and specifications of areas to be surveyed are stated. Provision is made for the Administration to develop a mechanism for ships that do not fall in the category of this provision;

- Section (53) - Additionally, an annual survey to satisfy conditions before or after each anniversary and an additional survey carried out after every repair;
- Section (54) - Surveys are carried out by officers in the Administration but under this provision the Administration can entrust a Recognized Organization with its duties to do surveys, inspections and other services in compliance with the RO code. All conditions and procedures to be followed are contained here;
- Section (56) - Provisions is made for the conditions under which an IOPP certificate shall be withdrawn until rectification of a default;
- Section (55) - The Administration shall be notified promptly for a corrective action plan to be taken when during survey the ship is found to be unfit to prevent oil pollution;
- Section (57) - The Administration shall render assistance to the Government of a Party when its ship has failed to take corrective action. If the ship is not seaworthy and poses a threat to environmental damage, the Administration ensure the ship remains in port until corrective action has been taken; and
- Section (58) - No change shall be made to the ship without prior notification to the Administration for approval. The ship even after survey must be maintenance always.

Chapter 4.4.2 Port State Control Inspections

Regulation 8A gives right to Governments of Parties to carry out port state control inspection on ships that call at their ports or offshore terminal to ascertain seaworthiness and ensure compliance to this Annex

Port State Control obligation is found in Section 41 of the Bill and it must be carried out in accordance with the provision in the Merchant Shipping Act.

Chapter 4.4.3 Undue Delay to Ship

MARPOL Article 7 gives right to ships to claim damage if unduly delayed or detained at ports by authorities while conducting inspections.

Undue delay to ships is found in Part V, Division 1, under Section (44) of the Bill. The Administration shall ensure by all means to avoid unnecessary detention or delay of a ship under sections 41, 42 and 43. Breach of this will result in compensation to the ship for any damage or financial loss incurred by the ship during the process.

Chapter 4.4.4 Equivalents

Under Annex 1, Chapter **I,** Regulation 3 provision is made for Equivalents. If an alternative material, equipment etc. is permitted by the Administration to be fitted on the vessel in place of the one prescribed by the Annex, it must be equivalent and as effective in function as the one prescribed in the Annex. Such an equivalent should be communicated to the Organization, which will circulate same to other Parties.

In Division 2 (Prevention of Pollution by Oil), Section 51 of the Bill, same is found. Alternative but suitable materials, equipment and apparatus can be fitted for the same function in this provision but with the approval by the Administration. The alternative must perform the same function and effectively. The Administration has responsibilities to this provided in this section.

Chapter 4.5 Certificates

In Article 5 of the Convention, Certification by the Party and acceptance by other parties, all conditions for validity of certificates under this convention are stated.

Regulation 5 of Annex I states that ships after survey shall be issued an International Oil Pollution Prevention Certificate by the Administration or the nominated Recognized Organization (RO) but the Administration remains the body in charge.

Regulation 6 makes provision for Administrations to request for their ships to be surveyed by the Government of a Party. Regulation 7 gives the format for certificates in appendix II to this Annex. Regulation 8 gives the duration and conditions of validity of certificates.

Part V, Division 1, Section (42) states that certificates issued by the authority of another Party and by the Administration in accordance with the provisions of MARPOL have the same validity and shall be recognized for its purpose. Such certificate is subject to verification while a foreign vessel is at the ports or offshore terminal of Sierra Leone. Where the certificate is not valid or the details on the certificate does not correspond to the state of the ship or its equipment during an inspection, the Administration will have the ship detained until the problem is rectified and the vessel is considered seaworthy. The ship may also be granted permission to sail to the nearest shipyard for rectification. The Administration should inform the Government of the Party state about an invalid certificate.

If a non-compliant foreign ship registered in a Party state is to be denied entry to the ports and terminals of Sierra Leone, the Administration may first consult with the Government of the State concerned. The consular or diplomatic representative of that State concerned, or the Government of that State if the diplomatic representative cannot be reached should be informed immediately about this action by the Administration. If there is evidence that the master or crew are not familiar with procedures on board the ship for pollution prevention, an inspection in accordance with the Merchant Shipping Act (Port State Control) Regulations, may include an investigation. If a deficiency is found after the investigation, the Administration shall cause the ship to be detained until the deficiency is rectified and becomes compliant with the requirements of this Part. Inspections under this Part shall be carried out.

Furthermore in Division 2, Section 60 gives conditions for issuing of an IOPP Certificate after survey. It also states the procedures, the issuing authority, validity and duration. Section (61) states that the Government of a Party to MARPOL can issue an IOPP Certificate to a Sierra Leonean ship on behalf of and at the request of

the Administration in accordance with this division. Section (62) says an IOPP Certificate has a form prescribed in the Sixth Schedule which is in conformity with MARPOL. All requirements and conditions with regards validity and duration are provided in section (63) and (64) makes provisions for transfer of a Sierra Leonean ship and the requirements.

Chapter 4.6 Illegal Discharge of Waste Oils

Chapter 4.6.1 Control of Discharge of Oil

Annex 1, Chapter II**,** Regulation 9 (Control of Discharge of Oil**)** prohibits discharge of oil, oily water or mixture into the sea unless it meets the conditions stated in this Provision. Oil residues which do not meet the criteria shall be kept onboard to be discharged to a reception facility at the port.

Section (6) of the Bill outlines the responsibility of the Government of Sierra Leone through the Administration to employ all measures to prevent and combat the spread of oil pollution in waters where Sierra Leone exercises rights and jurisdiction in accordance with UNCLOS in order to preserve the fragile ecosystems. The Administration should refrain from non-unjustifiable interference with the rights and duties of other states in conformity with UNCLOS. The Administration has a duty to notify the Organization and other States concerned of imminent or actual damage by oil pollution, Section (7). The Administration can detain a vessel that threatens to damage the marine environment while at its port or offshore terminal or that is in violation of any laws of Sierra Leone. Permission may be granted by the Administration to a vessel found non-compliant to proceed to the nearest repair yard for rectification of default before sailing, Section (8).

Section (10) states the Administration's duty to collaborate with the competent body to employ every measure scientific or non-scientific and put mechanisms in place directly or with the assistance of the Organization to prevent and mitigate pollution by continual monitoring and appraisal of situations in its waters. The Administration shall also assess potential damage of planned activities in the waters of Sierra Leone

and communicate such report in the manner provided in section 11, according to Section (12)

In Part V additional requirements consistent with Annex 1, Regulation 9 is found in sections 65, 66, 71, 72 and 73. Discharge is prohibited unless certain conditions provided in the section permit the discharge of oil. Section (72) makes provisions for investigation when traces of oil are seen in the immediate area of a ship or its wake, either on the water's surface or below it and the Administration's responsibility here. Provision for waste oil to be stored onboard and later discharged to a reception facility is given in section 73.

Chapter 4.6.2 Special Areas

Annex I, Chapter II, Regulation 10 states conditions and procedures to be followed to ensure oil pollution is prevented in special areas. The special areas listed are: the Mediterranean Sea area, the Baltic Sea area, the Black Sea area, the Red Sea area, the Gulfs area, the Gulf of Aden area, the Antarctic area and the North West European waters with their coordinates and boundaries.

This requirement is found in Division 1, Section (40) and Division 2, section (67) of the Bill. The description and coordinates to divide the boundaries of special areas as in Annex I, Regulation 10 including the Oman area of the Arabian Sea, Southern South African waters, and places that IMO may declare as special areas in future are provided.

Section (68) states that; a Sierra Leonean oil tanker is prohibited from discharging any oil or oily mixture in special areas except when all of the conditions in this provision are satisfied. An additional provision in section (69) is made for a Sierra Leonean ship sailing partly through a special area and section (70) in the Antarctic area.

Chapter 4.6.3 Violations

MARPOL Convention, Article 4 (Violations and Prohibition) states that, flag states are required to set rules prohibiting the violation by their ships of any of the regulations contained in the convention. Port and coastal states are also given the right to sanction or penalize offenders and to proceed with litigation according to the laws of their country for violation by ships in their jurisdiction. Furthermore, the punishment levied on the violating ship must correspond in severity to the violation in other to deter such violations from recurring.

This provision is found in the Marine Pollution Bill, Article 6 (Detection of Violation and Enforcement of the Convention): State parties must collaborate, use every practicable means and measure available to them to detect and monitor the marine environment, develop reporting and gathering information. Port states also have a duty and right to conduct inspection on vessels to ascertain their compliance or if suspected of violation of the state's oil pollution prevention laws. They also have a right to take action and procedures to follow while doing so.

It is also found in Part V, Division I, under Section (41) of the Bill: When sufficient evidence is available that there was a violation of this Part, litigation or imposing of sanctions shall be promptly initiated by the Administration. The Administration shall provide information and evidence of violation about foreign ships to the Government of the State where the ship is registered. When the Administration receives information and evidence of violation by a Sierra Leonean ship from the Government of a Party, it must immediately inform the Government and the Organization of the actions that it took.

Where the Administration has sufficient grounds that a foreign ship proposing to enter a Sierra Leonean port or offshore terminal poses threat of pollution due to non-compliance with this Part, entry may be denied to eliminate this threat. The ship is liable to detention if it is in violation of the requirements of this Part. Foreign ships at the ports or offshore terminal of Sierra Leone are subject to inspection by inspectors

appointed or authorised by the Administration to verify if a ship has violated this Part by discharging oil. If a violation is found from the inspection, a report shall be forwarded to the Government of the State the ship's flag for action. The Administration shall transmit the evidence of the alleged violation to the Government of the State involved and where viable the master of the ship. The Administration may also request for evidence of an alleged violation by a Sierra Leonean ship from the Government of a Party upon receipt of such report. The Administration shall take prompt action of litigation and immediately inform the Government of the other Party concerned when it has established a violation occurred. The Organization shall also be informed of the action taken. The Administration shall act on the request of the Government of a Party to carry out investigation on receipt of sufficient evidence or harmful discharge by a ship when it enters the ports or offshore terminal of Sierra Leone. The Administration shall transmit the report of the investigation to the Government of the State where the ship is registered for appropriate action.

Part V, Division 1(General Provisions): Section (43) Detection of violations and enforcement of the Part: The Administration has a duty to collaborate with Governments of other Parties to detect violations in implementing and enforcing this division.

Chapter 4.6.4 Exceptions

Annex 1, Chapter II- Requirements for Control of Operational Wastes**,** Regulation 11 gives three conditions which will exempt a ship from complying with Regulations 9 and 10 of this Annex and those conditions are:

- *safety of a ship or saving life at sea*
- *damage to a ship or its equipment*
- *minimize or prevent a damage from worsening but subject to approval from the Administration*

Section (75) in the Bill also provides same exceptions: for the purpose of saving life or property, peril of the sea, damage to a ship or its equipment and no alternative available, sections 65, 66 and 68 shall not apply.

Chapter 4.6.5 Technical Cooperation

Administrations have a duty to request for technical assistance from United Nations Environment Programme and IMO according to Article 17 (Promotion of Technical Cooperation) in the Convention.

The Bill also gives the Administration a duty in Section (48) to seek technical assistance from IMO and other international bodies, like the UNEP to effectively implement the Convention.

Chapter 4.7 Requirements for Drilling Rigs and Platform

Annex 1, Regulation 21 provides special requirements for drilling rigs and other platforms. Water crafts engaged in exploration, exploitation and associated offshore activities are treated as ships of 400GT and above; therefore they are required to comply with the requirements of this provision for drilling rigs and other platforms

In the Bill same requirements are contained in section (8) for drilling rigs, floating FPS0s, and FSUs to comply with oil pollution prevention.

Chapter 4.8 Reception Facilities

Annex 1, Regulation 12 states that the Government of Parties should provide at their ports, oil loading terminals, and repair ports adequate reception facilities to receive waste oils discharged from ships.

In the Bill, Section (76) states the Administration's responsibility to ensure that facilities for the reception of waste oils and ballast water are provided at all oil loading terminals, repair ports, and in other ports. The Sierra Leone Ports Authority is responsible for providing the reception facility at every port and terminal fully satisfying each requirement stated in this section (77). The Minister is given a duty to develop regulations about the capacities of the reception facilities in section (78) and

the Administration in section (79) to notify the Organization of inadequate reception facilities in Sierra Leone.

Chapter 4.9 Requirement for Construction and Carriage Onboard

In Chapter II (Requirements for control of operational pollution) of Annex I, the requirements for carriage onboard are found in Regulations13 to 20. Chapter III which contains requirements for minimizing oil pollution from oil tankers due to side and bottom damages are found in Regulations 22 to 25. Chapter IV, Prevention of pollution arising from an oil pollution incident is found in Regulation 26.

The requirements of Chapters II-IV of Annex I are found in Part V, Division 2, sections (74), (80), (82) and (84) of the Bill. Additionally section (84) of the Bill states that the Minister has the responsibility of developing regulations for surveying of Sierra Leonean ships which do not fall under the category for surveys under sections 52 and 53. She/he also has the responsibility for developing regulations for the designation of types of oil tankers; segregated ballast tanks; crude oil washing operations; standard discharge connection; oil filtering equipment; segregation of oil and water ballast and carriage of oil in forepeak tanks; Oil Record Book; double hull and double bottom requirements; prevention of oil pollution from oil tankers carrying heavy grade oil as cargo; pump-room bottom protection; accidental oil outflow performance; damage assumptions; hypothetical outflow of oil; limitations of size and arrangement of cargo tanks; intact stability; subdivision and damage stability; slop tanks; pumping, piping and discharge arrangement; oil discharge monitoring and control system; oil/water interface detector; crude oil washing requirements; Shipboard oil pollution emergency plan; transfer of oil cargo between oil tanker at sea; and special requirements for ships operating in Polar Waters. Detailed technical specifications of these requirements as prescribed in the Convention are found in the Appendices to this Bill.

Chapter 4.10 Settlement of Disputes

Article 10 of MARPOL Convention states that settlement of dispute between two or more Parties to the Convention, if settlement by negotiation has not been possible, shall be done by arbitration submitted upon request of any of them as set out in Protocol II to the present Convention Protocol II Arbitration

Section (48A) in the Bill corresponds to this article and states that dispute settlement between Sierra Leone and other Parties through arbitration in accordance with Twenty fourth Schedule.

Chapter 5: Analysis of Findings

Chapter 5.1 Research Question 1

What legal framework exists in Sierra Leone for prevention of oil pollution by ships in accordance with MARPOL Annex I?

The following instruments were found to exist in Sierra Leone's legal framework for ship-source oil pollution prevention:

- MARPOL 73/78 which has been ratified by Sierra Leone is one instrument that exists for oil pollution prevention.
- The Merchant shipping Act which contains procedures for port state control inspections
- Memorandum of Understanding on Port State Control for West and Central African Region (Abuja MOU)
- The Environmental Protection Agency Act 2022
- A draft Bill for an Act Entitled Marine Pollution Act 2016 which has been pushed forward to be passed in the Parliament of the Republic of Sierra Leone. The process of enactment is on-going. When it has becomes an Act after it has been passed in Parliament, it will be the national legal instrument used for the protection of the marine environment from pollutants such as oil, coming from ships. The Sierra Leone Maritime Administration established by the Sierra Leone Maritime Administration Act 2000 will be responsible for its implementation together with the enforcement bodies which are the navy, marine police and the judiciary.
- The regulatory framework has not been completed as regulations which are to be developed as stated in section 84 and other sections of the Bill as required by MARPOL Annex I have not been done.

Chapter 5.2 Research Question 2

What is the level of harmonization of these laws or regulations with MARPOL Annex 1?

The table below shows where the provisions of MARPOL Convention and the regulations of Annex I are found in the Bill.

Table 3: Harmonization of MARPOL Annex1 and a draft Bill for an Act entitled Marine Pollution Act 2016

MARPOL 73/78	Convention	The Part	Marine Division	Pollution Section	Bill Sub-section
MARPOL Convention	Article 2 Definitions	I		3	
Annex 1, Chapter I	Regulation 1	V	1	38	
			2	49	
MARPOL73 Convention	Article 3 Application	1		3	
Annex 1, Chaper 1	Regulation 2	V	1	39	
			2	50	
MARPOL73 Convention	Article 4 (1)(2a)	V	1	41	1
	Article 4 (2b)	V	1	41	2
	Article 4 (3)	V	1	41	3
	Article 5 (1)	V	1	42	1
	Article 5 (2-3)	V	1	42	2 (a) to (f)
	Article 6 (1-2)	V	1	43	1 to 2
	Article 6(3)	V	1	43	3 (a)
	Article 6(4)	V	1	43	3 (b) (c)
	Article 6(5)	V	1	43	4

	Article 7 (1-2)	V	1	44	1 to 2
	Article 8 (1), 3 (a) &(b)	V	1	45	5
	Article 8, 2(a-b)	V	1	45	4 (a) to (b)
	Article 8 (4)	V	1	45	6
	Article 10 (1)	V	1	48 A	1
	Article 10(2)	V	1	48 A	2
	Article 11 1(a -f)	V	1	46	(a) to (g)
	Article 12 (1-2)	V	1	47	1 to 2
	Article 17 (a-d)	V	1	48	(a) to (d)
Protocol of 1978	Article III	V	1	46	B
Protocol 1	Article 1 (1)	V	2	59	1 (a) (c); 2 (a) (v)(iv)
	Article 1 (2)	V	1	45	2 (b)
	Article II, 2 (a) to (c);	V	1	45	1
	Article II, (1a)	V	1	45	2 (a) (i)
	Article II, (1b)	V	1	45	2 (a) (ii)
	Article II, 1(c) (i) and 2, 1 (c) (ii)	V	1	45	2 (a) (iii)
	Article III (a-d)	V	1	45	3 (a) to (d)
	Article IV (a-b)	V	1	45	7 (a) to (b)
	Article V, (1)	V	1	45	8
	Article V, (2)	V		45	10
Annex 1, Chapter 1	Regulation 3 (1)	V	2	51	1 to 3
	Regulation 3 (2)	V	2	51	4
	Regulation 4, 1(a)	V	2	52	1 (a)

	Regulation 4, 1 (b)	V	2	52	1 (b)
	(c):Regulation 4, 1 (c)	V	2	52	
	Regulation 4 (2)	V	2	52	2
	Regulation 4, 3 (b)	V	2	53	1
	Regulation 4, 4 (c)	V	2	53	2
	Regulation 4, 3 (a)	V	2	54	1 to 2
	Regulation 4, 3 (c)(i)	V	2	54	3 (a)
	Regulation 4, 3 (c) (ii)	V	2	54	3 (b)
	Regulation 4, (3)	V	2	54	4
	Regulation 4, 3 (d)	V	2	55	1 to 2
	Regulation 4, 3 (d)	V	2	56	(a) and (b)
	Regulation 4, 3 (d)	V	2	57	1 to 2
	Article 4, 4 (a)	V	2	58	1
	Article 4, 4 (b)	V	2	58	2
	Regulation 5 (1-2)	V	2	60	1 to 2
	Regulation 6 (1-5)	V	2	61	1 to 4
	Regulation 7	V	2	62	

	Regulation 8 (1&3)	V	2	63	1, 2(15) (c)
	Regulation 8 (3)	V	2	64	1&2
	Regulation 8 A	V		41	E
	Regulation 9 (1) a(i-vi)	V	2	65	1, 2 (a)(i-vi)
	Regulation 9 1 (b)	V	2	65	3
	Regulation 9, 1b (i-ii)	V	2	65	(a) and (b)
	Regulation 9, 1 b (iv)	V	2	65	C
	Regulation 9, 1 b (iii)	V	2	65	D
	Regulation 9 (2)	V	2	66	(a) to (d)
	Regulation 9 (5)	V	2	71	
	Regulation 9, (3)	V	2	72	
	Regulation 9 (6)	V	2	73	
	Regulation 9, b (ii)	V	2	75	1 (b) (ii)
	Regulation 9,(c)	V	2	75	C
	Regulation 10, 1(a-g)	V	2	40	(a) to (g)
	Regulation 10 (h), h(i-viii)	V	2	40	(h) h(i-viii)
	Regulation 10, 2 (a)	V	2	68	1 & 2
	Regulation 10, 3 b(iii)	V	2	68	2 (a)

	Regulation 10, 3b (v) and (vi)	V	2	68	2 (b)
	Regulation 10,3b (iv)	V	2	68	2 (c)
	Regulation 10, 3 b(i)	V	2	68	2 (d)
	Regulation 10, 3 b(ii)	V	2	68	2 (e)
	Regulation 10, 2 (b)	V	2	68	3
	Regulation 10 (5)	V	2	69	
	Regulation 10 (6)	V	2	72	
	Regulation 10 (7) and (8)	V	2	70	(a) to (d)
	Regulation 10, 4 (a)	V	2	71	
	Regulation10, 4 (b)	V	2	73	
	Regulation 11(a)	V	2	75	1 (a)
	Regulation 11, b(i)	V	2	75	(b) (i)
	Regulation 11, 1 (c)	V	2	75	2
	Regulation 12 (1)	V	2	76	1
	Regulation 12, 2 (a) to (f)	V	2	77	(a) to (f)

	Regulation 12, 3 (a) to (f)	V	2	78	
	Regulation 12(5)	V	2	79	
	Regulation 17	V	2	74	(1), (2)(a) (b) & (3)
	Regulation 20 (1).	V	2	80	1, 2 and 3
	Regulation 20, 2a (i) to (v)	V	2	80	4 (a), a (i-v)
	Regulation 20, 2b (i) to (x)	V	2	80	4 (b) (i-x)
	Regulation 20 (3)	V	2	80	5
	Regulation 20 (4)	V	2	80	6 (a) to (e)
	Regulation 20 (5)	V	2	80	7 (a)(b)
	Regulation 20 (6)	V	2	80	8 (a) (i-ii)
	Regulation 20 (6)	V	2	80	8 (b) to (e)
	Regulation 20 (7)	V	2	80	9
	Regulation 21(a)	V	2	81	(1)&(2)(a)
	Regulation 21 (b) to (c)	V	2	81	2 (b) and (c)
	Regulations 13 to 26	V	2	82, 83 and 84	84:(a) to (x)

It is worthy to note a few findings in the Bill. The Convention states in Article 4 (Violation) that "*penalties under the law of a Party shall be adequate in severity to discourage violations of the present Convention and shall be equally severe irrespective of where the violations occur*". The fines stated in the Bill, for example in Section 83 (1) a sum of four million Leones, are insignificant and so do not correspond in severity. In section 83, the fine for a master who commits an offence when due diligence is not exercised is also insignificant but it does not say anything about imprisoning the master which supports the objective of the Maritime Labour Convention (MLC).

The no favourable treatment given to ships of non-Parties to the Convention can be seen in the wordings in the Bill where every ship that is up to the gross tonnage specified in the Convention is included in the requirements in the Bill. The Bill always stated every ship instead of ships that are registered with government of Parties, hence eliminating favourable treatment. Where the Administration is to take account of the Guidelines developed by IMO, it was stated in the Bill that regulations will be developed in accordance with what IMO prescribes. The Bill also made reference to other Acts such as the Merchant Shipping Act 2003 for port state control inspections. As was prescribed in MARPOL Annex 1, the details and specifications of requirements for carriage onboard from Regulation 13 to 26, the Bill made provisions accordingly in Part V and the appendices to Part V which are also attached as appendices to this paper.

Under Part X, section 260 of the Bill, it is stated that the duty of the owner or master of the ship or the occupier of the place on land to report discharge of oil into waters of a harbour to the Harbour Master of Sierra Leone Ports Authority. Section 261 states that if oil is discharged into the internal waters of Sierra Leone while oil is being transferred from or to any ship, the person commits an offence and is liable to a fine. Section 262 places restriction of transfer of oil at night.

As is seen from the table above, using the older version of MARPOL Annex I, the provisions in the convention were found in sections of the Bill. The Bill had

incorporated amendments made to MARPOL Annex I such as Ship to Ship (STS) transfers and the Polar Code, up to the time it was drafted as can be seen in section 84 (Regulations) and in the appendices to Part V. The Minister has the responsibility to develop regulations for these amendments as well as other requirements in section 84, according to the Bill. Section 40 (iii) states that special areas will be updated as the IMO updates the list of special areas and the draft Bill had additional special areas as was amended such as: the Oman area of the Arabian Sea, the Southern and South African waters.

However, new amendments have been adopted for MARPOL Annex 1 since that time. The amendments made to MARPOL Annex 1 at the Marine Environment Protection Committee sessions in accordance with article 16(2)(d) of the 1973 Convention after the Bill was drafted are as follows:

- At the 70th session (MEPC.276 (70)), 24-28 October 2016 an amendment was made to update Annex I, Appendix II, Form B of the Supplement to the International Oil Pollution Prevention Certificate, in relation to segregated ballast tanks and it entered into force on 1 March 2018 (IMO, 2016).

- At the 71st session 3-7 July 2017 adopted a D-2 standard survey of existing ships associated with the International Oil Pollution Prevention Certificate under MARPOL Annex I (IMO, 2017).

- At its 74th session, 13-17 May 2019 by resolution (MEPC.314 (74) adopted the use of Electronic Record Books Annex I, Oil Record Book Part I (Machinery space operations) and Oil Record Book Part II (Cargo/ballast operations) which entered into force on 1 October 2020. The related guidelines were also adopted by MEPC (IMO, 2019).

- At its 76th session, 10 to 17 June 2021 by resolution (MEPC.330 (76)) adopted the exemption of unmanned non-self-propelled barges (UNSP) barges from annual survey and certification requirements for a period not exceeding 5 years provided that the UNSP barge has undergone a survey to

confirm that certain conditions are met and it entered into force on 1 November 2022 . It also approved a related circular on guidelines on the exemption and made provision for the form for the International Oil Pollution Exemption Certificate (IMO, 2021)

- At its 76th session, 10 to 17 June 2021 by resolution (MEPC.329 (76)) adopted Prohibition on the use and carriage for use as fuel of heavy fuel oil by ships in Arctic waters and it entered into force on 1 November 2022. The ban will begin on 1 July 2029 for ships to which regulation 12A of MARPOL Annex I applies, or ships to which regulation 1.2.1 of Polar Code Ch.1/Part II-A applies.

- At its 78th session, 6-10 June 2022 by resolution (MEPC.343 (78)) adopted Watertight Doors and it shall enter into force on 1 January 2024.

- At its 78th session, 10 June 2022 by resolution (MEPC.345 (78)) draft amendments to the MARPOL annexes have been approved for later adoption, enabling States with ports in the Arctic to enter regional agreements for port receiving facilities. Also agreed was the amendment of draft related to the 2012 Guidelines for the development of a regional reception facility plan (resolution MEPC.221(63) (IMO, 2022)

- At its 79th session, 12-16 December 2022 adopted amendments to the MARPOL annexes to allow States with ports in the Arctic region to enter into regional arrangements for port reception facilities and they are expected to enter into force on 1 May 2024 (IMO, 2022b)

- At its 80th session 3-7 July 2023 by resolution agreed the effective date of 1 January 2025, for the Red Sea and the Gulf of Aden special areas under MARPOL Annexes I and V for waste residues based on data provided regarding the availability of required reception facilities covering all ports and terminals within these special areas (IMO, 2023).

Chapter 5.3 Research Question 3

What instrument is used for inspections and surveys?

The international ship registry is managed by SLMARAD which is the international office of SLMA. Surveys and certification of ships registered under the flag of Sierra Leone engaged in international trade are managed by this office. Although it is not enforceable because the Bill drafted to harmonize MARPOL 73/78 into Sierra Leone's legal framework is yet to be enacted, MARPOL 73/78 is used to survey ships in Sierra Leone's international registry. This office forwards the survey reports to the Administration. Port State Control inspectors from the Administration use the Abuja MOU manual to carry out port state control inspections on foreign ships that call at the ports and offshore terminals of Sierra Leone. The Maritime Safety and Security Department (MSSD) at SLMA use a checklist which has a section for environmental protection for inspections. Domestic vessels are inspected by the inspection team from the Maritime Safety and Security Department (MSSD) because the Environment Department does not have inspectors to carry out MARPOL compliance inspections but, modalities are being put in place to tackle this problem. Only a small part of the checklist that has been developed by the MSSD for inspections deals with environmental issues. The minister is yet to develop regulations regarding discharges of oil from ships, especially for domestic vessels that do not meet the Convention's tonnage requirement.

Chapter 5.4 Research Question 4

What is the administrative procedure for updating or revising these legal instruments?

Sierra Leone uses the dualist system which means that international treaties do not become a law automatically after ratification; they have to be domesticated, which can lead to delay in the process of international laws becoming binding national laws. International treaties have to be transposed into the national legal framework. The agency responsible for domesticating most maritime conventions in Sierra Leone is SLMA. SLMA prepares a concept paper of the ratified convention that is to be domesticated and sends it to its supervisory ministry for approval. The Ministry of

Transport supervises the Administration. Upon approval, the minister forwards a cabinet paper to the Parliament. A committee of technical staff at the Administration reviews the draft. Stakeholders are then invited to a review workshop. The draft has to go through the Law Officers Department for structuring and screening to ascertain it is not in conflict with the constitution or other existing laws in Sierra Leone. After screening, the Bill is then sent to parliament to be enacted. The process can be refuted at any stage. The process sometimes takes years especially if there is a lack of political will. The same process is involved in updating laws.

As can be seen, the process of domestication is long thereby leading to delay in absorbing international treaties into the national legal framework. IMO instruments are amended regularly, almost annually. Updating amendments in the national legal framework as they are adopted at IMO committee meetings is a challenge because of this cumbersome administrative process involved in revising and updating the national instruments to be harmonized with the conventions.

At the time the Bill was drafted there was a legal officer at the Administration managing legal affairs such as the process of domestication and updating of legal instruments. The process of domestication was on-going. About a year later that position was vacant and there is yet to be a replacement. The progress of the domestication has dragged since that time. This cannot be completely attributed to the absence of a legal officer because during this time another international maritime convention has been ratified and another domesticated. There seems to be a lack of will which may also be coming from the political side. The process of domesticating laws can be long and slow.

Chapter 6: Conclusion and Recommendation

Chapter 6.1 Summary and Conclusions

The research was able to establish that laws exist in Sierra Leone's legal framework to prevent illegal discharge of oil pollution from ships into the marine environment. Although steps towards harmonization have been taken by ratifying MARPOL 73/78 and drafting a Marine Pollution Bill, the Bill that has been drafted to harmonize MARPOL 73/78 and its Annex I regulations into the legal framework of Sierra Leone is yet to be passed by the parliament to become an Act, the Marine Pollution Act 2016. This Bill after legal comparison with the regulations of MARPOL Annex I, was found to be harmonized at the time it was drafted but as years have passed while it is still in the process of being enacted, amendments have been made to MARPOL Annex I therefore its current status is not harmonized. Due urgency has not been given to the completion of the process of domestication of this instrument that is to become the law for prevention of oil pollution and other pollutants from ships entering the marine environment.

It was also established that MARPOL 73/78 is used for surveys of ships in Sierra Leone's international registry while the Merchant Shipping Act 2003 and the Abuja MOU are used to carry out MARPOL compliance port state control inspections. However, regulations do not exist to control discharge of operational waste oils from ships because the Ministry of Transport has not developed such regulations as prescribed in the Bill, according to the requirements of MARPOL Annex I.

Furthermore, it has been established that Sierra Leone uses the dualist approach and therefore has to transpose international laws into national laws to make them enforceable. The administrative procedure for domesticating and updating national laws when amendments are made to conventions has been established.

Chapter 6.2 Recommendations

Chapter 6.2.1 Revise and Update the Marine Pollution Bill

Since new amendments to Annex I have been adopted by the MEPC at IMO, a review of the bill before it is enacted is required to identify gaps and harmonize it with the new amendments as listed in Chapter 5.2. Where necessary, penalties should be revised too of fines stated in the Bill for illegal discharge of oil to correspond to the severity of offences so as to deter recurrence.

Chapter 6.2.2 Future Research

Sierra Leone's legal framework for oil pollution prevention can compared to the national legal framework for oil pollution prevention of a country in the sub-region and another from a developed country.

Furthermore the capacity and the structure of the Administration can be assessed in relation to harmonization of international treaties and Sierra Leone's legal framework.

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Appendices

Appendix I: Sixth Schedule in the Bill Form of IOPP Certificate and Supplements

International Oil Pollution Prevention Certificate

(Note: This certificate shall be supplemented by a Record of Construction and Equipment)

Issued under the provisions of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, as amended, (hereinafter referred to as "the Convention") under the authority of the Government of:

……
(full designation of the country)

by …….
(full designation of the competent person or Organization authorised under the provisions of the Convention)

Particulars of ship*

Name of ship…….

Distinctive number of letters…….

Port of registry……..

Gross tonnage…….

Deadweight of ship (tonnes)†…….

IMO Number‡……

_____

*Alternatively, the particulars of the ship may be placed horizontally in boxes.
†For oil tankers.
‡In accordance with resolution A.600 (15), IMO Ship Identification Number Scheme, this information may be included voluntarily.

Type of ship*

Oil Tanker

Ship other than oil tanker with cargo tanks coming under regulation 2(2) of Annex 1 of the Convention.

Ship other than any of the above

THIS IS TO CERTIFY:

1. That the ship has been surveyed in accordance with regulation 6 of Annex 1 of the Convention.

2. That the survey shows that the structure, equipment, systems, fittings, arrangement and material of the ship and the condition thereof are in all respects satisfactory and that the ship complies with the applicable requirements of Annex I of the Convention.

This certificate is valid until(dd/mm/yyyy)……† subject to surveys in accordance with regulation 6 of Annex I of the Convention.

Issued at ……..

(Place of issue of certificate)

…….. ……

(Date of issue) (Signature of duly authorised official issuing the certificate)

(Seal or stamp of the authority, as appropriate)

*Delete as appropriate

†Insert the date of expiry as specified by the Administration in accordance with regulation 10(1) of Annex I of the Convention. The day and the month of this date correspond to the anniversary date as defined in regulation 1(27)of Annex I of the Convention, unless amended in accordance with regulation 10(8) of Annex I of the Convention.

Appendix II: Endorsement for Annual and Intermediate Surveys

THIS IS TO CERTIFY that at a survey required by regulation 6 of Annex 1 of the Convention the ship was found to comply with the relevant provisions of the Convention:

Annual survey: Signed……...
(*Signature of duly authorised officer)*

Place …….

Date ……..

(Seal or stamp of the authority, as appropriate)

Annual /Intermediate* survey: Signed……...
(*Signature of duly authorised officer)*

Place …….

Date ……..

(Seal or stamp of the authority, as appropriate)

Annual/Intermediate* survey : Signed……...
(*Signature of duly authorised officer)*

Place …….

Date ……..

(Seal or stamp of the authority, as appropriate)

Annual survey: Signed……...
(*Signature of duly authorised officer)*

Place …….

Date ……..

(Seal or stamp of the authority, as appropriate)

_____
*delete as appropriate

Appendix III: Annual/Intermediate Survey in Accordance with Regulation 10.8.3

THIS IS TO CERTIFY that, at an annual/intermediate* survey in accordance with regulation 10.8.3 OF Annex 1 of the Convention, the ship was found to comply with the relevant provisions of the Convention: the ship was found to comply with the relevant provisions of the Convention.

Signed: ……..
(*Signature of duly authorised official)*

Place: …….

Date (dd/mm/yyyy) ……

(Seal or stamp of the authority, as appropriate)

ENDORSEMENT TO EXTEND THE CERTIFICATE IF VALID FOR LESS THAN 5 YEARS WHERE REGULATION 10.3 APPLIES

The ship complies with the relevant provisions of the Convention and this Certificate shall, in accordance with regulation 10.3 of Annex 1 of the Convention be accepted as valid until (dd/mm/yyy): ……..……

Signed: ……
(Signature of duly authorized official)

Place: ……..

Date: *(dd/mm/yyyy)*: ……

(*Seal or stamp of the authority, as appropriate)*

ENDORSEMENT WHERE THE RENEWAL SURVEY HAS BEEN COMPLETED AND REGULATION 10.4 APPLIES

The ship complies with the relevant provisions of the Convention, and this Certificate shall in accordance with regulation 10.4 of Annex 1 of the Convention be accepted as valid until (dd/mm/yyyy) ……

Signed: ……
(*Signature of duly authorized official)*

Place: ……..

Date: *(dd/mm/yyyy):* ……

(Seal or stamp of the authority, as appropriate

ENDORSEMENT TO EXTEND THE VALIDITY OF THE CERTIFICATE
UNTIL REACHING THE PORT OF SURVEY OR FOR A PERIOD
OF GRACE WHERE REGULATION 10.5 OR 10.6 APPLIES

This Certificate shall, in accordance with regulation 10.5 or 10.6 of Annex 1 of the Convention, be accepted as valid until (dd/mm/yyyy) …….

Signed: …….
(Signature of duly authorized official)

Place: ……..

Date: (dd/mm/yyyy): ……..
(Seal or stamp of the authority, as appropriate

ENDORSEMENT FOR ADVANCEMENT OF ANNIVERSARY DATE
WHERE REGULATION 10.8 APPLIES

In accordance with regulation 10.8 of Annex 1 of the Convention, the new anniversary date is (dd/mm/yyyy): ……..

Signed: ……
(*Signature of duly authorized official)*

Place: .....

Date: (dd/mm/yyyy): …….
(Seal of stamp of the authority, as appropriate)

In accordance with regulation 10.8 of Annex 1 of the Convention the new anniversary Date is (dd/mm/yyyy): ……

Sgined: …….
(*Signature of duly authorized official)*

Place: ……..

Date: *(dd/mm/yyyy)*: ……..

(Seal or stamp of the authority, as appropriate)

FORM A

Appendix IV: Supplement to the International Oil Pollution Prevention Certificate (IOPP Certificate)

RECORD OF CONSTRUCTION AND EQUIPMENT FOR SHIPS OTHER THAN OIL TANKERS

in respect of the provisions of Annex 1 of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as "the Convention").

Notes:

1. This Form is to be used for the third type of ships as categorized in the IOPP Certificate, i.e. "ship other than any of the above." For oil tankers and ships other than oil tankers with cargo tanks coming under regulation 2 (2) of Annex 1 of the Convention, Form B shall be used.

2. This Record shall be permanently attached to the IOPP Certificate. The IOPP Certificate shall be available on board the ship at all times.

3. The language of the original Record shall be at least in English, French or Spanish, if an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.

4. Entries in boxes shall be made by inserting either a cross (x) for the answers "yes" and "applicable" or a dash (-) for the answers "no" and "not applicable" as appropriate.

5. Regulations mentioned in this Record refer to regulations of Annex 1 of the Convention and resolutions refer to those adopted by the International Maritime Organization.

1 Particulars of Ship

1.1 Name of ship ……..…

1.2 Distinctive number or letters ……..……

1.3 Port of registry ……..

1.4 Gross tonnage……..……

1.5 Date of build:

1.5.1 Date of building contract ……..

1.5.2 Date on which keel was laid or ship was at a similar stage of construction ……

1.5.3 Date of delivery…….

1.6 Major conversion (if applicable):

1.6.1 Date of conversion contract …….

1.6.2 Date on which conversion was commenced …….

1.6.3 Date of completion of conversion…….

1.7 The ship has been accepted by the Administration as "ship" delivered on or before 31 December 1979 under regulation 1.28.1 due to unforeseen delay in delivery ☐

2 Equipment for the control of oil discharge from machinery space bilges and oil fuel tanks (regulations 16 and 14)

2.1 Carriage of ballast water in oil fuel tanks:

2.1.1 The ship may under normal conditions carry ballast water in oil fuel tanks ☐

2.2 Type of oil filtering equipment fitted:

2.2.1 Oil filtering (15 ppm) equipment (regulation 14.6) ☐

2.2.2 Oil filtering (15 ppm) equipment with alarm and automatic stopping device (regulation 14(7)) ☐

2.3 Approval standards*

2.3.1 The separating/filtering equipment:

.1 has been approved in accordance with resolution A.393(X) ☐

.2 has been approved in accordance with resolution MEPC 60 (33) ☐

3. has been approved in accordance with resolution MEPC 107 (49) ☐

4. has been approved in accordance with resolution A 233 (VII) ☐

5. has been approved in accordance with national standards not based upon resolution A.393(X) or A.233 (VII) ☐

6. has not been approved ☐

2.3.2 The process unit has been approved in accordance with resolution A.444(XI) ☐

* Refer to the Recommendation on international performance and test specifications of oily-water separating equipment and oil content meters adopted by the Organization on 14 November 1977 by resolution A.393(X), which superseded resolution A.233 (VII); see IMO sales publication IMO-608E. Further reference is made to the Guidelines and specifications for pollution prevention equipment for machinery space bilges adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.60(33), which, effective on 6 July 1993, superseded resolutions A.393(X) and A.444(XI); see IMO sales publication IMO-646E.

2,3,3 The oil content meter ☐

1. been approved in accordance with resolution A.393 (X)

2. been approved in accordance with MEPC resolution 60 (33)
3. has been approved in accordance with resolution MEPC 107(49) ☐

2.4 Maximum throughput of the system is …….m^3/h

2.5 Waiver of regulation 14:

2.5.1 The requirements of regulation 14.1 or 14.2 are waived in respect of the ship in accordance with regulation 14.5.

2.5.1.1. The ship is engaged exclusively on: voyages within special area (s) …… .. ☐

2.5.1.2. The ship is certified under the International Code Safety for High Speed Craft and engaged in a scheduled service with a turn around time not exceeding 24 hours ☐

2.5.2. The ship is fitted with holding tank(s) for its total retention on board of all oily bilge water as follows: ☐

Tank Identification	Tank Location		Volume (m^3)
	Frames (from) – (to)	Lateral position	
		Total volume: ……m^3	

3. Means for retention and Discharge of oil residues (sludge) (regulation 12) and bilge water holding tank(s)*.

3.1 The ship is provided with oil residue (sludge) tanks as follows;

Tank Identification	Tank Location		Volume (m^3)
	Frames (from) – (to)	Lateral position	
		Total volume: ……m^3	

3.2 Means for the Discharge of residues in addition to the provisions of sludge tanks:

3.2.1 Incinerator for oil residues, capacity …….l/h ☐

3.2.2 Auxiliary boiler suitable for burning oil residues ☐

3.2.3 Tank for mixing oil residues with fuel oil, capacity ……m^3 ☐

3.2.4 Other acceptable means:
…….. ☐

3.3 The ship is fitted with holding tank (s) for the retention on board of oily bilge water as follows;

Tank Identification	Tank Location		Volume (m^3)
	Frames (from) – (to)	Lateral position	
		Total volume: ……m^3	

4 Standard discharge connection (regulation 13)

4.1 The ship is provided with a pipeline for the discharge of residues from machinery bilges and sludges and reception facilities fitted with a standard discharge connection in accordance with regulation 13. ☐

5 Shipboard oil marine pollution emergency plan (regulation 37)

5.1 The ship is provided with a shipboard oil pollution emergency plan in compliance with regulation 37 ☐

5.2. The ship is provided with a shipboard marine pollution emergency plan in

compliance with regulation 37.3

6 Exemption

6.1 Exemptions have been granted by the Administration from the requirements of chapter III of Annex I of the Convention in accordance with regulation 3.1 (a) on those items listed under paragraph(s) ……..
……..of this Record. ☐

7 Equivalents
(regulation 5)

7.1 Equivalents have been approved by the Administration for certain requirements of Annex I on those items listed under paragraph(s) …….
…….of this Record. ☐

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at ……
(*Place of issue of the Record)*

……..
(*Signature of duly authorised officer issuing the Record)*

(Seal or stamp of the issuing authority, as appropriate)

FORM B

Appendix V: Supplement to International Oil Pollution Prevention Certificate (IOPP Certificate)

RECORD OF CONSTRUCTION AND EQUIPMENT FOR OIL TANKERS

In respect of the provisions of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as "the Convention").

Notes:

1. This form is to be used for the first two types of ships as categorised in the IOPP Certificate, i.e. "oil tankers" and "ships" other than oil tankers with cargo tanks coming under regulation 2 (2) of Annex 1 of the Convention". For the third type of ships as categorised in the IOPP Certificate, Form A shall be used.

2. This Record shall be permanently attached to the IOPP Certificate. The IOPP Certificate shall be available on board the ship at all times.

3. The language of the original Record shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in the case of a dispute or discrepancy.

4. Entries in boxes shall be made by inserting either a cross (x) for the answers "yes" and "applicable" or a dash (-) for the answers "no" and "not applicable" as appropriate.

5. Unless otherwise stated regulations mentioned in this Record refer to regulations of Annex I of the Convention and resolutions refer to those adopted by the International Maritime Organization.

1 Particulars of Ship

1.1 Name of ship ……

1.2 Distinctive number or letters ……...

1.3 Port of registry …….

1.4 Gross tonnage……...

1.5 Carrying capacity of ship ……..(m^3)

1.6 Deadweight of ship …… (tonnes regulation 1.23)

1.7 Length of ship ……(m) (regulation 1.19

1.8 Date of build:

1.8.1 Date of building contract ……..

1.8.2 Date on which keel was laid or ship was at a similar stage of construction …….

1.8.3 Date of delivery ……..

1.9 Major conversion (if applicable):

1.9.1 Date of conversion contract ……

1.9.2 Date on which conversion was commenced ……..

1.9.3 Date of completion of conversion …….

1.10 Unforeseen delay in delivery

1.10.1 The ship has been accepted by the Administration as a "ship delivered on or before 31 December 1979" under regulation 1.28.1 due to unforeseen delay in delivery

1.10.2 The ship has been accepted by the Administration as an "oil tanker delivered on or before 1 June 1982" under regulation 1.28.3 Due to unforeseen delay in delivery.

1.10.3 The ship is not required to comply with the provisions of regulation 26 due to unforeseen delay in delivery ☐

1.11 Type of ship:

1.11.1 Crude oil tanker ☐

1.11.2 Product carrier

1.11.3 Product carrier not carrying fuel oil or heavy diesel oil as referred to in regulation 20.2, or lubricating oil ☐

1.11.4 Crude oil/product carrier ☐

1.11.5 Combination carrier

1.11.6. Ship, other than an oil tanker, with cargo tanks coming under regulation 2.2 of Annex 1 of the Convention ☐

1.11.7 Oil tanker dedicated to the carriage of products referred to in regulation 2.4 ☐

1.11.8 The ship, being designated as a "crude oil tanker" operating with COW, is also designated as a "product carrier" operating with CBT, for which a separate IOPP Certificate has also

been issued ☐

1.11.9 The ship, being designated as a "product carrier" operating with CBT, is also designated as a "crude oil tanker" operating with COW, for which a separate IOPP Certificate has also been issued ☐

☐

2 Equipment for the control of oil discharge from machinery space bilges and oil fuel tanks (regulations 16 and 14)

2.1 Carriage of ballast water in oil fuel tanks:

2.1.1 The ship may under normal conditions carry ballast water in oil fuel tanks ☐

2.2 Type of oil filtering equipment fitted:

2.2.1 Oil filtering (15 ppm) equipment (regulation 14.6) ☐

2.2.2 Oil filtering (15 ppm) equipment with alarm and automatic stopping device (regulation 14.7) ☐

2.3 Approval standards*[*]

2.3.1 The separating/filtering equipment

.1 has been approved in accordance with Resolution A 393(X) ☐

.2 has been approved in accordance with resolution MEPC 60(33) ☐

.3 has been approved in accordance with resolution MEPC 107 (49) ☐

.4 has been approved in accordance with resolution A.233 (VII). ☐

.5 has been approved in accordance with national standards not based ☐

.6 has not been approved Upon resolution A.393(X) or A.233 (VII) ☐

[*]Refer to the Recommendation on international performance and test specifications of oily-water separating equipment and oil content meters adopted by the Organization on 14 November 1977 by resolution A.393(X), which superseded resolution A.233 (VII); see IMO sales publication IMO-608E. Further reference is made to the Guidelines and specifications for pollution prevention equipment for machinery space bilges adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.60(33), which, effective on 6 July 1993, superseded resolutions A.393(X) and A.444(XI); and the revised Guidelines and specifications for pollution prevention equipment for machinery spaces of ships adopted by the MEPC of the Organization by resolution MEPC 107 (49) which effective from 1 January 2005 superseded resolutions MEPC 60 (33) A.393(X) and A.444(XI).

2.3.2 The process unit has been approved in accordance with resolution A.444(XI) ☐

2.3.3 The oil content meter

.1 has been approved in accordance with resolution A. 393 (X) ☐

.2 has been approved in accordance with resolution MEPC 60 (33) ☐

.3 has been approved in accordance with resolution MEPC 107(49) ☐

2.4 Maximum throughput of the system is …….m^3/h ☐

2.5 Waiver of regulation 14 ☐

2.5.1 The requirements of regulation 14.1 or 14.2 are waived in respect of the ship in accordance with regulation 14(5).

The ship is engaged exclusively on voyages within special area(s):……
…. ……..……
…… …… ☐

2.5.2 The ship is fitted with holding tank(s) for the total retention on board of all oily bilge water as follows: ☐

Tank Identification	Tank Location		Volume (m^3)
	Frames (from) – (to)	Lateral position	
		Total volume: ……m^3	

2.5.3 In lieu of the holding tank(s) the ship is provided with arrangements to transfer bilge water to the slop tank

3 Means for retention and Discharge of oil residues (sludge) (regulation 12) and bilge water holding tank(s)

3.1 The ship is provided with oil residue (sludge) tanks as follows:

Tank Identification	Tank Location		Volume (m^3)
	Frames (from) – (to)	Lateral position	
		Total volume: ……m^3	

3.2 Means for the Discharge of residues in addition to the provisions of sludge tanks:

3.2.1 Incinerator for oil residues, capacity …….*l*/h ☐

3.2.2 Auxiliary boiler suitable for burning oil residues ☐

3.2.3 Tank for mixing oil residues with fuel oil, capacity ……m^3 ☐

3.2.4 Other acceptable means:
…… ☐

3.3 The ship is provided with holding tank(s) for the retention on board of oily bilge water as follows:

Tank Identification	Tank Location		Volume (m^3)
	Frames (from) – (to)	Lateral position	
		Total volume: ……m^3	

4 Standard discharge connection (regulation 13)

4.1 The ship is provided with a pipeline for the discharge of residues from machinery bilges to reception facilities, fitted with a standard discharge connection in compliance with regulation 13

5. Construction (regulations 18,19,20,23,26,27 and 28)

5.1 In accordance with the requirements of regulation 18, the ship is: ☐

5.1.1 Required to be provided with SBT, PL and COW ☐

5.1.2 Required to be provided with SBT and PL ☐

5.1.3 Required to be provided with SBT ☐

5.1.4 Required to be provided with SBT or COW ☐

5.1.5 Required to be provided with SBT or CBT ☐

5.1.6 Not required to comply with the requirements of regulation 18

5.2 Segregated ballast tanks (SBT):

5.2.1 The ship is provided with SBT in compliance with regulation 18 ☐

5.2.2 The ship is provided with SBT, in compliance with regulation 18, which are arranged in protective locations (PL) in compliance with regulation 18, 12 to 18.15 ☐

5.2.3 SBT are distributed as follows:

Tank	Volume (m^3)	Tank	Volume (m^3)
		Total volume: ……m^3	

5.3 Dedicated clean ballast tanks (CBT):

5.3.1 The ship is provided with CBT in compliance with regulation 18.8 and may operate as a product carrier ☐

5.3.2 CBT are distributed as follows:

Tank	Volume (m^3)	Tank	Volume (m^3)
		Total volume: ……m^3	

5.3.3 The ship has been supplied with a valid Dedicated Clean Ballast Tank Operation Manual, which is dated …….. ☐

5.3.4 The ship has common piping and pumping arrangements for ballasting the CBT and handling cargo oil ☐

5.3.5 The ship has separate independent piping and pumping arrangements for ballasting the CBT ☐

5.4 Crude oil washing (COW)

5.4.1 The ship is equipped with a COW system in compliance with regulation 33 ☐

5.4.2 The ship is equipped with a COW system in compliance with regulation 33 except that the effectiveness of the system has not been confirmed in accordance with regulation 33.1 and paragraph 4.2.10 of the Revised COW Specifications (resolution A.446 (XI*) as amended by resolution A497(XII) and A 897(21) ☐

5.4.3 The ship has been supplied with a valid Crude Oil Washing Operations and Equipment Manual, which is dated …… ☐

5.4.4 The ship is not required to be but is equipped with COW in compliance with the safety aspects of the Revised COW Specifications (resolution A.446(XI*)) as amended by resolution A 497(XII) and A897(21) ☐

5.5 Exemption from regulation 18:

5.5.1 The ship is solely engaged in trade between ……
……
in accordance with regulation 2.5 and is therefore exempted from the requirements of regulation 18 ☐

5.5.2 The ship is operating with special ballast arrangements in accordance with regulation 18.10 and is therefore exempted from the requirements of regulation 18 ☐

5.6 Limitation of size and arrangements of cargo tanks (regulation 26):

5.6.1 The ship is required to be constructed according to, and complies with, the requirements of regulation 26 ☐

5.6.2 The ship is required to be constructed according to, and complies with, the requirements of regulation 26.4 (see regulation 2.2) ☐

5.7 Subdivision and stability (regulation 28):

* See IMO sales publication IMO-617E

* See IMO sales publication IMO-617E

5.7.1 The ship is required to be constructed according to, and complies with, the requirements of regulation 28 ☐

5.7.2 Information and data required under regulation 28.5 have been supplied to the ship in an approved form

5.7.3 The ship is required to be constructed according to, and complies with the requirements of, regulation 27 ☐

5.7.4 Information and data required under regulation 27 for combination carriers have been supplied to the ship in a written procedure approved by the Administration.

5.8 Double hull construction:

5.8.1 The ship is required to be constructed according to regulation 19 and complies with the requirements of:

.1 paragraph (3) (double hull construction) ☐

.2 paragraph (4) (mid-height deck tankers with double side construction) ☐

.3 paragraph (5) (alternative method approved by the Marine Environment Protection Committee) ☐

5.8.2 The ship is required to be constructed according to and complies with the requirements of regulation 19.6 (double bottom requirements) ☐

5.8.3 The ship is not required to comply with the requirements of regulation 19 ☐

5.8.4 The ship is subject to regulation 20 and:

.1 is required to comply with paragraphs 2 to 5.7 and 8 of regulation 19 and Regulation 28 in respect of paragraph 28.6 not later than …….. ☐

.2 allowed to continue operation in accordance with regulation 20.5 Until …….. ☐

3. allowed to continue operation in accordance with regulation 20.7) until ……. ☐

5.8.5 The ship is not subject to regulation 20 ☐

3.8.6. The subject is subject to regulation 21 and ☐

1. is required to comply with regulation 21.4 not later than ……
2. is allowed to continue operation in accordance with regulation 21.5 until……
3. is allowed to continue operation in accordance with regulation 21.6.1 until…….
4. allowed to continue operation I n accordance with regulation 21.6.2 until……

5. is exempted from the provisions of regulation 21 in accordance with regulation 2.1.7.2 □

3.8.7. The ship is not subject to regulation 21 □

3.8.8. The ship is subject to regulation 22 and:

.1 complies with the requirements of regulation 22.2 □

.2 complies with the requirements of regulation 22.3 □

.3 complies with the requirements of regulation 22.5 □

3.8.9. The ship is not subject to regulation 22 □

3.9. Accidental oil outflow performance □

5.9.1 The ship complies with the requirements of regulation 23 □

6. Retention of oil on board (regulations 29, 31 and 32)

6.1 Oil discharge monitoring and control system:

6.1.1 The ship comes under category ……. oil tanker as defined in resolution A. 496 (XII) or A.586(14)** (delete as appropriate) ☐

6.1.2. The oil discharge monitoring and control system has been approved in accordance with resolution MEPC 108 (49).

6.1.3 The system comprises:

.1 control unit ☐

.2 computing unit ☐

.3 calculating unit ☐

** *Oil tankers the keels of which are laid, or which are at a similar stage of construction, on or after 2 October, 1986 should be fitted with a system approved under resolution A.586(14);

* For oil content meters installed on tankers built prior to 2 October 1986, refer to the Recommendation on international performance and test specifications for oil water separating equipment and oil content meters adopted by the Organization by resolution A.393 (X). For oil content meters as part of discharge monitoring and control systems installed on tankers built on or after 2 October 1986, refer to the Guidelines and specification for oil discharge monitoring and control systems for oil tankers adopted by the Organization by resolution A.586(14);

6.1.4 The system is:

.1 fitted with a starting interlock ☐

.2 fitted with automatic stopping device ☐

6.1.5 The oil content meter is approved under the terms of resolution A.393(X) or A.586 (14) or MEPC 108(49)* deleted as appropriate suitable for

.1 crude oil ☐

.2 black products ☐

.3 white products ☐

.4 oil-like noxious liquid substances as listed in the attachment to the certificate ☐

6.1.6 The ship has been supplied with an operations manual for the oil discharge monitoring and control system ☐

6.2 Slop tanks:

6.2.1 The ship is provided with …… dedicated slop tank(s) with the total capacity of ……m^3 which is ……% of the oil carrying capacity, in accordance with:

.1 regulation 29.2.3 ☐

.2 regulation 29.2.3.1 ☐

.3 regulation 29.2.3.2 ☐

.4 regulation 29.2.3.3 ☐

6.2.2 Cargo tanks have been designated as slop tanks ☐

6.3 Oil/water interface detectors:

6.3.1. The ship is provided with oil/water interface detectors approved approved under the terms of resolution MEPC 5(XIII)* ☐

6.4 Exemptions from regulations 29, 31 and 32.

6.4.1 The ship is exempted from the requirements of regulation 29, 31 and 32 in accordance with regulation 2.4 ☐

6.4.2 The ship is exempted from the requirements of regulations 29, 31 and 32 in accordance with regulation 2.2 ☐

6.5 Waiver of regulations 31 and 32

* Refer to the Specification for oil/water interface detectors adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.5(XIII); only those outlets which can be monitored are to be indicated.

6.5.1 The requirements of regulation 31 and 32 are waived in respect of the ship in accordance with regulation 3.5. The ship is engaged exclusively on:

.1 specific trade under regulation 2.5…… ☐
……..

.2 voyages within special area(s) ……
……. ☐

.3 voyages within 50 nautical miles of the nearest land outside special area(s) of 72 hours or less in duration restricted to ……
…….. ☐

7 Pumping, piping and discharge arrangements (regulation 30)

7.1 The overboard discharge outlets for segregated ballast are located:

7.1.1 Above the waterline ☐

7.1.2 Below the waterline ☐

7.2 The overboard discharge outlets, other than the discharge manifold, for clean ballast are located:[+*]

7.2.1 Above the waterline ☐

7.2.2 Below the waterline ☐

7.3 The overboard discharge outlets, other than the discharge manifold, for dirty ballast water or oil-contaminated water from cargo tank areas are located:[+]

7.3.1 Above the waterline ☐

7.3.2 Below the waterline in conjunction with the part flow arrangements in compliance with regulation 30.6.5 ☐

7.3.3 Below the waterline ☐

7.4 Discharge of oil from cargo pumps and oil lines (regulation 30.4 and 30.5)

7.4.1 Means to drain all cargo pumps and oil lines at the completion of cargo discharge: ☐

.1 drainings capable of being discharged to a cargo tank or slop tank ☐

.2 for discharge ashore a special small-diameter line is provided ☐

8 Shipboard oil/ pollution emergency plan (regulation 37)

8.1 The ship is provided with a shipboard oil pollution emergency plan in compliance with regulation 37. ☐

8.2 The ship is provided with a shipboard marine pollution emergency plan in compliance with regulation 37.3.

9 Exemption

9.1 Exemptions have been granted by the Administration from the requirements of chapter 3 Annex 1 of the Convention in accordance with regulation 3.1 or those items listed under paragraph(s) ……
……of this Record Book

10 Equivalents (regulation 5)

10.1 Equivalents have been approved by the Administration for certain requirements of Annex I on those items listed under paragraphs(……..
…….of this Record.

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at ……..
(Place of issue of the Record)

……..

Dd/mm/yyy)…….

Date of issue

……..
(*Signature of duly authorised officer issuing the Record)*

(Seal or stamp of the issuing authority, as appropriate)

Appendix VI: Seventh Schedule

Art. 80

FORM OF OIL RECORD BOOK

OIL RECORD BOOK

PART I - Machinery space operations
(All ships)

Name of ship:

Distinctive number or letters:

Gross tonnage:

Period from: to:

Note: Oil Record Book Part I shall be provided to every oil tanker of 150 tons gross tonnage and above and every ship of 400 tons gross tonnage and above, other than oil tankers, to record relevant machinery space operations. For oil tankers, Oil Record Book Part II shall also be provided to record relevant cargo/ballast operations.

LIST OF ITEMS TO BE RECORDED

(A) Ballasting or cleaning of oil fuel tanks

1. Identity of tank(s) ballasted

2. Whether cleaned since they last contained oil and, if not, type of oil previously carried.

3. Cleaning process:
.1 position of ship and time at the start and completion of cleaning;
.2 identify tank(s) in which one or another method has been employed (rinsing through, steaming, cleaning with chemicals; type and quantity of chemicals used in cubic metres)
.3 identity of tank(s) into which cleaning water was transferred.

4. Ballasting

.1 position of ship and time at start and end of ballasting;
.2 quantity of ballast if tanks are not cleaned, in cubic metres

(B) Discharge of dirty ballast or cleaning water from oil fuel tanks referred to under Article (A)

5. Identity of tank(s).

6. Position of ship at start of discharge.

7. Position of ship on completion of discharge.

8. Ship's speed(s) during discharge.

9. Method of discharge:

1. through 15 ppm equipment;
2. to reception facilities.

10. Quantity discharged in cubic metres

(C) Collection and Discharge of oil residues (sludge and other residues)

11. Collection of oil residues.

Quantities of oil residues (sludge and other residues) retained on board. The quantity should be recorded weekly. (This means that the quantity must be recorded once a week even if the voyage lasts more than one week).

.1 separated sludge (sludge resulting from purification of fuel and lubricating oils) and other residues, if applicable:

- 1 identity of tank(s) ……..
- 2 capacity of tank(s) ……m^3
- 3 total quantity of retention ……m^3

12. Methods of Discharge of residue.
State quantity of oil residues disposed of, the tank(s) emptied and the quantity of contents retained in cubic metres:

.1 to reception facilities (identify port): [2]
.2 transferred to another (other) tank(s) (indicated tank(s) and the total content of tank(s));
.3 incinerated (indicate total time of operation);
.4 other method (state which).

(D) Non-automatic discharge overboard or Discharge otherwise of bilge water which has accumulated in machinery spaces

13. Quantity discharged or disposed of.

14. Time of discharge or Discharge (start and stop).

15. Method of discharge or Discharge:

1. through 15 ppm equipment (state position at start and end):
2. to reception facilities (identify port):*
3. transfer to slop tank or holding tank (indicate tank(s): state quantity retained in tanks(s)) in cubic metres).

(E) Automatic discharge overboard or Discharge otherwise of bilge water which has accumulated in machinery spaces.

16. Time and position of ship at which the system has been put into automatic mode of operation for discharge overboard through 15 ppm equipment.

17. Time when the system has been put into automatic mode of operation for transfer of bilge water to holding tank (identify tank).

18. Time when the system has been put into manual operation.

(F) Condition of the oil filtering equipment

19. Time of system failure.

20. Time when system has been made operational.
21. Reasons for failure.

(G) Accidental or other exceptional discharges of oil

22. Time of occurrence.

23. Place or position of ship at time of occurrence.

24. Approximate quantity and type of oil.

26. Circumstances of discharge or escape, the reasons therefore and general remarks.

(H) Bunkering of fuel or bulk lubricating oil

27. Bunkering:

.1 Place of bunkering
.2 Time of bunkering
.3 Type and quantity of fuel oil and identity of tank(s) (state quantity added in tonnes and total content of tank(s)).
.4 Type and quantity of lubricating oil and identity of tank(s) (state quantity added and total content of tank(s)).

(I) Additional operational procedures and general remarks

Name of ship ……..
Distinctive number or letters …….

MACHINERY SPACE OPERATIONS

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge

Signature of master ……..

Oil Record Book - Part II

Cargo/ballast operations - (Oil tankers)

Name of ship:

Distinctive number or letters:

Gross tonnage:

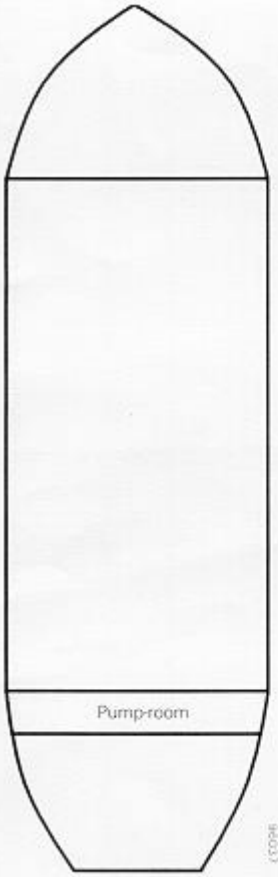
Period from: to:

Note: Every oil tanker of 150 tons gross tonnage and above shall be provided with Oil Record Book Part II to record relevant cargo/ballast operations. Such a tanker shall also be provided with Oil Record Book Part I to record relevant machinery space operations.

Name of ship……..

Distinctive number or letters …….

PLAN VIEW OF CARGO AND SLOP TANKS
(TO BE COMPLETED ON BOARD)



Identification of the tanks	Capacity
Depth of slop tank(s)	

(Give the capacity of each tank and the depth of slop tank(s))

LIST OF ITEMS TO BE RECORDED

(A) Loading of oil cargo

1. Place of loading

2. Type of oil loaded and identity of tank(s).

3. Total quantity of oil loaded (state quantity added, in cubic metres, at 151°c and the total
Content of tank(s) in cubic metres.

(B) Internal transfer of oil cargo during voyage

4. Identity of tank(s):

.1 from:
.2 to: (state quantity transferred and total quantity of tanks in cubic metres)

5. Was (were the tank(s) in 4.1 emptied? (If not, state quantity retained) in cubic metres

(C) Unloading of oil cargo

6. Place of unloading

7. Identity of tank(s) unloaded.

8. Was (were) the tank(s) emptied? (If not, state quantity in cubic metres)

(D) Crude oil washing (COW tankers only)
(To be completed for each tank being crude oil washed)

9. Port where crude oil washing was carried out or ship's position if carried out between two discharge ports.

10. Identity of tank(s) washed.
11. Number of machines in use.

12. Time of start of washing.

13. Washing pattern employed. *

---

*

1 When an individual tank has more machines than can be operated simultaneously, as described in the Operations and Equipment Manual, then the Article being crude oil washed should be identified, e.g. No. 2

14. Washing line pressure.

15. Time washing was completed or stopped.

16. State method of establishing that tank(s) was (were) dry.

17. Remarks.

(E) Ballasting of cargo tanks

18. Position of ship at start and end of ballasting.

19. Ballasting process:

.1 identity of tank(s) ballasted:

.2 time of start and end:

.3 quantity of ballast received. Indicate total quantity of ballast for each tank involved in the operation in cubic metres.

(F) Ballasting of dedicated clean ballast tanks (CBT tankers only)

20. Identity of tank(s) ballasted

21. Position of ship when water intended for flushing, or port ballast was taken to dedicated clean ballast tank(s).

22. Position of ship when pump(s) and lines were flushed to slop tank.

23. Quantity of the oily water which, after line flushing, is transferred to the slop tank(s) or cargo tank(s) in which slop is preliminarily stored (identify tank(s)). State the total quantity, in cubic metres

24. Position of ship when additional ballast water was taken to dedicated clean ballast tank(s).

25. Time and position of ship when valves separating the dedicated clean ballast tanks from cargo and stripping lines were closed.

26. Quantity of clean ballast taken on board, in cubic metres.

---

centre, forward Article.

[2] In accordance with the Operations and Equipment Manual, enter whether single-stage or multi-stage method of washing is employed. If multi-stage method is used, give the vertical arc covered by the machines and the number of times that arc is covered for that particular stage of the programme.

(G) Cleaning of cargo tanks

27. Identity of tank(s) cleaned.

28. Port or ship's position

29. Duration of cleaning.

30. Method of cleaning. *

31. Tank washings transferred to:

.1 reception facilities (state port and quantity in cubic metres) ;

.2 slop tank(s) or cargo tank(s) designated as slop tank(s) (identify tank(s); state quantity transferred and total quantity in cubic metres).

(H) Discharge of dirty ballast

32. Identity of tank(s).

33. Time and position of ship at start of discharge into the sea.

34. Time and position of ship on completion of discharge into the sea.

35. Quantity discharged into the sea in cubic metres.

36. Ship's speed(s) during discharge.

37. Was the discharge monitoring and control system in operation during the discharge?

38. Was a regular check kept on the effluent and the surface of the water in the locality of the discharge?

39. Quantity of oily water transferred to slop tank(s) (identify slop tank(s)). State total quantity in cubic metres.

40. Discharged to shore reception facilities (identify port and quantity involved in cubic metres).*

---

* 3 If the programmes given in the Operations and Equipment Manual are not followed, then the reasons must be given under Remarks.

5 Ships' masters should obtain from the operator of the reception facilities, which include barges and tank trucks, a receipt or certificate detailing the quantity of tank washings, dirty ballast, residues or oily mixtures transferred, together with the time and date of transfer. This receipt or Certificate, if attached to the Oil Record Book, may aid the master of the ship in proving that his ship was not involved in an alleged pollution incident. The receipt or certificate should be kept together with the Oil Record Book.

(I) Discharge of water from slop tanks into the sea

41. Identity of slop tanks.

42. Time of settling from last entry of residues, or

43. Time of settling from last discharge.

44. Time and position of ship at start of discharge.

45. Ullage of total contents at start of discharge.

46. Ullage of oil/water interface at start of discharge.

47. Bulk quantity discharged in cubic metres and rate of discharge in m^3 /hour

48. Final quantity discharged in cubic metres and rate of discharge in m^3 /hour

49. Time and position of ship on completion of discharge.

50. Was the discharge monitoring and control system in operation during the discharge?

51. Ullage of oil/water interface on completion of discharge in metres.

52. Ship's speed(s) during discharge.

53. Was a regular check kept on the effluent and the surface of the water in the locality of the discharge?

54. Confirm that all applicable valves in the ship's piping system have been closed on completion of discharge from the slop tanks.

(J) Discharge of residues and oily mixture not otherwise dealt with

55. Identity of tank(s).

56. Quantity disposed of from each tank. (State the quantity retained) in cubic metres.

57. Method of Discharge:

.1 to reception facilities (identify port and quantity involved):*

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* 5 Ships' masters should obtain from the operator of the reception facilities, which include barges and tank trucks, a receipt or certificate detailing the quantity of tank washings, dirty ballast, residues or oily mixtures Cargo transferred, together with the time and date of transfer. This receipt or certificate, if attached to the Oil Record Book, may aid the master of the ship in proving that his ship was not involved in al alleged pollution incident. The receipt or certificate should be kept together with the Oil Record Book.

.2 mixed with cargo (state quantity)
.3 transferred to (an) other tank(s) (identify tank(s); state quantity transferred and total quantity in tank(s)in cubic metres; and
.4 other method (state which); state quantity disposed of in cubic metres.

(K) Discharge of clean ballast contained in cargo tanks

58. Position of ship at start of discharge of clean ballast.

59. Identity of tank(s) discharged.

60. Was (were) the tank(s) empty on completion?

61. Position of ship on completion if different from 58.

62. Was a regular check kept on the effluent and the surface of the water in the locality of the discharge?

(L) Discharge of ballast from dedicated clean ballast tanks (CBT tankers only)

63. Identity of tank(s) discharged.

64. Time and position of ship at start of discharge of clean ballast into the sea.

65. Time and position of ship on completion of discharge into the sea.

66. Quantity discharged, in cubic metres:

.1 into the sea; or
.2 to reception facility (identify port).

67. Was there any indication of oil contamination of the ballast water before or during discharge into the sea?

68. Was the discharge monitored by an oil content meter?

69. Time and position of ship when valves separating dedicated clean ballast tanks from the cargo and stripping lines were closed on completion of deballasting.

(M) Condition of oil discharge monitoring and control system

70. Time of system failure.

71. Time when system has been made operational.

72. Reasons for failure.

(N) Accidental or other exceptional discharges of oil

73. Time of occurrence.

74. Port or ship's position at time of occurrence.

75. Approximate quantity in cubic metres and type of oil.

76. Circumstances of discharge or escape, the reasons therefor and general remarks.

(O) Additional operational procedures and general remarks

TANKERS ENGAGED IN SPECIFIC TRADES

(P) Loading of ballast water

77. Identity of tank(s) ballasted.

78. Position of ship when ballasted.

79. Total quantity of ballast loaded in cubic metres.

80. Remarks.

(Q) Re-allocation of ballast water within the ship.

81. Reasons for re-allocation.

(R) Ballast water discharge to reception facility

82. Port(s) where ballast water was discharged.

83. Name or designation of reception facility.

84. Total quantity of ballast water discharged in cubic metres.

85. Date, signature and stamp of port authority official.

Name of ship ……...
Distinctive number or letters ……...

CARGO/BALLAST OPERATIONS (OIL TANKERS)

Date	Code (letter)	Item (number)	Record of operations/signature of

			officer in charge

Signature of master ……..

Appendix VII: Fifth Schedule of the Bill

SUBSTANCES LISTED IN APPENDIX I TO ANNEX I OF MARPOL

I - List of oils

Asphalt solutions
Blending stocks

Roofers flux
Straight run residue

Oils

Clarified
Crude Oil
Mixtures containing crude oil
Diesel oil
Fuel oil no. 4
Fuel oil no. 5
Fuel oil no. 6
Residual fuel oil
Road oil
Transformer oil

Aromatic oil (excluding vegetable oil)
Lubricating oils and blending stocks
Mineral oil
Motor Oil
Penetrating oil
Spindle oil
Turbine oil

Distillates
Straight run
Flashed feed stocks

Gas Oil
Cracked

Gasoline blending stocks
Alkylates – fuel
Reformates
Polymer – fuel

Gasolines
Casinghead(natural)

Automotive
Aviation
Straight run
Fuel oil no. 1 (kerosene)
Fuel oil no. 1-D
Fuel oil no. 2
Fuel oil no. 2-D

Jet fuels

JP –1(kerosene0
JP-3
JP-4
JP-5 (kerosene, heavy)
Turbo fuel

Kerosene
Mineral spirit

Naphtha

Solvent
Petroleum
Heartcut distillate oil

* This list of oils shall not necessarily be considered as comprehensive.