

**Regulating Oil and Gas Operations in
Indonesian Waters: International and Domestic
Legal Perspectives on Offshore Installations
and Tankers**

by

Muhammad Taufan

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Summary of Thesis

Offshore oil and gas activities involving offshore installations and tankers represent two crucial energy operations: production and transportation. These activities encompass safety and security, navigation and the removal of offshore structures, and potentially risk human health, livelihoods and the marine environment, from collisions and oil spills. It is therefore imperative for international and domestic legal regimes to provide clear and thorough regulations for offshore oil and gas installations and tankers.

This thesis examines laws and regulations on offshore oil and gas installations and tanker operations in Indonesian waters and proposes strategies to improve the legal regimes. It analyses the major Indonesian national maritime and ocean-related affairs laws and regulations: *Law No. 32 of 2014 on the Sea*, *Law No. 17 of 2008 on Shipping* and *Government Regulation No. 5 of 2010 concerning Navigation*. It also considers regulations, and analyses the shortcomings of the legal frameworks, before suggesting options for reform.

This thesis provides a general overview of international and regional legal frameworks for offshore installations and tanker operations in order to set the context for the analysis of the Indonesian legal regime and reform options. Key international frameworks reviewed include the *United Nations Convention on the Law of the Sea 1982*, the *International Convention for the Prevention of Pollution from Ships*, *Convention for the Protection of the Marine Environment of the North-East Atlantic* and *MoU on ASEAN Cooperation Mechanism for Joint Oil Spill Preparedness and Response*. The thesis also makes observations on the development of the international legal frameworks and state practices that govern offshore installations and tanker operations.

This thesis makes an original contribution to scholarship by analysing Indonesian law on offshore installations and tanker operations, a task that few scholars have attempted, as well as by discussing the development of the legal frameworks and by suggesting strategies to improve international and domestic laws on offshore installations and tankers. The thesis concludes that current international and domestic legal frameworks for offshore installations are inadequate and inconsistent, and that it is necessary to enhance the implementation of global conventions on tankers. To remedy these deficits, this thesis suggests a number of approaches that should be considered, in order to improve the international and domestic legal frameworks for offshore installations and tankers.

SIGNED DECLARATION

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

A handwritten signature in black ink, appearing to be 'Muhammad Taufan', written over a horizontal dotted line.

Muhammad Taufan

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CHAPTER 1

INTRODUCTION

1.1 Rationale and Imperative

1.1.1. Current status of the offshore oil and gas industry in Indonesia

Some estimates suggest that there are currently over 1,400 units of offshore oil and gas installations worldwide, with the Gulf of Mexico and the North Sea as the highest density regions.¹ Despite declines in the crude oil price since mid-2014, leading to an overall reduction in the number of offshore installations, the number of active offshore installations in certain areas such as the Asia-Pacific and Africa has remained steady. In fact, recent growth in such installations has occurred in countries such as Angola and Nigeria, with more than 10 offshore petroleum projects expected in these jurisdictions within the next five years.² In the Asia-Pacific, the expansion of offshore installations has mainly occurred in India and China.³ In contrast, the general number of offshore installations operating in the United States (in the Gulf of Mexico) has declined significantly.⁴

In the Indonesian context, there are approximately 530 units of offshore oil and gas installations established across Indonesian waters and operated by various contractors.⁵ Around 315 of them can be found in the Java Sea, north of Jakarta, while the remainder are located in East Kalimantan (Celebes Sea), numbering

¹ Statista, *Number of Offshore Rigs Worldwide as of 2015, by Region* (2016) <<http://www.statista.com/statistics/279100/number-of-offshore-rigs-worldwide-by-region/>>; Baker Hughes, *Worldwide Rig Count* (2016) <<http://phx.corporate-ir.net/phoenix.zhtml?c=79687&p=irol-rigcountsintl>>.

² Terry Yen, *Distribution of active offshore drilling rigs in Africa* (22 September 2015) U.S. Energy Information Administration (EIA) <<http://www.eia.gov/todayinenergy/detail.cfm?id=23032#tabs-4>>.

³ *Today in Energy-U.S. Gulf of Mexico share of global active offshore rigs decline since 2000* (22 September 2015) U.S. Energy Information Administration (EIA) <<http://www.eia.gov/todayinenergy/detail.cfm?id=23032#tabs-4>>.

⁴ Ibid.

⁵ Board of Research and Development, Ministry of Energy and Mineral Resources (MoEMR), *Identifikasi Infrastruktur Migas Dasar Laut serta Usulan Pengelolaan Pipa Bawah Laut dan Anjungan Migas Lepas Pantai [Identification of Deep-Sea Oil and Gas Infrastructure, and the Recommendation to Manage Submarine Pipeline and Offshore Platform]* (2010) <<http://www.litbang.esdm.go.id>>. Different numbers of offshore oil and gas rigs has reported by Rig Zone. It is estimated that there are 485 structures located in Indonesian shallow waters operated by various operators/companies. See Rig Zone, *Rig Report: Offshore Rig Fleet by Region*, <http://www.rigzone.com/data/rig_report.asp?rpt=reg>.

about 138 units, the Java Sea off Surabaya (about 15 units), and in Sumatra off the Straits of Malacca (approximately 25 units).⁶ Moreover, Indonesia may have a significant opportunity to expand offshore oil and gas activities in the future, as the Ministry of Energy and Mineral Resources has identified additional reserve potential of 2.7 billion barrels of oil and 14 trillion cubic feet (TCF) of gas.⁷ In terms of production, such untapped potential may allow Indonesia to produce above 1 million barrels per day once more.⁸ Around 60 potential oil and gas deposits in sedimentary basins were identified by late 2015. Of those 60 locations, only 38 have already been explored and the rest remain untouched.⁹

Turning to the role of tanker operations in Indonesia, Indonesia is comprised of thousands of islands and has a vast maritime area; therefore, tankers are the most common means of transporting oil and gas throughout the archipelago. While there is no precise information concerning the number of tankers traversing Indonesian waters, it is worth noting that Indonesia is the home of several busy global oil and gas transit chokepoints. According to the U.S. Energy Information Administration (EIA) and the International Tanker Owners Pollution Federation (ITOPF), the Straits of Malacca are the second busiest fixed maritime route for international oil transportation by tankers.¹⁰ Greater than 15.2 million of barrels of oil are moved by tankers through the Straits of Malacca every day.¹¹ Other main maritime routes for the domestic distribution of oil and gas in Indonesia are the Sunda Strait, Makassar Strait, Lombok Strait, Wetar Strait and Ombai Strait.¹² Given the above situation, the operation of offshore installations

⁶ Brian Twomey, *Study Assesses Asia-Pacific Offshore Decommissioning Cost* (15 March 2010) Oil & Gas Journal <<http://www.ogj.com/articles/print/volume-108/issue-10/Technology/study-assesses-asia-pacific-offshore-decommissioning-costs.html>>.

⁷ Pri Agung Rakhmanto, 'National Oil and Gas Upstream Renaissance', *Kompas* (Jakarta), 11 May 2016.

⁸ Indonesia's peak production level of 1.65 million barrels per day occurred in 1977 and during 1994-1996.

⁹ Rakhmanto, above n 7.

¹⁰ U.S. EIA, *World Oil Transit Chokepoints Critical to Global Energy Security* (1 December 2014) <<http://www.eia.gov/todayinenergy/detail.cfm?id=18991>>.

¹¹ *Ibid.*

¹² Kresno Buntoro, *Lintas Navigasi di Nusantara Indonesia* [Navigation in Indonesian Archipelago] (Rajawali Press, 2014).

and tankers are undoubtedly fundamental to oil and gas activities in Indonesian waters.

1.1.2. Legal developments

The law relating to offshore installations and tanker operations is neither settled nor clear. Despite the fact that offshore installations and tanker operations have been features of the offshore oil and gas industry for decades, the legal frameworks governing them have not coalesced into a clear or comprehensive whole.¹³ In addition, since the beginning of the new millennium, a number of international conventions, regional arrangements, and standards relevant to offshore installations and tanker operations have added complexity and new considerations.¹⁴ In this context, legal analysis of offshore oil and gas installations and tankers is appropriate and significant. This thesis intends to investigate the legal issues surrounding offshore installations and tanker operations by analysing, among other matters, major global treaties and key legislation in relation to offshore oil and gas platforms and tanker operations in Indonesian waters.

At the global level, unfortunately, the current legal framework for offshore installations is fragmented and incomplete.¹⁵ In fact, no specific treaty on offshore installations and their legal aspects has yet effectively entered into

¹³ Rosalie Balkin, 'Is there a Place for the Regulation of Offshore Oil Platforms within International Maritime Law? If not, then where?' (2013) *IMO Comité Maritime International Dublin Symposium*.

¹⁴ Julien Rochette, 'Towards an International Regulation of Offshore Oil Exploitation' (Working Paper No. 15, Institut du Développement Durable et des Relations Internationales (IDDRI), 12 July 2012).

¹⁵ See Steven Rares, 'An International Convention on Off-shore Hydrocarbon Leaks?' (2012) 26 *Australia & New Zealand Maritime Law Journal* 11-12; Edgar Gold and Christopher Petrie, 'Pollution from Offshore Activities an Overview of the Operational, Legal and Environmental Aspects' in CM de La Rue, *Liability for Damage to the Marine Environment* (Lloyd's of London Press LTD, 1993); Rochette, above n 14, 8, and Youna Lyons, 'Transboundary Pollution from Offshore Oil and Gas Activities in the Seas of Southeast Asia' in Robin Warner and Simon Marsden (eds), *Transboundary Environmental Governance-Inland, Coastal and Marine Perspectives* (Ashgate, 2012) 167. See chapters three and six for further discussion on this matter.

force.¹⁶ In other words, the international community has failed to regulate the risks and consequences of offshore installations through a global arrangement.

In this respect, although major treaties such as *the United Nations Convention on the Law of the Sea* (LOSC)¹⁷ and other conventions such as *the International Convention on the Safety of Life at Sea* (SOLAS),¹⁸ *the International Convention on Marine Pollution* (MARPOL),¹⁹ *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter* (London Convention),²⁰ and *the International Convention on Oil Pollution Preparedness, Response and Cooperation* (OPRC Convention)²¹ have provided numerous regulations relating to oil and gas offshore installations, there is no uniform and comprehensive legal framework on this matter.

Thus, despite this, there have been several attempts to establish such a framework, beginning in 1977 when the *Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration and Exploitation of Seabed Mineral Resources* was adopted in London.²² This convention, however, never entered into force. Subsequently, a series of conferences, which were convened primarily by the Comité Maritime International (CMI), have been held to discuss the international legal regime relating to offshore installations. In 1977, the CMI

¹⁶ Rochette, above n 14.

¹⁷ *The 1982 United Nations Convention on the Law of the Sea*, signed 10 December 1982, 1833 UNTS 3 (entered into force 16 November 1994) ('LOSC').

¹⁸ *The 1974 International Convention for the Safety of Life at Sea*, signed 1 November 1974, 1184 UNTS 2 (entered into force 25 May 1980) ('SOLAS').

¹⁹ *The 1973 International Convention for the Prevention of Pollution from Ships*, adopted 2 November 1973, 1340 UNTS 184, (entered into force 2 October 1983), amended by *the 1978 Protocol Relating to the 1973 International Convention for the Prevention of Marine Pollution from Ships*, adopted 17 February 1978, 1340 UNTS 61, (entered into force 2 October 1983) ('MARPOL').

²⁰ *Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter* 1972, adopted 29 December 1972, 11 ILM 1294, (entered into force 30 August 1975) ('London Convention').

²¹ *The 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation*, adopted 30 November 1990, 1891 UNTS 51 (entered into force 13 May 1995) ('OPRC Convention').

²² *Convention on Civil Liability for Oil Pollution Damage Resulting from the Exploration and Exploitation of Seabed Mineral Resources*, done on 17 December 1976, opened for signature on 1 May 1977, London, 16 ILM 1450 (1977). For content analysis of the Convention see Bernard A. Dubais, 'The 1976 London Convention on Civil Liability for Oil Pollution Damage from Offshore Operations' (1977-1978) 9 *Journal of Maritime Law and Commerce*.

prepared a draft convention on 'Offshore Mobile Craft' for a conference in Rio de Janeiro.²³ Nevertheless, due to volatility in the price of global energy in the late 1970s, which reduced considerably offshore energy activity, the Rio Draft was not taken any further.²⁴ By the early 1990s, the IMO was requested by its member states to re-open the study on the above subject. However, until the present day, discussions on the international legal framework for offshore petroleum and seabed mineral resources installations, either at CMI or IMO, have made no significant progress.²⁵

In the Indonesian domestic context, Indonesian laws relating to offshore installations are also problematic. A close analysis of relevant national laws reveals problems and deficiencies, including outdated provisions, vague regulations and a lack of a uniform standard. Such concerns can be found in several laws, including *Undang Undang No. 17 Tahun 2008 tentang Pelayaran* (Law No. 17 of 2008 on Shipping); *Undang Undang No. 34 Tahun 2014 tentang Kelautan* (Law No. 34 of 2014 on the Sea); *Peraturan Pemerintah No. 17 Tahun 1974 tentang Pengawasan Pelaksanaan Eksplorasi dan Eksploitasi Minyak dan Gas Bumi di Daerah Lepas Pantai* (Government Regulation (GR) No. 17 of 1974 concerning Supervision of Offshore Oil and Gas Exploration and Exploitation), and *Peraturan Pemerintah No. 19 Tahun 1999 tentang Pengendalian*

²³ See CMI Draft Convention on Offshore Mobile Craft, XXXIst International Conference of the Comité Maritime International, Rio de Janeiro, CMI Yearbook. CMI: Antwerp, 1977, p.29, or "1977 CMI 'Rio Draft' Convention on Offshore Mobile Craft" in the CMI Handbook of Maritime Conventions.

²⁴ Comité Maritime International (CMI), *Yearbook 1994 Annuaire*, March 1995, 186.

²⁵ In 2016, at the 103rd Session of the IMO Legal Committee, it is concluded that discussion on the legal regime of transboundary pollution damage resulting from offshore oil exploration and exploitation activities, which introduced by Indonesia and Denmark (Joint submission) requires further development in the following opportunities. See Legal Committee, *Draft Report of the Legal Committee on the Work of its One Hundred and Third Session*, the International Maritime Organization, 10 June 2016. Within the framework of CMI, rather similar, delegations of Denmark and Indonesia have present their proposal on the guidance for bilateral/regional arrangements for transboundary pollution from offshore installations operation. See Comité Maritime International, *Documents: Session 19-Liabilities Arising from Offshore Activities-Latest Developments, 19*, 42 International Conference of the Comité Maritime International <<http://www.cmi2016newyork.org/session-19>>.

Pencemaran dan/atau Perusakan Laut (GR No. 19 of 1999 concerning Control of Marine Pollution and/or Destruction).²⁶

In contrast to the deficiencies surrounding the regulation of offshore installations, the regulatory frameworks of tanker operations have demonstrated noteworthy improvements.²⁷ When considering the total constructive losses and casualties from different types of ships, tankers perform better than average.²⁸ Studies have shown that the number of marine pollution incidents caused by tankers have declined.²⁹ Regrettably, numerous incidents concerning tankers such as wrecked or stranded tankers, machinery problems, foundered tankers and collisions still occur. This implies that the IMO should not only refine the conventions or regulations relating to tanker operations regularly, but should also expedite the implementation of such conventions and regulations by all IMO member states, particularly developing states.

1.1.3. Overview of the literature

The literature on the international legal perspective on offshore installations dates back to 1974, with A H A Soons' paper *Artificial Islands and Installations in International Law*,³⁰ and Nikos Papadakis' 1977 book *The International Legal Regime of Artificial Islands*.³¹ The focus of Soons' paper is on international laws involved in the construction and operation of artificial islands and offshore

²⁶ Further explanation on the relevant Indonesian national legal framework and its challenges can be seen in Chapter 4 of this thesis.

²⁷ For analysis on tanker safety and its regulatory development, see Gary E. Horn et al. 'Tanker Safety: Regulatory Change' (2008) 7 *World Maritime University (WMU) Journal of Maritime Affairs*. See also International Maritime Organization (IMO), Maritime Knowledge Centre, *International Shipping Facts and Figures-Information Resources on Trade, Safety, Security, Environment*, 6 March 2012, 33-35. For general statistic of the world fleet, see United Nations Conference on Trade and Development (UNCTAD), *Review of Maritime Transport 2015*, October 2015, 30-35.

²⁸ Ibid.

²⁹ See among other references, Peter Burgherr, 'In-depth Analysis of Accidental oil Spills from Tankers in the Context of Global Spill Trends from All Sources' (2007) 140 *Journal of Hazardous Materials* 249-252, and Brahim Idelhakkar et al, 'The Transportation of Petroleum Products by Sea and the Environmental Challenge' (2012) 1 *International Journal of Applied Sciences and Engineering Research*.

³⁰ Alfred H. A. Soons, 'Artificial islands and Installations in International law' (Occasional Paper No. 22, Law of the Sea Institute, University of Rhode Island, 1974).

³¹ Nikos Papadakis, 'Artificial Islands in International Law' (1975) 3 *Maritime Studies Management*.

facilities, and offers suggestions with respect to their future regulation. Papadakis' book analyses the legal regime relating to rights to construct and jurisdiction over artificial islands, as well as the legal regime of offshore installations under the *1958 Geneva Conventions* and the *Preliminary Draft Convention on Ocean Data Acquisition Systems*.³² Although those two sources are foundational for the study of offshore oil and gas infrastructure, they were produced more than 30 years ago.

Another important reference in relation to the international law of offshore installations is Hossein Esmaeili's 2001 book *The Legal Regime of Offshore Oil Rigs in International Law*.³³ Key topics relevant to offshore installations analysed in this book include, among other matters, the legal status of oil rigs, safety zones, decommissioning of offshore platforms, and the relationship of oil rigs to other maritime activities. This work focusses on the international legal regime for offshore oil rigs and does not provide insight into any national regulatory systems relating to offshore installations. Additionally, it was produced in 2001, more than fifteen years ago. Hence, in order to respond to a number of legal developments in the area of offshore installations, it is necessary to conduct new investigations.

Turning to the literature reviewing the international legal perspective on tanker operations, there are several key references. R.M. M'Gonigle and M. W. Zacher's 1979 book *Pollution, Politics, and International Law: Tankers at Sea*³⁴ focused on the international responses to and implications of certain disastrous accidents that caused significant marine oil pollution such as Torrey Canyon, Amoco Cadiz and Argo Merchant. The book reviewed efforts to control tanker-caused pollution through legal and diplomatic channels within the Inter-Governmental Maritime Consultative Organization (IMCO) and the United Nations Conferences on the Law of the Sea (UNCLOS).

³² *Preliminary Draft Convention on Ocean Data Acquisition Systems*, UN DOC SC-72/CONF 85/3, (1972) ('ODAS').

³³ Hossein Esmaeili, *The Legal Regime of Offshore Oil Rigs in International Law* (Ashgate Publishing, 2001).

³⁴ R. Michael M'Gonigle and Mark W. Zacher, *Pollution, Politics, and International Law, Tankers at Sea* (University of California Press, 1981).

Second, Alan Khee-Jin Tan's 2006 book *Vessel-Source Marine Pollution - The Law and Politics of International Regulation* focuses on the international legal and political contexts of marine pollution from vessel activities.³⁵ It contains a significant and rather comprehensive analysis of international legislative instruments and processes. Principally, this book reveals the two major international legal frameworks governing shipping – the IMO and the LOSC – through frameworks including MARPOL, the *International Convention on Civil Liability for Oil Pollution Damage*,³⁶ and others. Alan Khee-Jin Tan also considers the challenges and opportunities of international maritime law regulations.

Another important text considering the international law regime governing tanker operations is Colin de la Rue and Charles B Anderson's *Shipping and the Environment*.³⁷ In summary, this book reviews various elements of marine oil pollution from ships, namely liability and compensation, claims admissibility and assessment, limitation of liability, and prevention, reduction and control of marine pollution. It also provides an up-to-date assessment of legal developments relevant to ship source oil pollution, such as flag state and port state control, law and practice of dumping at sea, and criminal liability. These elements are critical features in the analysis of laws regulating tanker operations, and are addressed in the body of this thesis.

Unlike research into offshore installations and tanker operations in the international legal context, studies considering Indonesian laws regulating offshore installations and tanker operations are very limited. Most of the existing references are very broad or completely exclude analysis on the legal dimensions of offshore installations and tanker operations. Nevertheless, this thesis will review the literature in order to reflect the current Indonesian academic context of law of the sea studies. Mochtar Kusumaatmadja and Ety R. Agoes' *Rights over*

³⁵ Alan Khee-Jin Tan, *Vessel-Source Marine Pollution-The Law and Politics of International Regulation* (Cambridge University Press, 2006).

³⁶ *International Convention on Civil Liability for Oil Pollution Damage*, adopted 29 November 1969, (entered into force 19 June 1975) ('CLC').

³⁷ Colin de La Rue and Charles B. Anderson, *Shipping and the Environment* (Informa Law, 2nd ed, 2009).

Natural Resources - The Indonesian Experience was produced in 2002.³⁸ It comprises a series of occasional papers discussing the basic features of Production Sharing Contracts (PSC), legal developments relating to mineral resources, the removal of offshore oil and gas rigs, and the protection of the marine environment. In addition, this book also covers the deliberations regarding the ASEAN regional maritime and fisheries management frameworks.

Finally, observations regarding Indonesia's ship safety operations in general, which are relevant to oil and gas tankers, can be found in articles entitled *Some considerations in enhancing ships safety operation and management of Indonesia* by Ketut Buda Artana and team,³⁹ and *Safety & security analysis of sea transportation in Indonesia* by A. Danny Faturachman and B. Shariman Mustafa.⁴⁰

1.2. Key concepts and definitions

It is proposed to provide a brief definition of four central concepts of this thesis: international law, Indonesian law, offshore installations, and tanker operations.

1.2.1. International law

International law is an extensive area of law that encompass various actors, and contains wide-ranging topics such as international environmental law, international human rights law and international law of the sea. In this research, the definition of international law has been restricted to the international law of the sea, and particularly the sources of international law of the sea.

According to Rothwell and Stephens, customary international law and treaties are the main sources of international law of the sea.⁴¹ As explained by Churchill and Lowe, the source of the modern law of the sea is found in the *Statute of the*

³⁸ Mochtar Kusumaatmadja and Etty R. Agoes, *Rights over natural resources-the Indonesian experience* (Alumni Publisher, 2002).

³⁹ Ketut Buda Artana et al, *Some Considerations in Enhancing Ship safety Operation and Management of Indonesia* (2006) <<http://personal.its.ac.id>>.

⁴⁰ Danny Faturachman and B. Shariman Mustafa, *Trend Analysis of Ship Accidents in Indonesia* (2012) University Malaya Pahang <<http://umpir.ump.edu.my/2450/>>.

⁴¹ Donald R. Rothwell and Tim Stephens, *The International Law of the Sea* (Hart Publishing, 2nd edition, 2016) 22-23.

International Court of Justice art 38(1).⁴² Although the sources the law of the sea were dominated by state practice and customary international law until the mid-twentieth century, currently, following the conclusion of the 1958 Geneva Conventions and the LOSC, the contemporary international law of the sea has been dominated by treaties.⁴³

With respect to international conventions, it is often held that conventions, treaties or formal agreements are the clearest expression of legal undertakings made by States.⁴⁴ As indicated above, since the conclusion of the four Geneva Conventions in 1958 and the LOSC in 1982, the sources of contemporary international law of the sea have been dominated by multilateral treaties. There are numerous treaties dealing with a whole spectrum of the law of the sea, including protection of the marine environment, safety of shipping operations and maritime security. Some of examples of international legal frameworks in this field are MARPOL, the London Convention, regional arrangements on the marine environment and economic cooperation, and many bilateral maritime boundary agreements.

Customary international law is included within the purview of international law. The *Statute of the International Court of Justice* includes 'international custom, as evidence of a general practice accepted as law'.⁴⁵ Recognition of customary international law as a source of international law can be found, for example, in the *North Sea Continental Shelf* case in 1969 where the international court regarded Articles 1-3 of the 1958 Continental Shelf Convention as 'reflecting, or as crystallising, received or at least emergent rules of customary international

⁴² United Nations, *Statute of the International Court of Justice*, 18 April 1946, art 38. It reads as follow, the Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply: (a) International convention, whether general or particular, establishing rules expressly recognised by the contesting states; (b) International custom, as evidence of a general practice accepted as law; (c) The general principles of law recognised by civilised nations; (d) Subject to the provisions of Article 59, judicial decisions and the teaching of the most highly qualified publicist of the various nations, as subsidiary means for the determination or rules of law.

⁴³ R. R. Churchill and A. V. Lowe, *The Law of the Sea* (Manchester University Press, 3rd edition, 1999) 7.

⁴⁴ *Ibid* 6.

⁴⁵ United Nations, *Statute of the International Court of Justice*, 18 April 1946, art 38.

law'.⁴⁶ In order to prove the existence of a customary international law, there are two elements required: 'a general and consistent practice adopted by States', and *opinio juris*.⁴⁷ Whilst the focus of the first element is on the general practice of the States most directly concerned, the *opinio juris* element emphasises the consistency of particular practice with international law.⁴⁸

'General principles of international law' are also recognised as a source of international law, and described in the *Statute of the International Court of Justice*.⁴⁹ This domain primarily consists of principles of law that are common to the major legal systems, and allows the international court to fill in gaps in treaties and customary law.⁵⁰ Jurisprudence, described in the *Statute of the International Court of Justice* as 'judicial decisions and the writings of publicists',⁵¹ acts as a subsidiary means for the determination of judgments by the international court. In other words, the significance of a statement by judge or a legal author on an international law matter is dependent upon his or her standing, and the quality of his or her research.⁵²

1.2.2. Indonesian law

The foundations and major features of the Indonesian legal system are held to be contained in the provisions of the *Undang-Undang Dasar Republik Indonesia 1945* and *Undang-Undang Nomor 12 Tahun 2011 Tentang Pembentukan Peraturan Perundang-undangan*.⁵³ First, according to the 1945 Constitution there are a number of legal actors that can be divided into the three major

⁴⁶ *North Sea Continental Shelf (Federal Republic of Germany v Netherlands) (Judgment)* [1969] ICJ Rep 3; David Harris, *Cases and Materials on International Law* (Sweet & Maxwell, 7th edition, 2010) 21.

⁴⁷ See *Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America) Merits* [1986] ICJ Rep 3; M. Mendelson, 'The International Court of Justice and the sources of international law' in V. Lowe and M. Fitzmaurice (eds), *Fifty Years of the International Court of Justice* (Cambridge University Press, 1996) 63-89.

⁴⁸ Churchill and Lowe, above n 43, 8.

⁴⁹ United Nations, *Statute of the International Court of Justice*, 18 April 1946, art 38.

⁵⁰ James Crawford, *Public International Law* (Oxford University Press, 8th edition, 2008) 34-35.

⁵¹ United Nations, *Statute of the International Court of Justice*, 18 April 1946, art 38.

⁵² Pellet in Andreas Zimmermann et al, *The Statute of the International Court of Justice* (Oxford University Press, 2nd edition, 2012) 731.

⁵³ See *Undang-Undang Dasar Republik Indonesia 1945* [The 1945 Constitution of the Republic of Indonesia] (Indonesia) the preamble and arts 20, 21 and 22A; *Undang-Undang Nomor 12 Tahun 2011 Tentang Pembentukan Peraturan Perundang-undangan* [Law No 12 of 2011 on the Establishment of the Law] (Indonesia) ('Establishment Law') arts 2-15.

branches: the Legislative, the Executive and the Judiciary.⁵⁴ Institutions that are categorised as the legislature in Indonesia are the *Dewan Perwakilan Rakyat* or DPR (House of Representatives) and *Dewan Perwakilan Daerah* or DPD (Regional Representative Council).⁵⁵ In relation to the executive, the Constitution specifies that the President of the Republic of Indonesia shall hold the power of government.⁵⁶ To that purpose, the President shall be supported by a Vice-President and assisted by Ministers of State.⁵⁷ Finally, the judiciary in Indonesia consists of the Supreme Court including all courts under its jurisdiction and the Constitutional Court. The courts under the Supreme Court's supervision are the General Court, the Military Court, the Religious Court and the State Administrative Court.⁵⁸

An important facet of the Indonesian legal system is the hierarchy of legal norms as regulated in the Establishment Law. According to the Law, this hierarchy comprises of the 1945 Constitution, *Ketetapan Majelis Permusyawaratan Rakyat* (Decree of the People's Representative Assembly), *Undang-Undang* (Laws), *Peraturan Pemerintah Pengganti Undang-Undang* or PERPU (Interim Law or Law in Lieu of a Law), *Peraturan Pemerintah* (Government Regulation), *Peraturan Presiden* (Presidential Regulation), and *Peraturan Daerah* (Regional Regulation).⁵⁹

In addition, another aspect of Indonesian law that relevant to this thesis and important to highlight is the relationship between Indonesian domestic legal norms and international laws or treaties. The relationship between those legal regimes is enshrined principally in Article 11 of the 1945 Constitution and *Undang-Undang Nomor 24 Tahun 2000 Tentang Perjanjian Internasional*.⁶⁰ Article 11 of the 1945 Constitution reads:

⁵⁴ The 1945 Constitution arts 2-22D.

⁵⁵ Ibid 19-22D.

⁵⁶ Ibid art 4.

⁵⁷ Ibid arts 4 and 17.

⁵⁸ Ibid 24; For further discussion on Indonesian legal system see *Indonesian Legal System* (2005) Legal Systems in ASEAN <<http://www.aseanlawassociation.org/papers/Constitution.pdf>>.

⁵⁹ The 2011 Establishment Law art 7.

⁶⁰ *Undang-Undang Nomor 24 Tahun 2000 Tentang Perjanjian Internasional* [Law No 24 of 2000 on Treaties] (Indonesia) ('Treaties Law').

- 1) The President with the approval of the House of Representatives declares war, makes peace and treaties with other states;
- 2) The President in making other treaties that will result in an extensive and fundamental impact on the lives or livelihoods of the people which is linked to the state financial burden, and/or that will require an amendment to or an enactment of a law, shall obtain the approval from the House of Representatives;
- 3) Further provisions regarding treaties shall be regulated by law.

Based on this Article, it is held that the President has the power to conclude treaties with the approval of Parliament. According to the explanatory note, this particular power is derived from the legal capacity of the President as the Head of State.⁶¹ Paragraph 1 of Article 11 was added in the fourth amendment of the 1945 Constitution and covers the power to make treaties, however not the power to enforce them as a part of domestic law.⁶² Paragraphs 2 and 3 were added in the third amendment of the 1945 Constitution. While Paragraph 2 not intended to facilitate a commitment towards international treaty law or to clarify the status of treaties under domestic law,⁶³ Paragraph 3 was the origin of the Treaties Law.⁶⁴

The Treaties Law is another main source governing the conclusion of and entry into force of treaties by the Indonesian government. The Law is intended to govern Indonesia's treaty making internal procedures by providing a definition of treaties, and outlining the processes of ratification, accession, acceptance and approval and means of expressing consent to be bound by a treaty.⁶⁵ It also outlines the ministry responsible for treaty making, and sets out coordination and consultation mechanisms within the Ministry of Foreign Affairs.⁶⁶ However, the Law does not settle the question of the relationship between treaties and domestic law. Despite the fact that Indonesia is not a party to the Vienna Convention on the Law of the Treaties of 1969, the 2000 Law on Treaties adopts

⁶¹ The 1945 Constitution explanatory note art 11.

⁶² Damos Dumoli Agusman, *Treaties under Indonesian Law-A Comparative Study* (Rosda International, 2014).

⁶³ Ibid.

⁶⁴ These paragraphs were drafted when the Treaties Law was enacted, thus such Law is regarded as the one referred to in this Article.

⁶⁵ Treaties Law, parts III and IV.

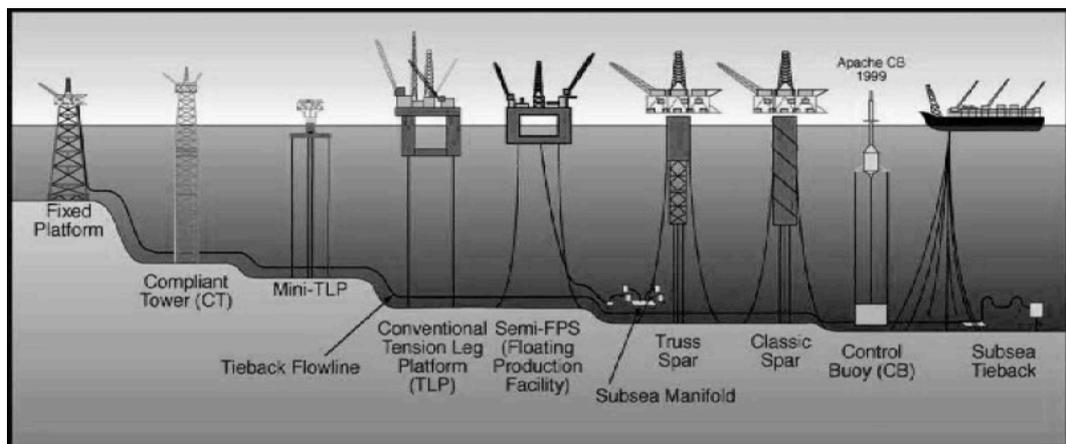
⁶⁶ Ibid arts 1 and 2, and part II.

the general principles as enshrined in the Vienna Convention, particularly with respect to the conclusion and entry into force of treaties.⁶⁷

1.2.3. Offshore installations

Before reviewing the law surrounding offshore installations, it is necessary to define offshore installations for the purpose of oil or gas exploration and exploitation of the sea. In the technical context, offshore oil and gas installations may be classified based on different criteria,⁶⁸ and into several types.⁶⁹ Generally, oil and gas offshore installations are classified as fixed offshore installations and mobile offshore installations (see Figure 1 below).⁷⁰ Within the category of fixed offshore installations, there are several types of offshore installations that are common in exploration and the exploitation of natural resources.

Figure 1: Types of Fixed and Mobile Offshore Oil and Gas Installations



Source: Kamran Khan, *Different Types of Offshore Production Units*
<<https://www.linkedin.com/pulse/different-types-offshore-production-units-kamran-khan>> at 6 March 2016.

⁶⁷ See Treaties Law parts II and IV, and *Convention on the Law of the Treaties*, opened for signature 30 November 1969, 1155 UNTS 331 (entered into force 27 January 1980 part 2).

⁶⁸ See B. McClelland and MD Reifel, *Planning and Design of Fixed Offshore Platforms* (Van Nostrand Reinhold, 1986) and LF Boswell et al, *Mobile Offshore Structures* (Van Nostrand Reinhold, 1988) as suggested by Hossein Esmaeili in *The Legal Regime of Offshore Oil Rigs in International Law* (Ashgate Dartmouth, 2001) 12.

⁶⁹ See eg M. Summerskill, *Oil Rigs: Law and Insurance* (Stevens & Sons, 1979); Harry Whitehead, *An A-Z of Offshore Oil and Gas* (Gulf Publishing Company, 1983); Edgar Gold, Aldo Chircop and Hugh Kindred, *Essentials of Canadian Law Series: Maritime Law* (Irwin Law, 2003).

⁷⁰ Esmaeili, above n 33, 12.

First: fixed offshore installations, which consist of a tall vertical section of tubular steel members supported by piles driven into the seabed with a deck placed on top. The deck provides space for crew, drilling rigs and production facilities.⁷¹ Second: mono-towers installation, which is similar to a fixed offshore installation, with a mini-spar platform that consists of a single vertical cylinder supporting a deck. A mono-towers installation or a spar platform has a typical fixed platform topside, three types of risers (production, drilling and export) and a hull moored anchored into the sea floor.⁷² Third: gravity offshore installation, which typically comprises a large substructure that is usually established in the form of vertical tubular columns. It installed at the concrete or steel base to ballasted chambers, making the whole structure stable on the seabed and holding it in place through the force of gravity.⁷³ Fourth: tension leg platform (TLP) installation, which consists of a floating structure held in place by vertical, tensioned tendons connected to the sea floor by pile-secured templates. TLPs are available for use in water depth up to about 6,000 feet.⁷⁴

Mobile offshore installations can be further subclassified into jack-up drilling units, semisubmersibles, drilling ships, and floating production, storage and offloading units (FPSOs). Jack-up drilling units or self-elevating drilling units are installations that are designed in such a way that there are (usually) three legs that enable the units' base to be stationed on the ocean floor or stay afloat in the water. After the unit is set up the barge is lowered into the water and these installations act as anchors to keep the barge steady.⁷⁵ When jack-up units are floating, these mobile offshore drilling units (MODUs) are easy to transport from one location to another. While some other mobile offshore installations are

⁷¹ Energy Information Administration (EIA), *Offshore Oil and Gas Recovery Technology* <http://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/natural_gas_1998_issues_trends/pdf/Appb.pdf>.

⁷² Ibid.

⁷³ Whitehead, above n 69, 180 as cited in Esmaeili, above n 33, 6; Gold, Chircop and Kindred, above n 69, 73 as cited in Mikhail Kashubsky, *Offshore petroleum security: Analysis of offshore security threats, target attractiveness, and the international legal framework for the protection and security of offshore petroleum installations* (PhD Thesis, the University of Wollongong, 2011) 148.

⁷⁴ EIA, above n 71, 176.

⁷⁵ Menhaz, *What are Jack Up Drilling Rigs?* (13 July 2016) Marine Insight <<http://www.marineinsight.com/types-of-ships/what-are-jack-up-drilling-rigs/>>.

capable of self-propulsion, most jack-up units are transported by tugboats or submersible barges.⁷⁶

A semisubmersible is a MODU designed with a platform-type deck that contains drilling equipment and other machinery supported by pontoon-type columns that are submerged into the water.⁷⁷ The deck is connected and supported by large diameter buoyant columns at the corners and small intermediate columns that are connected to the pontoons.⁷⁸ Because semisubmersibles can float on the top of the water, transporting these rigs from location to location is easier. Some semisubmersibles are transported via outside vessels, such as tugs or barges, and some have their own propulsion method for transport.⁷⁹

Drilling ships are MODUs⁸⁰ that are ship-shaped and mobile drilling units especially constructed for drilling for oil or gas in deep water.⁸¹ Compared to other floating offshore installations, drilling ships are preferred for mobility at sea. They are appropriate for high-speed movement and are easy to pass through sea routes such as the Suez and Panama Canals. FPSOs are converted oil or gas tankers that carry all the necessary production and processing facilities including accommodation aboard and storage capacity within their hulls. They are typically associated with a fixed oil and gas platform. During the production stage, they are usually moored permanently on location and connected to the wells on the seabed by flexible risers.⁸²

⁷⁶ *How Do Jack-Ups Work?* Rig Zone

<http://www.rigzone.com/training/insight.asp?insight_id=339>.

⁷⁷ *How Do Semisubmersibles Work?* Rig Zone

<http://www.rigzone.com/training/insight.asp?insight_id=338>.

⁷⁸ Whitehead, above n 69, 269 as quoted in Esmaeili, above n 33, 15; *Semisubmersible* Petro Pedia <<https://www.petropedia.com/definition/3431/semisubmersible>>.

⁷⁹ *How Do Semisubmersibles Work?*, above n 77.

⁸⁰ Gunther Clauss, Eike Lehmann and Carsten Ostergaard, *Offshore Structures: Conceptual Design and Hydromerchanics* (M J Shields trans, Springer-Verlag, 1992-94) 73 as cited in Kashubsky, above n 73, 153.

⁸¹ Esmaeili, above n 33, 13.

⁸² Lucia Lombardo, 'Overview of Floating Production, Storage and Offtake (FPSO) Services Agreements (2003) 22 *Australia Resources and Energy Law Journal* 468.

1.2.4. Tankers

Tankers are a crucial medium for offshore oil and gas operations.⁸³ The first recorded use of a tanker was in 1878, when a tanker began transporting petroleum from the Caspian Sea.⁸⁴ Another record states that the first purpose tanker was built in 1886, the *Gluckauf* with a capacity of 3,000 dead weight tons (dwt), a unit that equals 2,240 pounds.⁸⁵ Since these humble beginnings of the tanker, the importance of tankers has grown markedly.

Tankers are the second largest category of ships worldwide in terms of number of vessels. As of 2015, tankers share 28 percent of total dead weight tons worldwide, five percent below dry bulk vessels, the largest category.⁸⁶ There are roughly 2,386 oil tankers and 1,562 gas tankers involved in international oil and gas transportation operations.⁸⁷ They range from crude oil tankers to highly specialised ships that carry liquefied petroleum gas and natural gas. Special regasification facilities at the receiving port return the liquid gas to its gas form for cross-country shipment by pipeline.

There are six major types of oil tankers, based on how much they can carry. Ultra-Large Crude Carriers (ULCCs) and Very Large Crude Carriers (VLCCs) are the largest vessels and can carry 200,000-325,000 dwt capacity. The mid-size Suezmax and Aframax tankers ship cargos of 120,000 to 200,000 dwt and 70,000 to 120,000 dwt. Both are suitable for long and medium distance travel. The

⁸³ Hydrocarbon resources, which typically comprise of crude oil, gas and petroleum products, are contributing 28% portion or equals to 489,388 thousands of dwt in seaborne trade structure in 2015, and as for the gas carrier, the share had reached 2.8% or equals to 49, 675 thousands of dwt.

⁸⁴ Jean-Paul Rodrigue, *International Oil Transportation* (2013) *The geography of transport systems* <<https://people.hofstra.edu/geotrans/eng/ch8en/appl8en/ch8a1en.html>>.

⁸⁵ *Tanker history* global security <<http://www.globalsecurity.org/military/systems/ship/tanker-history.htm>>; *Gluckauf (1886-1893)* Auke Visser's German Esson Tanker's Site <<http://www.aukevisser.nl/german/id95.htm>>.

⁸⁶ Deniz Barki and John Rogers eds, 'Review of Maritime Transport' (Report, United Nations Conference on Trade and Development (UNCTAD), 2015).

⁸⁷ *Number of tankers in the world's merchant fleet in 2010, by vessel type* (2016) Statista <<http://www.statista.com/statistics/264052/number-of-tankers-in-the-world-merchant-fleet/>>.

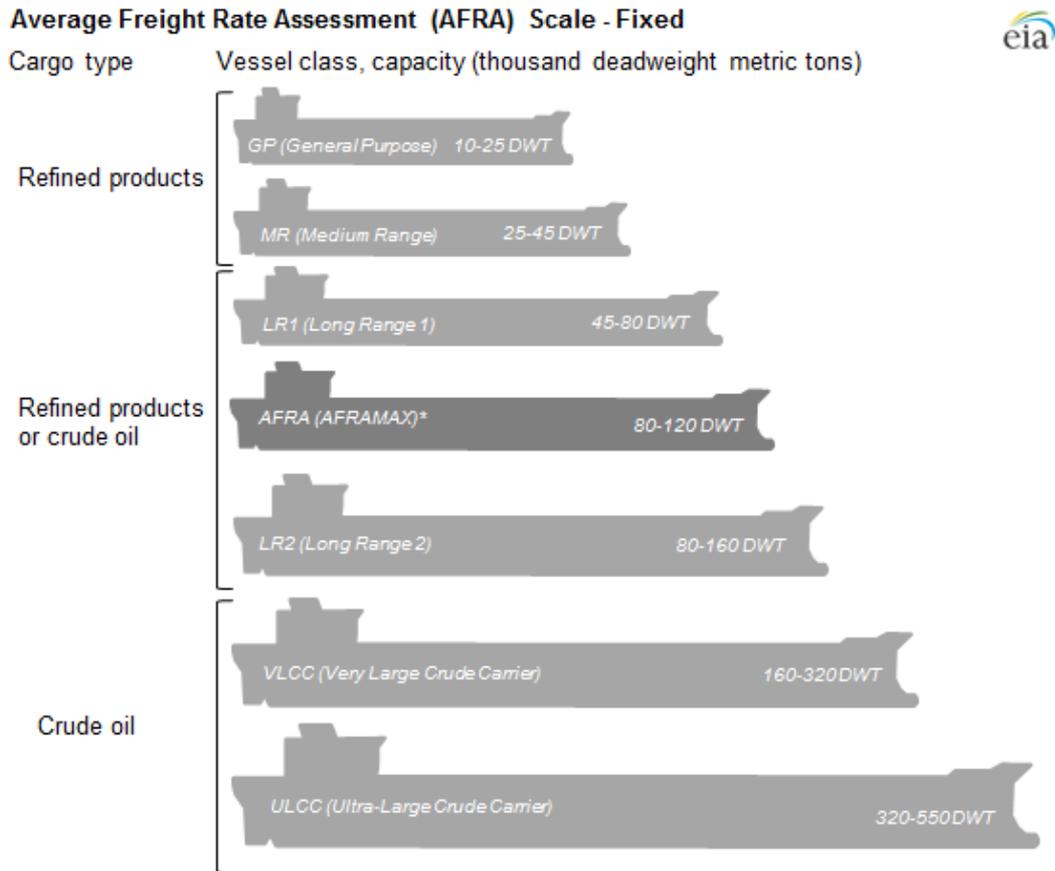
smallest vessels are Handysize and Panamax tankers, typically used for short hauls with cargos of 10,000 to 80,000 dwt.⁸⁸

Tanker activity is essential in distributing energy sources from one point to another. More than 100 million tons of oil are shipped each day by tankers. This means that most of the petroleum produced worldwide is transported by maritime transportation by tankers, rather than by pipelines and other means. Examples of major routes for international oil transportation include from the Middle East to the United States, from Latin America (Venezuela and Mexico) to the United States, and from Europe to Japan (Asia Pacific).⁸⁹

⁸⁸ IMO-Maritime Knowledge Centre, 'International Shipping Facts and Figures-Information Resources on Trade, Safety, Security, Environment' (6 March 2012).

⁸⁹ Jean-Paul Rodrigue, 'Straits, Passages and Chokepoints A Maritime Geostrategy of Petroleum Distribution (2004) 48 *Cahiers de Géographie du Québec* 363-367.

Figure 2: Types of Crude Oil and Refined Product Tanker



Source: U.S. Energy Information Administration, London Tanker Broker’s Panel

<<http://www.eia.gov/todayinenergy/detail.php?id=17991>> at 6 March 2016.

1.2.5. Indonesian Waters

Prior to describe the definition of Indonesian waters, it is worth explaining the concept of archipelagic State as Indonesia is the biggest archipelagic State and it significantly affect both offshore oil and gas installations and tanker activities in Indonesian waters.

Originally, the word ‘archipelago’ is derived from the Greek ‘aegeon pelagos’, or the Aegean Sea, studded with islands. In defining archipelagos, Article 46 of the

LOSC repeats the definition proposed by the archipelagic States at the Conference.⁹⁰ According to Article 46 (b):

“archipelago” means a group of islands, including parts of islands, interconnecting waters and other natural features which are so closely interrelated that such islands, waters and other natural features form an intrinsic geographical, economic, and political entity, or which historically have been regarded as such.

The legal concept of an “archipelago” thus differs from its general geographical definition. The legal concept is not limited to whole islands, but includes parts of islands. It requires the grouping to form an intrinsic geographical, economic and political entity, or to have been historically regarded as such.

Furthermore, the LOSC specifies the meaning of the terms “archipelagic State” as follow a State constituted wholly by one or more archipelagos and may a group of islands.⁹¹ The main characteristic of archipelagic States is that of sovereignty. A State, rigidly defined, is “one body politic exercising, through the medium of an organized government, independent sovereignty and control over all persons and things within its boundaries”.

Turn into definition of Indonesian waters, Indonesia has six maritime zones that are governed under laws such as the *Law No. 43 of 2008 on the State’s Territory* (State’s Territory Law),⁹² *Indonesian Law of the Sea*, the *Law No. 6 of 1996 on Indonesian Waters* (Indonesian Waters Law),⁹³ and the *Law No. 5 of 1983 on Exclusive Economic Zone* (EEZ Law).⁹⁴ Maritime zones outlined in these laws

⁹⁰ See Mohamed Munavvar, *Ocean States: Archipelagic Regimes in the Law of the Sea* (Martinus Nijhoff, 1st edition, 1995); Robert Cribb and Michele Ford, *Indonesia beyond the Waters Edge: Managing an Archipelagic State* (Institute of Southeast Asian Studies, 2009; John G. Butcher and R.E. Elson, *Sovereignty and the Sea: How Indonesia Became an Archipelagic State* (NUS Press, 2017).

⁹¹ See Myron Nordquist, *United Nations Convention on the Law of the Sea 1982, A Commentary, Volume II*. Brill Academic Publishers, Leiden, the Netherlands. 2003, pp. 408 – 411; Archipelagic States: *Legislative History of Part IV of the United Nations Convention on the Law of the Sea*, 96; Statements by Indonesia at the seventh meeting of the First Committee (1958), para. 5, UNCLOS I, III. Rec 15; and at the fifteenth meeting, paras. 1-10, p. 43.

⁹² *Undang-Undang No. 43 Tahun 2008 Tentang Wilayah Negara* [Law No. 43 of 2008 on the State’s Territory] (Indonesia) (‘State’s Territory Law’).

⁹³ *Undang-Undang No. 6 Tahun 1996 Tentang Perairan Indonesia* [Law No. 6 of 1996 on Indonesian Waters] (Indonesia) (‘Indonesian Waters Law’).

⁹⁴ *Undang-Undang No. 5 Tahun 1983 Tentang Zona Ekonomi Eksklusif* [Law No. 5 of 1983 on Economic Exclusive Zone] (Indonesia) (‘Indonesian EEZ Law’).

include internal waters, archipelagic waters, territorial sea, EEZ and the continental shelf.⁹⁵

According to the Indonesian Waters Law, internal waters consist of inland sea and land waters.⁹⁶ While the inland sea shall be part of the sea located at the land side of the closing line of the low-water line, the land waters shall be waters located at the land side of the low-water line, except at a river mouth of land waters.⁹⁷ Indonesia has comprehensive sovereignty over its land territory, extending to its internal waters as well as the airspace above and the sea bottom and land thereunder including the sources of natural wealth contained therein.⁹⁸ The Indonesian Waters Law specifies that there is no right of innocent passage in the internal waters.⁹⁹

In relation to territorial sea, Indonesia introduced the concept of its territorial sea after the proclamation of Indonesian nationhood in 1945. At that time, Indonesia applied a breadth of three nautical miles for its territorial sea as provided by customary international law. Through the *Djuanda declaration*¹⁰⁰ and *Law No. 4 Prp of 1960 on Indonesian Waters* (the 1960 Indonesian Waters Law),¹⁰¹ Indonesia revised the breadth of its territorial sea to 12 nautical miles and declared the waters located on the inner side of the baselines to be inland waters.¹⁰² Article 1(2) of the Indonesian Waters Law specifies that Indonesian territorial sea is the sea channel of a width of twelve (12) sea miles measured from the Indonesian straight baselines. Based on this legislation, Indonesia's sovereignty extends to its internal waters and territorial sea. Following rapid international developments on the law of the sea, Indonesia promulgated the new Law on Indonesian Waters in 1996. The Indonesian Waters Law contains

⁹⁵ See State's Territory Law art 1; Indonesian Law of the Sea art 7.

⁹⁶ Indonesian Waters Law art 3.

⁹⁷ *Ibid* art 7(3).

⁹⁸ Indonesian Waters Law art 4.

⁹⁹ Indonesian Waters Law arts 4 and 11.

¹⁰⁰ See John G. Butcher, 'Becoming an Archipelagic State: The Juanda Declaration of 1957 and the 'Struggle' to Gain International Recognition of the Archipelagic Principle' in Robert Cribb and Michele Ford (eds), *Indonesia beyond the water's edge: Managing An Archipelagic State* (Institute of Southeast Asian Studies Publishing, 2009)

¹⁰¹ *Undang-Undang No. 4 Prp Tahun 1960 Tentang Perairan Indonesia* [Law No. 4 Prp of 1960 on Indonesian Waters] (Indonesia).

¹⁰² Indonesian Waters Law art 3.

provisions on archipelagic waters, innocent passage, archipelagic sea lanes, and transit passage.¹⁰³ Unlike the 1960 Law, it contains more comprehensive rules on Indonesian waters.¹⁰⁴ The 1996 Indonesian Waters Law defines the Indonesian territorial sea to be 12 nautical miles from the archipelagic baselines. This covers vast areas of the Indonesian archipelago including narrower sections of the Malacca and Singapore Straits, where Indonesia's territorial sea is less than 12 nautical miles wide.

With respect to archipelagic waters, it comprise all maritime waters within archipelagic baselines. Such waters are neither internal waters nor territorial sea, although they bear a number of resemblances to the latter. An archipelagic State has sovereignty over its archipelagic waters, including their superjacent air space, subjacent sea bed and subsoil, and 'the resources contained therein'.¹⁰⁵ This sovereignty is exercised irrespective of the depth of the waters or their distance from the coast, making it clear that archipelagic waters are very different in conception from the others maritime spaces regulated in the LOSC. Sovereignty over archipelagic waters is exercised subject to Part IV of the LOSC, which includes making allowance for the right of foreign ships not only to exercise a right of innocent passage generally within those waters, but also to exercise a right of archipelagic sea lanes passage within archipelagic sea lanes or routes normally used for international navigation where no sea lanes have been designated, though this right is not one which in other respects affects the status of archipelagic waters.¹⁰⁶

The Indonesian EEZ is the outer strip bordering the Indonesian territorial sea, covering the sea-bed, the subsoil thereof and the water above it with an outermost limit of 200 nautical miles, measured from the baseline of the Indonesian territorial sea. According to the EEZ Law, Indonesia shall have and

¹⁰³ Ibid.

¹⁰⁴ *Undang Undang Nomor 4Prp Tahun 1960 Tentang Perairan Indonesia* (Indonesia) [Law No. 4 of 1960 on Indonesian Waters] ('Old Indonesian Waters Law') simply contains four provisions on territorial sea and internal waters, map of illustration, innocent passage, and entry into force (arts 1-4).

¹⁰⁵ R.R. Churchill and A.V. Lowe, *The Law of the Sea* (Manchester University Publishing, 3rd edition, 1999).

¹⁰⁶ Donald R. Rothwell and Tim Stephens, *The International Law of the Sea* (Bloomsbury, 2nd edition, 2016).

exercise its sovereign rights to conduct the exploration, exploitation, management and conservation of the living and non-living resources on the seabed and in the subsoil thereof.¹⁰⁷ Indonesia's rights and jurisdiction within the EEZ include the construction and use of artificial islands, installations and other structures.¹⁰⁸ Whoever constructs and/or uses any artificial island or installations or other structures within the Indonesian EEZ, may do so based on the permission of the Indonesian Government.¹⁰⁹

As for the Indonesia's continental shelf, the State's Territory Law outlines that:

the continental shelf comprises of the seabed and subsoil of the submarine areas that extend beyond Indonesia's territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance, up to 100 - 350 nautical miles from a line connecting the depth of 2,500 metre.¹¹⁰

In addition to those Law, the 1973 Continental Shelf Law also contains provisions on the construction and use of offshore installations on Indonesia's continental shelf by specifying that in order to explore and exploit natural resources, structures, vessels and/or other facilities can be erected, maintained and operated on and/or above the continental shelf.¹¹¹ For the protection of offshore installation, vessels and/or other facilities, the government may establish a 500-metre special zone. Moreover, according to the State's Territory Law, Indonesia may apply for its continental shelf to extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, as explained in the Indonesian Law of the Sea.¹¹² This application should be submitted to the Commission on the Limits of the Continental Shelf set up under Annex II of the LOSC.

¹⁰⁷ Indonesian EEZ Law art 4.

¹⁰⁸ Ibid.

¹⁰⁹ Ibid art 6.

¹¹⁰ State's Territory Law art 1(9).

¹¹¹ Continental Shelf Law art 6.

¹¹² Ibid art 9.

1.3. Significance of Research

This thesis argues that it is of paramount necessity to update continuously research on offshore oil and gas operations, and in particular, research on the legal frameworks regulating offshore installations and tanker operations. Although some research exists on the international legal context of offshore installations, legal developments in this area remain vague and inconclusive. In addition, several of the key works in this area were published decades ago. Hence, there is a deficit in scholarship, which this thesis intends to remedy.

In the Indonesian context, legal studies of offshore installations and tanker operations are almost non-existent. Some existing literature examines general aspects of the law of the sea such as maritime security, fisheries, protection of the maritime environment and Indonesia's archipelagic state features. In this respect, it is very timely to consider how Indonesian law regulates offshore oil and gas installations and tanker operations, in order to fill the knowledge gap. This study intends to analyse a wide spectrum of activity relating to offshore installations and tanker operations in Indonesian waters, including construction and safety of installations, security of offshore installations and tanker operations, safety and navigation of tankers, and decommissioning of offshore installations.

In addition, the thesis discusses a range of international and regional legal instruments including their relationship with relevant Indonesian legal frameworks. Furthermore, this study investigates various Indonesian domestic legal instruments relating to offshore installations and tanker operations in Indonesian waters, research that has never been conducted before. Another significant element of this research is that it includes proposals for legal reform with respect to offshore installations and tanker operations, in both the international and Indonesian contexts. Among these proposals are the adoption of a specific international convention and national legislation to address various legal aspects surrounding offshore oil and gas activities, and strategies to

expedite the implementation of laws relevant to offshore installations and tanker operations.

1.4. Research Focus

The aims of the thesis are threefold. First, it intends to identify the international regime governing oil and gas production and transportation activities through offshore installations and tanker operations. This international regime comprises major conventions, jurisprudence and regional agreements. Second, the thesis aims to provide an understanding of the Indonesian legal framework for oil and gas platforms and tanker operations. It also traces the relationship between international and domestic legal frameworks concerning offshore installations and tanker activities in Indonesia, focussing on the domains of safety and security of offshore oil and gas operations and protection of the marine environment from offshore installation and tanker operations. Third, the thesis recommends legal reform of the international and domestic frameworks governing offshore installations and tanker operations.

There are three research questions to be answered by this thesis. First, how does international law regulate offshore oil and gas installations and tanker operations? This question also covers what are the recent and important developments in international law, including in jurisprudence and regional governance structures. Second, how does the Indonesian legal framework deal with offshore platforms and tanker activities in its maritime areas? A sub-question is whether there is any correlation between the provisions of the Indonesian legal framework and international legal frameworks? Third, what are the challenges and prospects for improving the international and domestic legal frameworks for offshore installations and tanker operations in Indonesian waters?

The approach used in this research is a doctrinal analysis of the provisions of multilateral treaties and regional arrangements pertaining to offshore installations and tankers, including *travaux préparatoires* and commentaries. It will also examine judgements of international tribunals or courts, guidelines or

standards of international organisations, domestic laws, and books or articles written by leading scholars and international or national bodies.

1.5. Structure of Thesis

The first chapter of this thesis introduces international and domestic legal perspectives on offshore oil and gas installations and tanker operations in Indonesian waters. It sets out the background of the research, the thesis' objectives, the current status of relevant academic studies, the structure of the thesis, the issues to be addressed, and research methodology.

The second chapter provides a general overview of international conventions and regulations pertaining to legal aspects of offshore oil and gas installations and tanker operations. These conventions and regulations include LOSC, SOLAS, MARPOL, the London Convention, the *Convention for the Suppression of Unlawful Acts of Violence against the Safety of Maritime Navigation*,¹¹³ and its Protocol,¹¹⁴ and the *1989 Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone*.¹¹⁵ Several specific treaties relevant to tanker operations are also mentioned, namely the *1972 Convention on the International Regulations for Preventing Collisions at Sea*,¹¹⁶ and the *International Convention on Load Lines*.¹¹⁷ Accordingly, the second chapter outlines relevant provisions of those instruments that regulate a wide spectrum of activity of offshore platforms and tankers such as safety, security, the protection of the marine environment, dumping and removal of oil or gas facilities at sea.

¹¹³ *Convention for the Suppression of Unlawful Acts of Violence against the Safety of Maritime Navigation*, adopted 10 March 1988, 27 ILM 668 (entered into force 1 March 1992) ('SUA Convention').

¹¹⁴ *Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf*, adopted 10 March 1988, 1678 UNTS 304 (entered into force 1 March 1992) ('SUA Protocol').

¹¹⁵ *1989 Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone*, IMO Resolution A. 672 (16), adopted on 19 October 1989.

¹¹⁶ *1972 Convention on the International Regulations for Preventing Collisions at Sea*, adopted on 20 October 1972, 1050 UNTS 16 (entered into force 15 July 1977) ('COLREG 1972').

¹¹⁷ *International Convention on Load Lines*, adopted 5 April 1966 (entered into force 21 July 1968) ('Load Lines Convention').

In addition, this chapter describes a number of important developments in the international legal framework relating to offshore installations and tanker operations. Among the significant developments reviewed are: (i) the adoption of guidance for bilateral/regional agreements on liability and compensation issues connected with transboundary oil pollution from offshore oil and gas activities; (ii) the decision of the international tribunal on the *Arctic Sunrise* case¹¹⁸; (iii) recent offshore oil and gas activities in the South China Sea region; and (iv) the adoption of the Polar Code and goal-based standards for oil tanker design and construction.

Chapter Three reviews a number of key regional legal frameworks related to offshore oil and gas installations and tanker operations. These key regional frameworks encompass: (i) the *Convention for the Protection of the Marine Environment of the North-East Atlantic*;¹¹⁹ (ii) the *1989 Protocol Concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf*;¹²⁰ (iii) the *Convention for the Protection of the Mediterranean Sea against Pollution*,¹²¹ and its 1994 Protocol;¹²² (iv) the *Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region*;¹²³ and (v) the *Memorandum of Understanding on ASEAN Cooperation Mechanism for Joint Oil Spill Preparedness and Response*.¹²⁴

¹¹⁸ *The “Arctic Sunrise” Case (Kingdom of The Netherlands and Russian Federation) (Provisional Measures)* [2013] ITLOS Case No. 22.

¹¹⁹ *Convention for the Protection of the Marine Environment of the North-East Atlantic*, adopted 22 September 1992, 2354 UNTS 67 (entered into force 25 March 1998) (‘OSPAR Convention’).

¹²⁰ *1989 Protocol Concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf*, adopted 29 March 1989, entered into force 17 February 1990 (‘1989 Protocol’).

¹²¹ *Convention for the Protection of the Mediterranean Sea against Pollution*, adopted 16 February 1976, 1102 UNTS 27 (entered into force 2 December 1978) (‘Barcelona Convention’).

¹²² *Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil*, adopted 14 October 1994 (not yet entered into force).

¹²³ *Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region*, adopted 23 March 1981 (entered into force 5 August 1984) (‘Abidjan Convention’).

¹²⁴ *Memorandum of Understanding on ASEAN Cooperation Mechanism for Joint Oil Spill Preparedness and Response*, signed on 28 November 2014, Mandalay, Myanmar (‘ASEAN MoU’).

The following chapters of this thesis examine domestic legislation and other factors relevant to the regulation of offshore installations and tanker operations in Indonesian waters. First, Chapter Four will analyse the legal treatment of offshore installations by several Indonesian laws and regulations. Topics considered include construction of offshore installations and jurisdiction over such installations. The chapter also outlines key domestic legislation pertaining to the safety of offshore installations operating in Indonesian waters. Legal measures to protect offshore installations from maritime threats, and decommissioning activity will also be addressed in Chapter Four.

In relation to the transportation of oil and gas by tankers in Indonesian waters, Chapter Four examines a number of laws and regulations relating to navigation, safety, and security. These major laws and regulations are *Law No. 34 of 2014 on the Sea* (Indonesian Law of the Sea); *Law No. 17 of 2008 on Shipping* (Shipping Law); *Undang-Undang No. 1 Tahun 1946 tentang Peraturan Hukum Pidana atau Kitab Undang Undang Hukum Pidana* (Law No. 1 of 1946 on the Criminal Law or the Indonesian Penal Code), and *Peraturan Pemerintah No. 5 Tahun 2010 tentang Navigasi* (GR No. 5 of 2010 on Navigation). Importantly, this chapter also highlights the relationship between Indonesian national legislation and international conventions pertaining to offshore installations and tankers, for instance, the relationship of Indonesian penal code provisions to the substance of the SUA Convention.

Chapter Five is dedicated to discussing the major legal framework regulating marine pollution from offshore installations and tanker operations. As in Chapter Four, this chapter explains the relationship between domestic and international regulations in relation to marine environment pollution. It comprises two main parts: the major international conventions pertaining to marine pollution from offshore installations and tanker operations, and the Indonesian legal framework for the protection of the marine environment from marine pollution caused by offshore installations and tanker operations. Key international treaties addressed in this chapter are SOLAS, LOSC and MARPOL. In the domestic context, the relevant legislation included are *Undang-Undang No. 32 Tahun 2009 tentang*

Perlindungan dan Pengelolaan Lingkungan Hidup (Law No. 32 of 2009 on the Protection and Management of the Environment), the 2014 Indonesian Law of the Sea, Peraturan Pemerintah No. 109 Tahun 2006 tentang Penanggulangan Keadaan Darurat Tumpahan Minyak di Laut (GR No. 109 of 2006 on Management of Oil Spill Emergency Circumstance), and GR No. 19 of 1999 concerning Control of Marine Pollution and/or Destruction.

Chapter Six contains proposals for legal reform of the laws governing offshore installations, both at an international and Indonesian domestic level. This Chapter emphasises that in order to address the findings and remedy the deficits found in previous chapters, it is recommended to apply several strategies, such as the adoption of an international convention on the operation of offshore installations, the enhancement of the implementation of the relevant IMO regulations to tankers, and the development of comprehensive domestic offshore installations and tanker activities laws. Finally, Chapter Seven of this thesis is a concluding chapter that summarizes the findings and recommendations provided in this research.

1.6. Methodology

This thesis uses doctrinal legal research methodology to examine relevant international frameworks and domestic regulations relating to offshore oil and gas installations and tanker operations in Indonesian waters. Doctrinal legal research is considered the most appropriate methodology for this thesis as it can be used to examine the law from primary sources and to discuss findings. In this respect, most of the chapters of this thesis comprise reviews and analysis of a range of major global treaties, regional arrangements, and national legislation pertaining to offshore platforms and oil and gas carriers.

As explained by Terry Hutchinson, doctrinal research has been reviewed by the Pearce Committee and categorised as ‘research which provides a systematic exposition of the rules governing a particular legal category, analyses the relationship between rules, explains areas of difficulty and, perhaps, predicts

future developments.¹²⁵ According to Mark Van Hoecke, doctrinal legal research methodology ‘ranges between straightforward description of (new) laws, with some incidental interpretative comments, on the one hand, and innovative theory building (systematisation), on the other’.¹²⁶

In this regard, this thesis applies the doctrinal methodology, first, to define the international legal framework for offshore installations and tanker operations. Next, it reviews the development of and examines the provisions of relevant global and regional governance systems relating to various aspects of oil and gas activities in Indonesia’s maritime area, including safety of operation and navigation, removal and abandonment, and security. This thesis further adopts the doctrinal approach in describing and critically analysing domestic legislation and regulations in relation to shipping, oceans policy, safety of offshore installations, decommissioning of offshore installations, navigational facilities, and criminal matters. More specifically, a number of laws concerning marine pollution from oil and gas activities are included in this thesis. Finally, the doctrinal methodology is applied to investigate the relationship between the major global treaties reviewed in the thesis and relevant national legislation.

There are four main categories of legal sources referred to in this thesis. First, treaties under the United Nations framework: the LOSC. Second, the International Maritime Organization (IMO) major conventions and rules such as SOLAS, MARPOL, and the London Convention and its Protocol. Third, regional arrangements, namely the OSPAR Convention, and the Barcelona Convention and its 1994 Protocol. Fourth, Indonesian national legislation comprising of laws and general regulations. In addition, the thesis refers to manuscripts, commentaries, and other academic sources or works of leading legal scholars pertaining to the thesis’ subject matter.

¹²⁵ Terry C. Hutchinson, *Researching and writing in law* (Law-book Co./Thomson Reuters, 2010); Terry Hutchinson and Nigel Duncan, ‘Defining and describing what we do: doctrinal legal research’ (2012) 17 *Deakin Law Review* 101-103.

¹²⁶ Mark Van Hoecke, ‘Legal doctrine: which method(s) for what kind of discipline?’ in Mark Van Hoecke (ed) *Methodologies of Legal Research* (Hart Publishing, 2011) 1-18.

CHAPTER 2

A GENERAL OVERVIEW OF GLOBAL LEGAL FRAMEWORKS RELATING TO OFFSHORE INSTALLATIONS AND TANKER OPERATIONS

2.1. Introduction

Offshore installations are the subject of extensive research analysing international conventions, regional arrangements and national legislation. Despite all of this effort, the legal framework regulating offshore installations remains fragmented and incomplete. As introduced in Chapter One, there have been minimal significant regulatory developments in relation to offshore installations. In fact, no specific comprehensive treaty regulating offshore installations has been concluded until the present day. On the other hand, there are numerous international conventions, regulations and standards that currently apply to oil and gas tankers. This chapter examines provisions of the international legal frameworks relating to offshore installations and tanker operations.

This chapter comprises two main parts: (i) discussion of major conventions relevant to offshore installations, and (ii) review of legal frameworks regulating oil and gas tankers. Salient and recent legal developments relating to offshore installations and tanker operations are also reviewed in this chapter. In relation to the global legal regime for offshore installations, the chapter will draw on conventions such as the *1982 United Nations Convention on the Law of the Sea* (LOSC),¹ *1974 International Convention for the Safety of Life at Sea* (SOLAS),² and

¹ The *1982 United Nations Convention on the Law of the Sea*, signed 10 December 1982, 1833 UNTS 3 (entered into force 16 November 1994) ('LOSC').

² The *1974 International Convention for the Safety of Life at Sea*, signed 1 November 1974, 1184 UNTS 2 (entered into force 25 May 1980) ('SOLAS Convention').

the *1973 International Convention for the Prevention of Pollution from Ships as amended by the 1978 Protocol* (MARPOL).³ In examining the legal framework for tanker operations, the chapter will review relevant provisions of the *1972 Convention on the International Regulations for Preventing Collisions at Sea*,⁴ and the *International Convention on Load Lines*,⁵ and its Protocol.⁶

This chapter highlights major regulatory developments in regards to offshore installations and tanker operations. These developments include: the discussion of an offshore installations convention under the framework of the Comité Maritime International (CMI), which led to the introduction of a guidance draft for liability and compensation issues; the verdict of the International Tribunal on the *Arctic Sunrise* case; the status of artificial islands within the South China Sea region; the adoption of the *International Code for Ships Operating in Polar Waters*; and the application of goal-based ship construction standards for bulk carriers and oil tankers. The chapter concludes by arguing that the current legal regime pertaining to offshore installations is complex, but lacks clarity and comprehensiveness. The regulatory framework applying to tankers is greatly advanced compared other maritime domains, particularly offshore installations. It is essential and relevant to review the international legal framework governing tankers to establish the international legal context prior to investigating Indonesian national legislation regulating tankers later in this thesis.

³ The *1973 International Convention for the Prevention of Pollution from Ships*, adopted 2 November 1973, 1340 UNTS 184 (entered into force 2 October 1983) amended by the *1978 Protocol Relating to the 1973 International Convention for the Prevention of Marine Pollution from Ships*, adopted 17 February 1978, 1340 UNTS 61, (entered into force 2 October 1983) ('MARPOL').

⁴ The *1972 Convention on the International Regulations for Preventing Collisions at Sea*, adopted 20 October 1972, 1050 UNTS 16 (entered into force 15 July 1977) ('COLREGS').

⁵ *International Convention on Load Lines*, adopted 5 April 1966, (entered into force 21 July 1968) ('Load Lines Convention').

⁶ *Protocol of 1988 relating to the International Convention on Load Lines, 1966*, adopted 11 November 1988.

2.2. Major Global Frameworks Relating to the Operation of Offshore Installations

2.2.1. The *United Nations Convention on the Law of the Sea, 1982 (LOSC)*

The LOSC contains general legal principles pertaining to exploration and exploitation of the seabed and its subsoil activities by offshore installations.⁷ These principles can be categorized into four main parts: (i) definition and status of offshore installations; (ii) the right to construct offshore installations; (iii) safety and security features of offshore installations; and (iv) marine pollution from the operation of offshore installations.

The definition of 'offshore installations' is complex, as the LOSC uses diverse terms to describe offshore oil and gas installations including 'installations', 'installations and devices', 'installations, structures and other devices', 'artificial islands, installations and devices'.⁸ There is no clear definition of these terms in the Convention.⁹ The LOSC does provide some clarity on some definitional issues. Articles 60 and 80 make a distinction between offshore installations for exploration and exploitation of marine natural resources, offshore installations for other economic activities. In addition, offshore installations do not possess

⁷ See, eg, Alfred Soons, 'Artificial islands and Installations in International Law' (Occasional Paper No 22, Law of the Sea Institute, University of Rhode Island, 1974); Salah E Honein, *The International Law relating to Offshore Installations and Artificial Islands*, Lloyd's of London Press (1991); Edgar Gold and Christopher Petrie, 'Pollution from Offshore Activities an Overview of the Operational, Legal and Environmental Aspects' in CM de La Rue, *Liability for Damage to the Marine Environment* (Lloyd's of London Press LTD, 1991); Michael White, 'Offshore Craft and Structures: A Proposed International Convention' (1999) 18 *Australian Mining and Petroleum Law Journal* 21; Hossein Esmaeili, *The Legal Regime of Offshore Oil Rigs in International Law* (Ashgate Dartmouth, 2011); Mikhail Kashubsky, *Offshore petroleum security: Analysis of offshore security threats, target attractiveness, and the international legal framework for the protection and security of offshore petroleum installations* (PhD Thesis, University of Wollongong, 2011) <<http://ro.uow.edu.au/theses/3662/>>; Youna Lyons, 'Transboundary Pollution from Offshore Oil and Gas Activities in the Seas of the Southeast Asia' in Robin Warner and Simon Marsden (eds), *Transboundary Environmental Governance-Inland, Coastal and Marine Perspectives* (Ashgate, 2012); Julien Rochette, 'Towards an International Regulation of Offshore Oil Exploitation' (Working Paper No. 15, Institut du Développement Durable et des Relations Internationales (IDDRI), 12 July 2012); Rosalie Balkin, 'Is there a place for the regulation of offshore oil platforms within international maritime law? If not, then where?' (Paper presented at the Comité Maritime International, Dublin, September 2013).

⁸ For instances LOSC arts 11, 56(1)(b)(i), 60(1)(b) and (c), 87, and 208(1).

⁹ See Soons, above n 7; Honen, above n 7, 1-2; Esmaeili, above n 7, 49-50.

the status of islands,¹⁰ and are not be considered to be permanent harbour works.¹¹ In general, however, the Convention does not define clearly the key terms as highlighted above.

As Hossein Esmaeili outlines, there were attempts to provide clarification on and to define the term 'installations' during the negotiation of UNCLOS III.¹² It was proposed by the American delegation during the 1973 session of the Seabed Committee that 'the term 'installations' refers to all offshore facilities, installations, or devices other than those which are mobile in their normal mode of operation at sea.'¹³ The Drafting Committee at the Ninth session in 1980 also considered the possibility of adding a new subparagraph under article 1 which would read "'installations' includes artificial islands and structures'. Nevertheless, none of these approaches were accepted by the Conference.¹⁴ The exact meaning of 'installations', 'structures' and other key terms remains vague.

¹⁰ See Nikos Papadakis, 'Artificial Islands in International Law' (1975) 3 *Maritime Study Management*; Soons, above n 7, Hiran W. Jayawardene, *The Regime of Islands in International Law* (Brill-Nijhoff, 1990); Clive Schofield and Dustin Kuan-Hsiung Wang, 'The Regime of Islands under UNCLOS: Implications for the South China Sea' (2012) 37 *The National Bureau of Asian Research-NBR Special Report*; Christopher Mirasola, *What Makes an Island? Land Reclamation and the South China Sea Arbitration* (15 July 2015) Asia Maritime Transparency Initiative <<https://amti.csis.org/what-makes-an-island-land-reclamation-and-the-south-china-sea-arbitration/>>; *The South China Sea Arbitration (The Republic of Philippines v The People's Republic of China) (Awards)* (2016) 204-260 and 411-416.

¹¹ Article 11 of the LOSC, which reads '(f)or the purpose of delimiting the territorial sea, the outermost permanent harbour works which form an integral part of the harbour system are regarded as forming part of the coast', is intended to distinguish offshore loading and unloading points, and permanent works. Therefore, it does apply to facilities which are used for port purposed or related to activities in shore.

¹² Esmaeili, above n 7, 50.

¹³ A/AC.138/SC.II and Corr. 1, art 1, paras 3 to 5, art 2, para (a) and art 3, para 2, reproduced in III SBC Report 1973 75-76 as cited in Satya N. Nandan and Shabtai Rosenne (eds), *United Nations Convention on the Law of the Sea 1982, A Commentary-Volume II* (Martinus Nijhoff Publishers, 2002) 575; *Document A/CONF.62/C.2/L.47-United States of America: draft articles for a chapter on the economic zone and the continental shelf* (8 August 1974) Third United Nations Conference on the Law of the Sea <http://legal.un.org/diplomaticconferences/lawofthesea-1982/docs/vol_III/a_conf-62_c-2_l-47.pdf>; The document A/CONF.62/C.2/L.47 provides articles which are replacing draft articles contained in documents A/AC.138/SC.II/L.9 (*Official Records of the General Assembly, Twenty-seventh Session, Supplement No. 21* and corrigendum annex III, sect 7) and A/AC.138/SC.II/L.35 mentioned above.

¹⁴ *Document A/CONF 62/L.57/Rev 1-Report of the Chairman of the Drafting Committee* (1 August 1980) Third United Nations Conference on the Law of the Sea <http://legal.un.org/diplomaticconferences/lawofthesea-1982/docs/vol_XIV/a_conf-62_l-57_rev-1.pdf>.

Given the development of significant numbers of offshore oil and gas installations, and the subsequent need for regulation of the industry and management of its risks, it is essential to formulate a thorough and consistent international legal framework.¹⁵ This includes the classification of offshore installations, which is based on their purpose, such as oil and gas production or recreational activities. Apart from these simple classifications, we must look beyond the LOSC for guidance on classification of offshore installations.

The second relevant aspect of offshore installations governed by the LOSC is the right to construct offshore installations. In principle, the Convention provides the legal framework for the construction of installations based on their operational area, such as internal waters, the territorial sea, the Exclusive Economic Zone (EEZ), the continental shelf and the high seas.

Within the internal waters, Article 2 of the LOSC states that '[t]he sovereignty of a coastal State extends, beyond its land territory and internal waters...'. Article 8 specifies that 'waters on the landward side of the baseline of the territorial sea form part of the internal waters of the State'. The coastal state has full authority to construct and operate offshore installations in its internal waters in accordance with its domestic laws and regulations. This includes the right to grant permission to a foreign state or any company, whether local or international, to erect and operate any offshore facilities within the state's internal waters. This right does not infringe the right of innocent passage through a state's internal waters, consistent with Article 8(2), which stipulates:

Where the establishment of a straight baseline in accordance with the method set forth in article 7 has the effect of enclosing as internal waters areas which had not previously been considered as such, a right of innocent passage as provided in this Convention shall exist in those waters.¹⁶

¹⁵ See White, above n 7, 22-23; Esmaeili, above n 7, 50; Mikhail Kashubsky, 'Marine Pollution from the Offshore Oil and Gas Industry: Review of Major Conventions and Russian Law (Part I)' (2006) *Maritime Studies*, 8; Marine; Steven Rares, 'An International Convention on Off-shore Hydrocarbon Leaks?' (2012) 26 *Australia & New Zealand Maritime Law Journal* 11-12; Jacqueline Allen, 'A Global Oil Stain-Cleaning Up International Conventions for Liability and Compensation for Oil Exploration/Production' (2011) 25 *Australia & New Zealand Maritime Law Journal* 98-99.

¹⁶ LOSC art 8(2).

Beyond the internal waters of a state is the territorial sea. The LOSC stipulates that:

The sovereignty of a coastal State extends, beyond its land territory and internal waters and, in the case of an archipelagic State, its archipelagic waters, to an adjacent belt of sea, described as the territorial sea.¹⁷

Although this provision does not explicitly mention the right to construct and operate offshore installations within a coastal State's territorial sea, such a right is implied within the concept of 'sovereignty'.¹⁸ According to Salah E. Honein, since the territorial sea is under the exclusive sovereignty of the coastal state, the authority to allow the construction and operation of any installation must rest with the coastal state alone.¹⁹ In exercising the right to construct and operate offshore installations, the coastal state must take into consideration other rules of international law.²⁰ Article 17 of the LOSC specifies that ships of all states, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea. Article 24 describes the duties of the coastal State as follow:

1. The coastal State shall not hamper the innocent passage of foreign ships through the territorial sea except in accordance with this convention. In particular ... the coastal State shall not:
 - (a) Impose requirements on foreign ships which have the practical effect of denying or impairing the right of innocent passage.
2. The coastal State shall give appropriate publicity to any danger to navigation, of which it has knowledge, within its territorial sea.

Article 60(7) of the Convention stipulates that 'artificial islands, installations and structures and the safety zones around them may not be established where interference may be caused to the use of recognized sea lanes to international navigation.' As observed by Owen Pawson, although this provision is situated in

¹⁷ LOSC art 2(1).

¹⁸ See the Second Committee of the Third United Nations Conference on the Law of the Sea (Informal Working Paper No. 12, 20 August 1974); With reference to provision 1 of this Document the 'coastal State is entitled to construct artificial islands or immovable installations in its territorial sea'.

¹⁹ Honein, above n 7, 4-5.

²⁰ LOSC art 2(3).

the part of the LOSC dealing with the EEZ, it has a wide-range ambit and applies to offshore installations established in the territorial sea.²¹

Another limit to the coastal state's sovereignty in constructing and operating offshore installations is the general principle of international responsibility. According to this principle, states may be liable for the activities of a hazardous nature they undertake, where the effect of their activity is considered to be harmful. In this respect, the international tribunal, in the *Trail Smelter* arbitration, observed that:

under the principles of international law ... no State has the right to use or permit the of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence.²²

Thus, it is paramount for the coastal state to assess whether any harm would be caused from the operation or construction of the offshore installations that could affect any other state, particularly the neighbouring states, prior to permitting the installation to be constructed or operated.

In relation to the coastal state's right to construct and operate offshore installations in the EEZ, Article 56 of the LOSC specifies:

In the exclusive economic zone, the coastal State has:

- (a) Sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the sea-bed and of the sea-bed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds.

²¹ Owen Pawson, 'Implications of Floating Communities for International Law' (1989) 1 *Marine Policy*, 108 as cited by Honen, above n 7, 4.

²² Arthur K. Kuhn, 'The Trail Smelter Arbitration-United States and Canada' (1938) 32 *American Journal of International Law* 4, 785-788; Edith Brown Weiss, 'International Environmental Law: Contemporary Issues and the Emergence of a New World Order' (1992) 81 *Georgetown Law Journal*, 675-710; Russel A. Miller and Rebecca Bratspies, *Transboundary Harm in International Law: Lessons from the Trail Smelter Arbitration* (Cambridge University Press 2006); Donald R Rothwell et al, *International Law Cases and Materials with Australian Perspectives* (Cambridge University Press, 2011) 566-567; Churchill and A. V. Lowe, *The Law of the Sea* (Manchester University Press, 3rd edition, 1999), 332; Donald R Rothwell and Tim Stephens, *International Law of the Sea* (Hart Publishing, 2nd edition, 2016).

Further, Article 60 also provides:²³

1. The coastal State shall have the exclusive right to construct and to authorise and regulate the construction, operation and use of:
 - (a) Artificial islands;
 - (b) Installations and structures for the purposes provided for in article 56 and other economic purposes;
 - (c) Installations and structures which may interfere with the exercise of the rights of the coastal State in the zone.

The coastal state therefore has an exclusive right to construct and operate offshore installations, including to authorize such activities, in the EEZ.²⁴ The coastal state must have due regard to the rights and duties of other states and must act in a manner compatible with the provisions of the LOSC.²⁵ Several other regulations for the construction and operation of offshore installations are contained in the Convention, including the obligation to give due notice of the construction of offshore installations, artificial islands or structures.²⁶ Article 60(3) states:

any installations or structures which are abandoned or disused shall be removed to ensure safety of navigation... Such removal shall also have due regard to fishing, the protection of the marine

²³ Article 60 of the LOSC follows the same pattern as Article 5 of the 1958 Geneva Convention on the High Seas yet its content is more fully developed. First, the most obvious development is that the construction and operation of offshore installations can take place within the EEZ; there is no such maritime zone known in the 1958 Geneva Convention. Moreover, the major change also happened in the rule on offshore installations abandonment. Unlike the 1958 Geneva Convention, the LOSC does not impose an obligation to entirely remove offshore installations as an absolute requirement. In addition, it recognized the importance of generally accepted international standards established by the competent international organization to be followed by States in the matter of decommissioning offshore installations. Another development occurred with respect to safety zones. Article 60(4-6) of the LOSC is drafted in more specific terms than Article 5 paragraphs 2, 3 and 7 of the 1958 Geneva Convention, but it has broadly the same effect.

²⁴ In the context of UNCLOS III, it was not until the third session in 1975 that the proposal to include EEZ was forwarded by the Group of 77 (Developing States) to the Conference. This proposal, principally, set out the general right of coastal States to establish EEZ 'beyond and adjacent to' their territorial sea. The most significant development on the concept of EEZ during the UNCLOS III was occurred at the sixth session in 1977 where the Castañeda Group proposed a text that contained definition of the EEZ in more clearly way. Accordingly, it was included in the ICNT with minor changes. See A/CONF.62/L.8/Rev.1 (1974) and A/CONF.62/WP.10 (ICNT, 1977), article 55, VIII Off. Rec. 1, 13 as used in Satya N. Nandan and Shabtai Rosenne (eds), *United Nations Convention on the Law of the Sea 1982: A Commentary-Volume II* (Martinus Nijhoff Publishers, 2002).

²⁵ LOSC art 58(3).

²⁶ LOSC art 60(3).

environment and the rights and duties of other States. Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed.²⁷

In addition, as with the rules applying to territorial sea, the construction and operation of offshore installations in the EEZ shall take into account the principle of international responsibility.²⁸

Another important operational area for offshore installations is the continental shelf. In this maritime zone, the coastal state enjoys sovereign rights to explore and exploit the natural resources contained on the seabed and its subsoil.²⁹ This includes the exclusive rights to construct and operate offshore installations or artificial islands for oil and gas production, as well as for other economic purposes. As a consequence of the exclusivity of the coastal state's rights, other states are not allowed under international law to build any structure on the continental shelf of the coastal state without the consent of the latter.³⁰ In addition, Article 81 of the LOSC clearly stipulates that 'The coastal State shall have the exclusive right to authorize and regulate drilling on the continental shelf for all purposes.' It is important to highlight here that offshore installations or artificial islands do not possess the status of islands: 'they have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf.'³¹

A number of the LOSC's restrictions on the operation of offshore installations on the continental shelf are principally similar to the restrictions in the EEZ. These

²⁷ Ibid.

²⁸ See Pawson, above n 21.

²⁹ E.D. Brown, 'The Significance of a Possible EC EEZ for the Law Relating to Artificial Islands, Installations, and Structures, and to Cables and Pipelines, in the Exclusive Economic Zone' (1992) *Ocean Development & International Law* 117-119; D. N. Hutchinson, 'The seaward limit to continental shelf jurisdiction in customary international law', (1989) 56 *British Yearbook of International Law*, 133-87; T. L. McDorman, 'The entry into force of the Law of the Sea Convention and the article 76 outer continental shelf regime', (1995) 10 *International Journal of Marine and Coastal Law*; Churchill and Lowe, above n 22, 141-159; Rothwell and Stephens, above n 22, 102-126; United Nations, *The Law of the Sea: Definition of the Continental Shelf. An Examination of the Relevant provisions of the UN Convention on the Law of the Sea* (United Nations, 1993).

³⁰ As mentioned by Salah E. Honen 'no State would like to see valuable resources so near its coasts to be exploited by another State. No State would also like to see foreign installations being built so near its territorial waters.' Therefore it seems that no State would allow the construction of foreign installations, without their consent.

³¹ LOSC art 81.

include obligations to ensure that no infringement or ‘any unjustifiable interference with navigation and other rights and freedom of other States as provided in this Convention’, providing due notice of the construction of offshore installations, and decommissioning of disused or abandoned offshore installations.³²

Offshore installations may also operate on the ‘high seas’, which refers to all parts of the sea that are not included in the EEZ, territorial sea, internal waters or in the archipelagic waters of archipelagic state.³³ Article 87 (1)(d) of the LOSC explicitly states that the freedom to construct artificial islands and other installations permitted under international is part of the freedom of the high seas.³⁴ It reads:

1. The high seas are open to all States, where coastal or land-locked. Freedom of the high seas is exercised under the conditions laid down by this Convention and by other rules of international law. It comprises, *inter alia*, both for coastal and land-locked States:

...

- (d) freedom to construct artificial islands and other installations permitted under international law, subject to Part VI

Offshore installations are likely to be present in two main areas of the high seas. First, most of the high seas overlie the seabed and subsoil beyond the area of the continental shelf; that is, beyond the limits of national jurisdiction. The construction and operation of offshore installations for the exploration and exploitation of seabed and subsoil natural resources in this area is subject to the

³² Ibid art 60 (3).

³³ LOSC art 86; See further Honen, above n 7, 17-31; Rothwell and Stephens, above n 22, 166; Churchill and Lowe, above n 22, 205-208; Douglas Guilfoyle, ‘The High Seas’ in Donald R Rothwell et al (eds), *The Oxford Handbook of the Law of the Sea* (Oxford University Press, 2015); Robin Warner, *Protecting the Oceans Beyond National Jurisdiction* (Martinus Nijhoff, 2009).

³⁴ Two of the freedoms in paragraph 1 of Article 87 are explicitly included ‘submarine pipelines’ and ‘installations’. The list of freedoms contained in this Article was an expanded version of the 1958 Geneva Convention. According to Article 2 of the 1958 Geneva Convention on the High Seas, freedom of the high seas is comprises of freedom of navigation, freedom of fishing, freedom to lay submarine cables and pipelines, and freedom to fly over the high seas. A proposal by Ecuador, Panama and Peru proposed a more extensive list of freedoms that includes freedom to emplace artificial islands and other installations for the first time. This proposal therefore was incorporated at the third session in 1975. See A/AC.138/SC.II/L.27 and Corr.1 and 2, article 19, reproduced in III SBC Report 1973.

authorisation of the *International Sea-bed Authority* ('The Authority').³⁵ Second, part of the high seas submerge the outer edge of the continental margin lays more than 200 nautical miles breadth. In these areas, the coastal state alone can authorise the construction and operation of an offshore installation on its continental shelf.³⁶

The LOSC sets up a special legal regime for the seabed and subsoil beyond the limits of national jurisdiction, known as the 'Area'.³⁷ Articles 136 and 137 specify that '[t]he Area and its resources are the common heritage of mankind.' Therefore,

1. No State shall claim or exercise sovereignty or sovereign rights over any part of the Area or its resources, nor shall any State or natural or juridical person appropriate any part thereof. No such claim or exercise of sovereignty or sovereign rights nor such appropriation shall be recognized.
2. All rights in the resources of the Area are vested in mankind as a whole, on whose behalf the Authority shall act. These resources are not subject to alienation. The minerals recovered from the Area, however, may only be alienated in accordance with this Part and the rules, regulations and procedures of the Authority.
3. No State or natural or juridical person shall claim, acquire or exercise rights with respect to the minerals recovered from the Area except in accordance with this Part otherwise, no such claim, acquisition or exercise of such rights shall be recognized.

The LOSC outlines the rules regulating exploration and exploitation activities in the Area, as set down in Article 153. According to this provision:

[a]ctivities in the Area shall be organized, carried out and controlled by the Authority on behalf of the mankind as a whole in accordance with this article as well as other relevant provisions of this Part and the relevant Annexes, and the rules, regulations and procedures of the Authority.

³⁵ See Brown, above n 29; Hutchinson, above n 29; D. P. O'Connell, *The International Law of the Sea-Two Volumes* (Oxford, Clarendon, 1982 and 1984; Bernard H. Oxman, 'High Seas and the International Seabed Area' (1989) 10 *Michigan Journal of International Law* 526-542; Barbara Kwiatkowska, 'Creeping jurisdiction beyond 200 miles in the light of the 1982 Law of the Sea Convention and State practice' (1991) 22 *Ocean Development and International Law*; E.D. Brown, *Sea-Bed Energy and Minerals: The International legal Regime-Volume 2 'Sea-bed Mining* (Martinus Nijhoff, 2011); James R. Hein, 'Deep-Ocean Mineral Deposits in the Global Ocean' (Paper presented at International Seabed Authority Seminar on Deep Seabed Mining, New York, 16 February 2012); Michael W. Lodge, 'Observations on the structure and functions of the organs of the Authority' (Paper presented at ISA Sensitization Seminar, New York, 16 February 2012); Ricardo Perreira, 'Pollution from Seabed Activities' in David Joseph Attard (eds), *The IMLI Manual on International Maritime Law Volume III Marine Environmental Law and Maritime Security Law* (Oxford University Press, 2016) 95.

³⁶ Brown, above n 29; Hutchinson, above n 29; McDorman, above n 29; Churchill and Lowe, above n 22; Rothwell and Stephens, above n 22.

³⁷ LOSC part XI (arts 133-191); See further explanation above n 30.

With respect to the Authority, Section Four of Part XI of the LOSC describes various features of the Authority, such as its nature and fundamental organizing principles³⁸ and structure,³⁹ as well as its enterprise⁴⁰ and financial arrangements.⁴¹ As the exploration and exploitation of oil and gas reserves in the Area involves rather complex procedures and numerous aspects, which go beyond the framework of offshore installations, this section will not discuss it in greater detail.

Safety and security concerns for offshore installations are also considered within the LOSC.⁴² The major feature governing the safety and security of offshore installations is the rules on the establishment of safety zones around installations.⁴³ These rules are mostly derived from customary international law, particularly Article 5 of the *Continental Shelf Convention*. These rules allow coastal states, where necessary, to establish safety zones around installations in the EEZ. As this regulation applies *mutatis mutandis* to installations on the continental shelf, coastal states also may designate such safety zones on the continental shelf. Accordingly, Article 60 (4) of the LOSC states:

³⁸ Ibid art 157.

³⁹ Ibid art 158.

⁴⁰ Ibid art 170.

⁴¹ Ibid part XI subsec (F) arts 171-175.

⁴² See, eg, Honen, above n 7, 93; Esmaeili, above n 7; Lee Cordner, 'Offshore Oil and Gas Safety and Security in the Asia Pacific-The need for regional approaches to managing risks' (RSIS Monograph No. 26, S. Rajaratnam School of International Studies, 2013); Brian Michael Jenkins, 'Potential Threats to Offshore Platforms' (Paper published by the RAND Corporation, January 1988); Hossein Esmaeili, 'The Protection of Offshore Oil Rigs in International Law Part I (1999) 18 *Australian Mining and Petroleum Law Journal* 241; Kashubsky, above n 15; Stuart Kaye, 'International Measures to Protect Oil Platforms, Pipelines, and Submarine Cables from Attack' (2007) 31 *Tulane Maritime Law Journal* 382-386; Stuart Kaye, 'The Protection of Platforms, Pipelines and Submarine Cable under Australian and New Zealand Law' in Natalie Klein, Joanna Mossop and Donald R. Rothwell (eds), *Maritime Security: International Law and Policy Perspectives from Australia and New Zealand*, (Routledge, 2010); Assaf Harel, 'Preventing Terrorist Attacks on Offshore Platforms: Do States Have Sufficient Legal Tools?' (2012) 4 *Harvard National Security Journal* 149; Mikhail Kashubsky and Anthony Morisson, 'Security of offshore oil and gas facilities: exclusion zones and ships' routing' (2013) 5 *Australian Journal of Maritime and Ocean Affairs*;

⁴³ See, eg, Esmaeili above n 42, 246-249; Kashubsky and Morisson, above n 42, 2-4; Harel, above n 42, 143-158; Alex G. Oude Elferink, 'The Arctic Sunrise Incident: A Multi-faceted Law of the Sea Case with a Human Rights Dimension' (2014) 29 *The International Journal of Marine and Coastal Law* 244-289; Sebastian tho Pesch, 'Coastal State Jurisdiction around Installations: Safety Zones in the Law of the Sea' (2015) 30 *the International Journal of Marine and Coastal Law* 519.

[t]he coastal State may, where necessary, establish reasonable safety zones around such artificial islands, installations and structures in which it may take appropriate measures to ensure the safety both of navigation and of the artificial islands, installations and structures.

Designated safety zones 'shall not exceed a distance of 500 metres around them ... except as authorized by generally accepted international standards or as recommended by the competent international organization.'⁴⁴ It is assumed that 'the competent international organization' is the International Maritime Organization (IMO). However, as the IMO has not recommended any standards relating to safety zone perimeters, this exception can be ignored.⁴⁵ Although the safety zone concept is relevant to offshore installations, it was designed originally to promote safety of navigation by creating a zone between ships and installations that would leave enough sea room to prevent accidents.⁴⁶ There is strong criticism of the 500-metre safety zone, as it is not sufficient to protect offshore oil and gas installations from deliberate attacks or unlawful interference.⁴⁷ Despite these criticisms, there has been little enthusiasm among states to re-examine the breadth of the safety zone, as concerns over freedom of navigation still appear to be paramount.⁴⁸

It should be noted that there are manifold sources on the safety and security aspects of offshore installations, whether under the LOSC framework, or other legal instruments that provide significant and advanced analysis on the matter.⁴⁹ However, as this section aims merely to present a general overview of major global conventions pertaining to offshore installations, these perspectives are beyond its scope.

Marine pollution from offshore installations is another key aspect regulated by the LOSC.⁵⁰ Part XII of the LOSC lays down the general principles on the

⁴⁴ LOSC art 60(5); Hossein Esmaeili, 'The Protection of Offshore Oil Rigs in International Law Part I (1999) 18 *Australian Mining and Petroleum Law Journal* 241.

⁴⁵ Pesch, above n 43, 518.

⁴⁶ Kashubsky and Morisson, above n 42, 3-4.

⁴⁷ Harel, above n 42, 148-149.

⁴⁸ Kaye, above n 42, 406-407.

⁴⁹ See Honen, above n 7, 93; Esmaeili, above n 7; Kashubsky and Morisson, above n 42, 3-4; Harel, above n 42, 148-149; Kaye, above n 42, 406-407.

⁵⁰ See, eg, Gold and Petrie, above n 7; Lyons, above n 7; Churchill and Lowe, above n 22, 370; Rothwell and Stephens, above n 22, 400; Patricia Birnie, Alan Boyle and Catherine Redgwel,

protection of the marine environment and establishes a state duty to protect and preserve the marine environment. This duty includes an obligation to adopt 'measures designed to minimise pollution from installations in the seabed.'⁵¹ Part XII also includes the principle of common but differentiated responsibilities and requires the best available techniques to marine pollution control to be applied by states.⁵² Moreover, the LOSC contains an attempt to reconcile the interests of coastal and flag states by establishing the coastal state's exclusive right to authorize and regulate the construction and operation of offshore installations in the EEZ or on the continental shelf. Under this provision, the overall responsibility for controlling and preventing offshore pollution falls on the relevant coastal state.⁵³ In addition, the LOSC requires cooperation on a global or regional basis:

States shall cooperate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features.⁵⁴

The role of cooperation as envisaged in Article 197 will be considered later in the thesis, when reviewing recent developments in the legal frameworks regulating offshore installations and tankers, and the regional context of regulatory frameworks relating to offshore oil and gas activities.⁵⁵ Marine pollution from offshore installations will be discussed in detail in Chapter Five of this thesis.

International Law and the Environment (Oxford University Press, 3rd edition, 2008); Philippe Sands et al, *Principles of International Environmental Law* (Cambridge University Press, 3rd edition, 2012); Perreira, above n 35, 95.

⁵¹ LOSC art 194(3); Perreira, above n 35, 103.

⁵² Pierre-Marie Dupuy, 'The International Law of State Responsibility: Revolution or Evolution?' (1989-1990) 11 *Michigan Journal of International Law* 105-106; Alan E. Boyle, 'Globalising Environmental Liability: The Interplay of National and International Law' (2005) 17 *Journal of International Environmental Law* 1, 3-26.

⁵³ See e.g. Gold and Petrie, above n 7; Lyons, above n 7; Churchill and Lowe, above n 22, 370; Rothwell and Stephens, above n 22, 400; Birnie, Boyle and Redgwell, above n 50, 428; Sands et al, above n 50; Perreira, above n 35, 95.

⁵⁴ LOSC art 197.

⁵⁵ See Sub Chapter 2.4 and Chapter Three of this Thesis below.

2.2.2. The 1974 International Convention on Safety of Life at Sea (SOLAS)

The next sub-section sets out the IMO Conventions treatment of the legal definition and status of offshore oil and gas installations, focussing first on SOLAS. SOLAS includes Mobile Offshore Drilling Units (MODU) within the ship types affected by this convention. According to SOLAS, MODU means ‘a mechanically propelled mobile offshore drilling unit, as defined in regulation IX/1, not on location’.⁵⁶

Instances of regulations concerning MODU that can be found in SOLAS include Chapter IX on management for the safe operation of ships, and Chapter XI-2 on special measures to enhance maritime security. These reflect two main elements of the activities of MODU. While Chapter IX contains requirements of ship safety management: certification, maintenance, and control,⁵⁷ Chapter XI-2 principally comprises obligations of contracting states in respect of security of ships, port security, and security agreements.⁵⁸

SOLAS does not provide either explanation or clarification concerning the definition and status of other types of offshore installations besides MODU. This exclusion of detailed regulations for offshore installations is due to the focus of SOLAS on safety aspects of ship operations instead of offshore exploration and exploitation activities. Several important developments concerning MODU under the SOLAS framework occurred in 2009 and 2013. The IMO member states adopted two legal instruments, namely the *Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009*,⁵⁹ and the *Recommendations for the Training and Certification of Personnel on Mobile Offshore Units 2013*.⁶⁰

Both the Code and the Recommendations contain a more specific definition of MODU: ‘MODU or unit is a vessel capable of engaging in drilling operations for the exploration for or exploitation of resources beneath the seabed such as

⁵⁶ SOLAS Convention chapter XI-2 concerning special measures to enhance maritime security.

⁵⁷ Ibid chapter IX concerning management for the safe operation of ships.

⁵⁸ Ibid chapter XI-2.

⁵⁹ IMO, *Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009*, Resolution A. 1023(26), (2 December 2009).

⁶⁰ IMO, *Recommendations for the Training and Certification of Personnel on Mobile Offshore Units (MoUs)*, Resolution A. 1079(28) (27 March 2013).

liquid or gaseous hydrocarbons, sulphur or salt'.⁶¹ Additionally, the 2013 Recommendations also differentiate between MODU and Mobile Offshore Units (MOUs). The latter are defined as 'vessels which can be readily relocated and which can perform an industrial function involving offshore operations other than those traditionally provided by vessels covered by Chapter I of the SOLAS'.⁶²

2.2.3. The 1973 International Convention for the Prevention of Pollution from Ships, as modified by the 1978 Protocol (MARPOL)

Further information relating to the definition and status of offshore oil and gas installations can be found in MARPOL. MARPOL mainly regulates the prevention of pollution from ships, however it also applies to fixed and floating offshore rigs when they are in a mobile configuration.⁶³ The convention includes the terms 'floating craft and fixed or floating platforms' in the definition of 'ship'.⁶⁴ The inclusion of offshore installations under MARPOL is limited by paragraph 3 of Article 2 which defines 'discharge'. This provision reads:

discharge does not include (i) dumping within the meaning of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter; or (ii) release of harmful substances directly arising from the exploration, exploitation and associated offshore processing of seabed mineral resources.⁶⁵

MARPOL is therefore confined to non-operational discharges such as those not related to the exploration, exploitation and associated offshore processing of seabed minerals.⁶⁶ Despite this limitation to the application of MARPOL to offshore installations, several other provisions of MARPOL do clearly apply. Annex I of the Convention included 'man-made floating craft' in the regulations

⁶¹ See Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009 para 1.3.40 and Recommendations for the Training and Certification of Personnel on Mobile Offshore Units (MoUs) para 2.16.

⁶² Recommendations for the Training and Certification of Personnel on Mobile Offshore Units (MoUs) para 2.17.

⁶³ MARPOL reg 2; Kashubsky, above n 15.

⁶⁴ MARPOL art 2.

⁶⁵ Ibid art 2(3).

⁶⁶ Chester Brown, 'International Environmental Law in the Regulation of Offshore Installations and Seabed Activities: the Case for a South Pacific Regional Protocol' (1998) 17 *Australian Mining & Petroleum Law Journal* 109, 122.

for the prevention of oil pollution by ships.⁶⁷ Annex V contains specific regulations for the prevention of pollution by garbage from ships, which also applies to offshore installations.⁶⁸

2.2.4. The 1988 Convention for the Suppression of Unlawful Acts against the Safety of Navigation (SUA Convention) and the 1988 Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf (SUA Protocol)

The SUA Convention and the 1988 SUA Protocol⁶⁹ concern the definition and status of offshore installations. While the SUA Convention does not provide a definition of offshore installation or platform,⁷⁰ the 1988 Protocol specifies that:

‘fixed platform’ means an artificial island, installation or structure permanently attached to the sea-bed for the purpose of exploration or exploitation of resources or for other economic purposes.⁷¹

This definition nonetheless may still be confused. As Hossein Esmaeili describes, it is unclear whether a fixed oil rig towed to a place to be attached to the seabed in order to carry out exploration and exploitation of offshore natural resources would be considered a ‘ship’ or a ‘fixed platform’.⁷²

Some deliberations on the definitions of ‘ship’ compared to ‘fixed platform’ occurred during the International Conference on the Suppression of Unlawful Acts Against the Safety of Maritime Navigation. As cited in Esmaeili’s work, the Australian delegation proposed a clearer definition of ‘ship’ by inserting the words ‘other than a fixed platform within the meaning of the Protocol for the

⁶⁷ See MARPOL Annex I regs 21 and 21(c). These regulations apply certain special requirements for offshore installations i.e. prohibition of oil or oily mixture discharge except when the oil content of the discharge without dilution does not exceed 15 ppm.

⁶⁸ Brown, above n 66; MARPOL Annex V reg 4(1)

⁶⁹ *The 1988 Convention for the Suppression of Unlawful Acts against the Safety of Navigation*, adopted 10 March 1988, 1678 UNTS 201, (entered into force 1 March 1992) (‘SUA Convention’) and *the 1988 Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf*, adopted 10 March 1988, 1678 UNTS 304, (entered into force 1 March 1992) (‘SUA Protocol’).

⁷⁰ See SUA Convention art 1 which provides definition of ship. It reads ‘“ship’ as a vessel of any type whatsoever not permanently attached to the sea-bed, including dynamically supported craft, submersible, or any other floating craft’.

⁷¹ SUA Protocol art 1.

⁷² Esmaeili, above n 7, 47-48; MD Saiful Karim, ‘The Rise and Fall of the International Law of Maritime Terrorism: the Ghost of Piracy is Still Hunting!’ (2014) *New Zealand Universities Law Review* 26, 16-20.

Suppression of Unlawful Acts against the Safety of Fixed Platforms located on the Continental Shelf’ after the words ‘... of any type whatsoever’.⁷³ Moreover, the Malaysian delegation commented that the word ‘permanently’ in Article 1 of the Draft Convention might give rise to confusion. For example, jack-up rigs may not ‘permanently’ be attached to the seabed, as they are attached to the seabed but may be moved from place to place. Jack-up rigs have, however, been considered to be platforms.⁷⁴ In the end, the Convention and the 1988 Protocol retained the definitions of ‘ship’ and ‘fixed platform’ without any modifications. Because of this, it is sufficiently clear that both instruments treat ‘ship’ and ‘fixed platform’ as different legal subjects with their respective definitions. Within the term ‘fixed platform’, as indicated above, the 1988 Protocol includes artificial islands, installations or other permanent structure for offshore exploration or exploitation of resources or other economic purposes.

2.2.5. International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC Convention)

The OPRC Convention⁷⁵ contains provisions on the definition and status of offshore oil and gas installations. It provides definitions of ‘ship’ and ‘offshore unit’.⁷⁶ The OPRC defines ‘ship’ as ‘a vessel of any type whatsoever operating in the marine environment ... [including] hydrofoil boats, air-cushion vehicles, submersibles, and floating craft of any type’. An important aspect of this definition related to offshore oil and gas installations is the inclusion of ‘submersibles and floating craft of any type’ within the definition of ‘ship’. As for ‘offshore unit’, the convention specifies that ‘offshore unit’ ‘means any fixed or

⁷³ Ibid; IMO, *Consideration of the Draft Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation and the Draft Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf: Comments by the Government of Australia*, SUA/CONF/8 (20 January 1988).

⁷⁴ IMO, *Consideration of the Draft Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation and the Draft Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf: Comments by the Government of Malaysia*, SUA/CONF/7 (18 January 1988).

⁷⁵ *The 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation*, adopted 30 November 1990, 1891 UNTS 51, (entered into force 13 May 1995) (‘OPRC 1990’).

⁷⁶ OPRC 1990 art 2.

floating offshore installations or structure engaged in gas or oil exploration, exploitation or production activities, or loading or unloading of oil'.⁷⁷

Article 3 sets out the requirement for oil pollution emergency plans for ships and offshore units in paragraphs 1 and 2. Paragraph 1 describes the place where a ship may be operated and inspected by the officers, while paragraph 2 requires an offshore unit to have an emergency oil pollution plan and outlines its relationship with the national system.⁷⁸ In addition, Article 4 also indicates that there is a slight difference between a ship and an offshore unit with respect to oil pollution reporting procedure. It is explained that in the event of a ship or an offshore unit being involved in a discharge or probable discharge of oil, the master of the ship shall report to the nearest coastal state, and the person in charge of the offshore unit shall report to the coastal state.⁷⁹ Similar procedures would apply to the ship or unit, but by having different definitions of and treatments for ships and units, the OPRC has clearly considered offshore installations to be a separate category from ships.⁸⁰

2.2.6. *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (London Convention) and the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Protocol)*

Both the London Convention⁸¹ and its Protocol⁸² are primary instruments to address marine pollution. While the London Convention focuses on imposing a duty on contracting states in order to promote the effective control of marine environment pollution and to prevent the pollution of the sea by dumping of waste and other matter,⁸³ the protocol provides more restrictive regulations

⁷⁷ Ibid.

⁷⁸ Edgar Gold, International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 Report (1991) 22 *Journal of Maritime Law and Commerce* 342; OPRC art 3.

⁷⁹ OPRC art 4.

⁸⁰ Esmaeili, above n 7, 46.

⁸¹ *Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter 1972*, adopted 29 December 1972, 11 ILM 1294, (entered into force 30 August 1975) ('London Convention').

⁸² *Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter*, adopted 7 November 1996, 36 ILM 1, (entered into force 24 March 2006) ('London Protocol').

⁸³ Brown, above n 66, 123; Kashubsky, above n 15, 3.

than the convention by adopting a 'precautionary approach' and a 'reverse list approach'.⁸⁴

The main links between those instruments and offshore oil and gas installations are twofold. First, the inclusion of the term 'platforms or other man-made structures at sea' within the definition of 'dumping' and, second, the extension of this definition under the protocol to cover 'any abandonment or toppling at site of platforms or other man-made structures at sea, for the sole purpose of deliberate disposal'.⁸⁵

According to the convention, 'dumping' means:

(i) any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea, and (ii) any deliberate disposal at sea of vessels, aircraft, platforms or other man-made structures at sea.⁸⁶

As for the protocol, Article 1 specifies, among other matters, that 'dumping' means:

any storage of wastes or other matter in the seabed and the subsoil thereof from vessels, aircraft, platforms or other man-made structures at sea, and any abandonment or toppling at site of platforms or other man-made structures at sea, for the sole purpose of deliberate disposal.⁸⁷

Importantly, both of these definitions exclude the disposal of wastes or other matter derived from the normal operation of vessels, aircraft, platforms or other man-made structures as part of 'dumping'.⁸⁸ Article III (1) (c) of the convention and Article 1(4)(3) of the protocol also explain that the disposal of wastes or other matter directly from, or related to the exploration, exploitation and associated offshore processing of sea-bed mineral resources is not covered by the provisions of the Convention/Protocol.

Article III(1)(c) originally referred to the disposal of wastes arising from any future deep seabed mining activities for hard minerals like manganese nodules and other metal ores. However, twenty years later, some of the contracting

⁸⁴ See objective and definition of those two approaches

⁸⁵ See London Convention art III para 1(a) and (b); London Protocol art 1(4).

⁸⁶ London Convention art III.

⁸⁷ London Protocol art 1.

⁸⁸ London Convention art III(1)(b); London Protocol art 3(4)(3).

states argued that the Article was not intended to exclude offshore oil and gas activities from regulation under the London Convention.⁸⁹ At the Protocol negotiations, there was extensive debate on whether the Convention should be extended or interpreted to cover the discharge of wastes or other matter from offshore oil and gas exploration and exploitation.⁹⁰ The Dutch Delegation proposed to delete Article III(1)(c) in order to remove a legal barrier for possible future regulation to prevent pollution resulting from offshore oil and gas activities, such as the drilling muds and produced waters. This proposal was supported by several European states. Following the consideration of the proposal, most contracting states believed that it would result in an undesirable extension of the scope of the Convention. Consequently, a large majority of the contracting states agreed to retain Article III(1)(c).

Furthermore, although the Convention and the Protocol include the terms 'platforms and other man-made structures at sea', they do not further define those terms. Nevertheless, the wording of Article 1 above: '... from vessels, aircraft, platforms or other man-made structures at sea ...' indicated that there is a distinction between vessels and platforms.

The second link between the London Convention and its Protocol and offshore installations is the extension of the definition of 'dumping'. Under the Protocol, 'dumping' includes 'any abandonment or toppling at site of platforms or other man-made structures at sea, for the sole purpose of deliberate disposal'.⁹¹ As René Coenen outlines, this broadened definition indicates that all decommissioning of offshore installations not involving disposal on land was now

⁸⁹ Alan Sielen, 'Treaty Review: The New International Rules on Ocean Dumping: Promise and Performance' (2008) 21 *Georgetown International Environmental Law Review* 23.

⁹⁰ According to Article III (1) (c) wastes or other matter from offshore oil and gas exploration and exploitation are not part of dumping.

⁹¹ Discussion related to offshore installations and structure, in the context of the London Convention, occurred at the Eleventh Consultative Meeting, where at that time the Meeting is agreed the draft IMO Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone. This decision therefore was followed by the adoption of the said IMO Guidelines and Standards in 1989 and reflected in the Article 1 paragraph 4 of the 1996 Protocol, which includes 'any abandonment or toppling at site of platforms or other man-made structures at sea, for the sole purpose of deliberate disposal'.

covered under the Protocol and would require a prior permit on a case-by-case basis.⁹² As of 2016, this extension of the definition of dumping is of ever-increasing relevance, as decommissioning of offshore installations is on the increase in all parts of the world.⁹³

The approach to the regulation of the dumping of wastes developed between the Convention to the Protocol, as the latter adopted a 'reverse list' approach and decided to apply a 'general prohibition' to the dumping of any wastes or other matter, rather than the Convention's 'black list and grey list' method.⁹⁴

The London Convention and its Protocol contain provisions that render a general obligation to Contracting States, to implement the respective provisions of the Convention and the Protocol to all fixed or floating platform under their jurisdiction.⁹⁵ The relationship between the Convention and the Protocol and Indonesian domestic legislation will be discussed in more detail in Chapter 4 of this thesis.

2.2.7. The 1989 IMO Resolution A 671 (16) on Safety Zones and Safety of Navigation around Offshore Installations and Structures

In addition to the major global conventions stated above, there are two IMO Resolutions that provide important rules for offshore oil and gas activities by platforms. The first resolution is the *1989 IMO Resolution A. 671 (16) on Safety Zones and Safety of Navigation around Offshore Installations and Structures*. This Resolution contains a number of recommendations for states to prevent

⁹² René Coenen, 'Dumping of Wastes at Sea: Adoption of the 1996 Protocol to the London Convention 1972', (1997) *Review of European Community and International Environmental Law* 6 (RECIEL) 55.

⁹³ Youna Lyons, 'The New Offshore Oil and Gas Installation Abandonment Wave and the International Rules on Removal and Dumping' (2014) 29 *The International Journal of Marine and Coastal Law* 480-481.

In relation to decommissioning issue, at the Eighteenth Consultative Meeting of the Convention Contracting Parties, there was another intensive debate in respect to draft resolution tabled by Danish Delegation, which called for a moratorium on sea disposal of decommissioned offshore installations pending adoption of amendments to the Convention. The Draft resolution was supported by most of the European Contracting Parties, nonetheless majority of Parties did not support the Danish proposal due to lack of scientific evidence and the priority to use flexible approaches in various regions.

⁹⁴ London Protocol art 4; René Coenen, above n 92, 56.

⁹⁵ London Convention art VIII(1); London Protocol art 10; Sielen, above n 89.

infringement of safety zones around offshore installations, and includes an Annex, which covers a detailed range of prevention measures. It recommends that the relevant coastal state examine the shipping traffic through offshore exploration areas at an early stage to be able to assess potential interference with marine traffic passing in the vicinity.⁹⁶ The Resolution also recommends that the coastal state ensure that the offshore production on the continental shelf and in the EEZ does not seriously hamper shipping activities.⁹⁷ Moreover, it suggests flag states respond appropriately to ensure that suitable procedures exist to take action against the operator, owner or any person responsible for the infringement of a safety zone.⁹⁸

Annex of Resolution A. 671(16) contains recommendations for vessels navigating in the vicinity of offshore installations or structures: to navigate with caution due to the presence of such installations; to prepare early and substantial avoiding action when approaching such installations; to use the established routeing system in the area; and to maintain a continuous listening watch on the navigating bridge on VHF channel 16 or other relevant frequencies.⁹⁹ The Annex recommends the coastal state to take action in accordance with international law when an infringement of a safety zone occurs and to provide factual evidence to substantiate any allegation over an alleged vessel.¹⁰⁰

⁹⁶ IMO Resolution A.671 (16) (19 October 1989) para 1.

⁹⁷ Ibid.

⁹⁸ Ibid para 2.

⁹⁹ Annex of IMO Resolution A.671 (16) para 2.

¹⁰⁰ Ibid para 3; Instances of available factual evidence as stated in the Annex of the IMO Resolution A.671 (16) are including: (i) name, flag and call sign of the vessel, (ii) course and speed of the vessel, (iii) identification of the offshore installation or structure and its operators, (iv) description of the operational status of the offshore installation or structure (i.e. its latitude and longitude, nature and duration of activity on station, breadth of the safety zone, text and date of notice to mariners giving warning of the offshore activity and rules applicable to the safety zone), (v) weather conditions at time of the alleged infringement, (vi) details of attempts by installation or structure personnel or personnel on service vessels to contact the approaching vessel including radio frequencies used and the interval between attempts, (vii) description of any communications with the vessel, (viii) statement as to whether the installation or structure exhibited the proper lights and sounded appropriate signals, (ix) photographic evidence or a complete and detailed radar plot, or both, and indication of whether a radar beacon or warning device was in operation, (x) details of any apparent contravention of any other regulation by the intruding vessel such as the International Regulations for Preventing Collisions at Sea, 1972 as amended, or the 1974 SOLAS Convention, and (xi) name of the Government official to contact regarding the complaint.

In addition, the coastal state is advised to disseminate information about safety of navigation or any other legitimate activity within the area, in accordance with international law, its sovereign rights and jurisdiction.¹⁰¹ As specified at Paragraph 4 of the Annex:

this dissemination of information should take the form of radio-warnings and Notices to Mariners (temporary, preliminary and permanent) to cover all stages of activity, initial search and investigation, trial drilling and subsequent exploitation.

Finally, the Annex recommends that coastal states ensure that any features of a sufficiently permanent nature, such as permanent installations or structures, bottom obstructions, pipelines, navigational marks and prohibited areas, are shown on all appropriate navigational charts.¹⁰² The coastal state should also take all necessary steps, in cases where there is no facility or inadequate facility for charting or dissemination, to convey all necessary information to the hydrographic authority/authorities.¹⁰³

In a recent development, there has been an attempt by states to extend safety zones beyond 500 metres in certain cases through IMO authorization.¹⁰⁴ During deliberations on the issue of the threat that infringements of safety zones posed to offshore platforms, Canada proposed certain measures to address the threat in a more effective way. One of the proposed measures was to extend safety zones beyond 500 metres in limited cases.¹⁰⁵ However, this proposal was rejected, with the argument that such extension would contradict Article 60 of the LOSC and exceed the mandate of the IMO.¹⁰⁶ In 2007, Brazil proposed to

¹⁰¹ Ibid para 4; It is explained that the contents of information should cover: (i) the area, period and nature of the initial search; (ii) the position of a subsequent drilling, any warning or navigational marking and period of operation, (iii) the state in which the sea-bed is left, the nature of any obstructions remaining after test drilling and any navigational marking, (iv) the nature and duration of any works connected with the establishment of permanent production installations or structures, and any associated work such as laying of pipelines, and (v) details of any safety zone around the installation or structure and any fairways and routeing systems established in its vicinity including, where relevant, their marking.

¹⁰² Ibid para 5.

¹⁰³ Ibid para 5.3.

¹⁰⁴ Harel, above n 42.

¹⁰⁵ Note by the Government of Canada, IMO NAV 31/10/1, 2 May 1985 as cited Geir Ulfstein, 'The Conflict between Petroleum Production, Navigation and Fisheries in International Law' (1988) 19 *Ocean Development and International Law* 245.

¹⁰⁶ Ulfstein, above n 105; Harel. above n 42, 150.

extend the breadth of safety zones surrounding its oil platforms in the Campos Basin region in order to reduce the risk of collision.¹⁰⁷ Following deliberation at the IMO's Sub-Committee on Safety of Navigation, although the proposal received general support, it was not approved due to lack of procedures or guidelines for determining extensions of safety zones.¹⁰⁸ In conclusion, the IMO believed that there is no need, at present, to develop guidelines for considering requests for larger safety zones.

Resolution A. 671(16), together with its Annex, is a complete version of Resolution 621(15) which provides detailed measures to prevent the infringement of safety zones around offshore installations or structures.¹⁰⁹ Despite its legal status as a resolution that only comprises recommendations rather than binding requirements, IMO Resolution A. 671(16) may become binding due to the application of 'generally accepted international standards'.¹¹⁰

2.2.8. The 1989 IMO Resolution A 672 (16) on Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone

The next IMO Resolution reviewed is the *1989 IMO Resolution A. 672 (16) on Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone*.¹¹¹ This Resolution

¹⁰⁷ Sebastian tho Pesch, 'Coastal State Jurisdiction around Installations: Safety Zones in the Law of the Sea' (2015) 30 *the International Journal of Marine and Coastal Law* 519; According to Brazil, routine offloading operations, during which a shuttle boat and a tanker are connected to the oil platform, require a radius of approximately 1,400 metres. Therefore, larger safety zone is needed and the IMO is requested to authorize such extension. It is also argued that the extension of safety zone would reduce the collisions frequency.

¹⁰⁸ IMO Maritime Safety Committee, Sub Committee on Safety of Navigation, Report on its 53rd Session para 3.14, IMO Doc. NAV 53/22 (August 14, 2007).

¹⁰⁹ Esmaeili, above n 7, 132.

¹¹⁰ Pesch above n 107; See AG Oude Elferink, 'The Arctic Sunrise Incident: A Multi-faceted Law of the Sea Case with a Human Rights Dimension' (2014) 29 *International Journal of Marine and Coastal Law*.

¹¹¹ Originally, the Resolution was prepared by the IMO Sub-Committee on Safety of Navigation at its 34th Session in February 1988 and submitted by the Committee to the IMO Maritime Safety Committee for consideration. The IMO Maritime Safety Committee later approved the draft resolution on Guidelines and Standards for the Removal of Abandoned or Disused Offshore Installations and Structures in the Exclusive Economic Zone and on the Continental Shelf during its 55th session in April 1988. Nevertheless, the draft Guidelines and Standards were referred to another international organisations: the Food and Agriculture Organisation (FAO), the contracting parties to the London Dumping Convention, and to the United Nations Environmental Programme (UNEP); G.C. Kasoulides, 'Removal of Offshore Platforms and the Development of

contains requirements for all State Parties to remove all abandoned or disused offshore installations or structures on any continental shelf or in any EEZ, except where non-removal or partial removal is consistent with the guidelines and standards.¹¹² It consists of two sections: Guidelines and Standards. The Guidelines set out a case-by-case decision-making process on whether to remove the abandoned installation or not,¹¹³ while the Standards requires complete removal of all installations standing in less 75 metre of water and weighing less than 4000 ton. The exception for the latter rules are installations that: (i) have been assigned for new uses if permitted to remain partially or (ii) wholly in place or where the entire removal is not technically feasible, or (iii) would involve an extreme cost or (iv) an extreme risk to the personnel and environment.¹¹⁴ Nevertheless, installations that are in straits used for international navigation such as the Straits of Malacca, or installations located in the vicinity of ports or in customary deep-draft lanes and IMO adopted routing systems must be removed.¹¹⁵

The Resolution also requires that 'where installations or structures remain above water, they should be adequately maintained to prevent structural failure'.¹¹⁶ Accordingly, in the case of partial removal, the coastal state must ensure an unobstructed water depth of no less than 55 metres above the structure to facilitate navigation.¹¹⁷ The Resolution further requires the coastal state to ensure compliance with all requirements related to installations or structures that have not been entirely removed such as by indicating the position, surveyed depth and dimensions of material on nautical charts, and identifying the party responsible for maintaining the aids around the installations.¹¹⁸ The legal title of such installations and structures should be unambiguous and the financial ability

International Standards' (1989) 13 *Marine Policy, the International Journal of Ocean Affairs* 249-265 as referred by Salah E Honen above n 7, 88.

¹¹² Annex of IMO Resolution A.672 (16) para 1.1.

¹¹³ *Ibid* para 2.1.

¹¹⁴ *Ibid* paras 3.4 and 3.5.

¹¹⁵ *Ibid* para 3.7; B.A. Hamzah, 'International rules on decommissioning of offshore installations: some observations' (2003) 27 *Marine Policy* 346.

¹¹⁶ *Ibid* para 3.6.

¹¹⁷ *Ibid*.

¹¹⁸ *Ibid* 3.10.

to assume liability for future damages should be clearly established.¹¹⁹ The Guidelines and Standards also consider the conversion of abandoned platforms for use as artificial reefs.¹²⁰

With respect to environmental matters, paragraph 3.3 of the Guidelines specifies that the means of removing the installations should not cause a significant adverse effect on living resources. Beyond this, relevant national authorities of a coastal State should pass regulation which police details of the position and dimensions of any installations remaining after the removal operations.

These instruments should be read together with Article 60(3) of the LOSC, which provides that:

any offshore installation which is abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organization.¹²¹

It is argued that despite the fact that the Guidelines and Standards are considered to be 'generally accepted international standards' on the removal of installations, the wording of Article 60 and the Guidelines and Standards uses less imperative language.¹²² Article 60 uses the words 'take into account', which expresses flexibility rather than a strict application. The IMO Resolution uses the word 'recommends', which implies a non-binding character. The Guidelines and Standards contain language that is aspirational rather than imperative in their provisions. Nevertheless, these instruments set out important principles for the coastal states and other parties including companies by providing minimum standards. They also leave the coastal states with a wide discretion on how to regulate offshore installation decommissioning.

¹¹⁹ Ibid 3.11.

¹²⁰ Ibid 3.12.

¹²¹ IMO Resolution A.672 (16) consideration para 1; Youna, above n 93, 494.

¹²² Ibid 494-495.

2.3. International Regulations for the Activities of Oil and Gas Tankers

2.3.1. The LOSC

The LOSC sets framework principles and many rules for a wide range of ocean issues.¹²³ Among the numerous issues regulated by the LOSC, include specific subjects relevant to the operation of ships, namely maritime zones,¹²⁴ navigational aspects¹²⁵ and marine environment protection particularly the prevention of marine pollution from ships.¹²⁶

2.3.1.1. LOSC Provisions Relating to Maritime Zones and Navigational Aspects

In relation to maritime zones and navigational aspects, the LOSC provides a number of provisions in different sections. The main topics that are relevant here are the five maritime zones groups, and the four rights of navigation. The five maritime zones are internal waters, the territorial sea, contiguous zone, exclusive economic zone and the high seas. The four types of navigation rights governed by the Convention are innocent passage, transit passage, archipelagic sea lane passage and freedom of navigation. In addition, other features such as nationality of ships and safety of shipping are significant.

The LOSC contains a definition of the maritime zones, describes their function and the legal status of the waters. Article 8 of the Convention describes internal waters as those waters that lie landward of the baseline from which the

¹²³ LOSC contains 17 parts or chapters, nine additional annexes and 320 articles in total. Although, it covers very extensive areas of sea undertakings from international perspectives and focusing on states' rights and responsibilities over such undertakings, not all the LOSC provisions are related to ships operation including oil and gas carrier. Furthermore, as for explanation on the core provisions of the LOSC, see Rothwell and Stephens, above n 22.

¹²⁴ As maritime zones are the operational area or space for any ship, therefore it is paramount to regulate such zones both under the international law and domestic regulations. Under the LOSC, it is stipulated at the opening part of the Convention that among the objectives of the conclusion of this Convention is to promote the peaceful uses of the seas and oceans. Therefore in the domestic legal context, the governance of maritime zones can be viewed as an effort to maintain national sovereignty and to balance between international access and domestic interest.

¹²⁵ Examples of key navigational issues that regulated by the LOSC and relevant to oil and gas carrier are including innocent passage (arts 17, 18, 19 and 20), right of transit passage (arts 38 and 39), archipelagic sea lanes passage (arts 53 and 54), and freedom of navigation (arts 87 and 90).

¹²⁶ See among other references Alan Khee-Jin Tan, *Vessel-Source Marine Pollution* (Cambridge University Press, 2006); Birnie, Boyle and Redgewell, above n 50; Further discussion on this topic will be appeared in Chapter 4.

territorial sea is measured. In a legal sense, internal waters also include littoral areas such as parts of the sea along the coast down to the low-water mark, ports, landward waters from the closing line of bays and waters enclosed by straight baselines.¹²⁷ The seaward limit of internal waters is determined by a baseline from which the territorial sea is measured.¹²⁸

In internal waters foreign ships normally enjoy no rights of navigation, except the presence of a right given by treaty such as a treaty of friendship, commerce and navigation, which might cover a right to ports or other parts of the waters. The exception to the rule is internal waters which, before their enclosure by straight baselines drawn under Article 7 of the Convention, were part of the territorial sea or high seas, where the right of innocent passage exists.¹²⁹

Article 3 describes the breadth of the territorial sea as not exceeding 12 nautical miles, measured from baselines. The outer limits of the territorial sea are 'the line every point of which is at distance from the nearest point of the baseline equal to the breadth of the territorial sea'.¹³⁰ In the territorial sea, ships of all states enjoy the right of innocent passage as set out in Article 17 of the LOSC. According to the Convention, the right of innocent passage consists of two elements: passage and innocent passage. Article 18 defines 'passage' as navigation through the territorial sea for the purpose of: (i) crossing such sea without entering internal waters, or (ii) proceeding to or from internal waters.¹³¹ Passage must be continuous and expeditious. It also includes stopping and anchoring in so far this is incidental to ordinary navigation or rendered necessary by *force majeure* or distress.¹³² The distress exception itself has been extended

¹²⁷ Yoshifumi Tanaka, *The International Law of the Sea* (Cambridge University Press, 2012).

¹²⁸ LOSC art 8.

¹²⁹ Ibid.

¹³⁰ Ibid art 4; originally, the breadth of the territorial sea has been a matter of controversy and long history in international law. Early practice, doctrine and conference in international level have been attempted to reach agreement upon the issue and failed. Furthermore, the consensus in favour of a twelve-mile territorial sea was, finally, achieved by the time that UNCLOS III finished its work.

¹³¹ LOSC art 18; this definition derives from article 14, paragraphs 2 and 3 of the 1958 Territorial Sea Convention; See A/CONF.13/L.28/Rev.1 (1958).

¹³² Ibid art 18(2).

by Article 18 to cases where one ship seeks to assist another ship, person or aircraft in danger or distress.¹³³

Article 19 states that ‘passage is innocent so long as it is not prejudicial to the peace, good order or security of the coastal State. Such passage shall take place in conformity with the Convention and with other rules of international law’.¹³⁴ It shall be considered to be prejudicial to the peace, good order or security of the coastal state if a ship engages in activities listed in the Convention.¹³⁵ The coastal state may take necessary steps in its territorial sea to prevent passage which is not innocent.¹³⁶ In certain circumstances the coastal state may temporarily suspend the right of innocent passage in very specific areas and based on necessary security reasons, as specified in Article 25.

Although ships are granted the right of innocent passage and any right given by a specific treaty in the territorial sea, navigation through the territorial sea is subject to the sovereignty of the coastal state. In consequence, a ship which navigates through the territorial sea shall take into consideration relevant legislation that may be enacted by the coastal state, for example, a regulation related to a Traffic Separation Scheme (TSS).¹³⁷ Article 22 of the Convention specifies that tankers and other ships carrying dangerous substance may be required to confine their passage in accordance with the designated TSS. The coastal state in restricting passage shall take into account certain factors,

¹³³ Ibid; Churchill and Lowe, above n 22.

¹³⁴ Originally, article 19 is based from the work of the 1930 Hague Conference, which read in the following text: ‘Passage is not innocent when a vessel makes use of the territorial sea of a coastal State for the purpose of doing any act prejudicial to the security, to the public or to the fiscal interest of that State’ (League of Nations Doc. C.351(b). M.145(b). 1930. v; Therefore it was changed significantly in the article 14 (4 and 5) of the 1958 Territorial Sea Convention until it finally adopted on the final draft of the LOSC.

¹³⁵ Among activities mentioned by article 19(2) are including: (i) any threat or use of force against the sovereignty, territorial integrity or political independence of the coastal State, (ii) any exercise or practice with weapons, (iii) any act aimed at collecting information to the prejudice of the defence or security of the coastal State, (iv) any act of propaganda, (v) the launching, landing or taking on board of any aircraft or military device, (vi) the loading or unloading of any commodity, currency or person contrary to the customs, fiscal, immigration or sanitary laws, (vii) any act cause serious pollution, (viii) fishing, (ix) research activity, (x) communication intervention, and (xi) other act that not having a direct bearing on passage.

¹³⁶ LOSC art 25(1).

¹³⁷ Ibid art 22.

including the recommendations of the competent international organization, in this case the International Maritime Organization (IMO).¹³⁸

The LOSC recognizes archipelagic waters as another maritime zone through which vessels may navigate.¹³⁹ Article 49 explains that archipelagic waters are the waters enclosed by the archipelagic baselines drawn in accordance with Article 47 regardless of their depth or distance from the coast. The sovereignty of an archipelagic state extends to such waters. Nevertheless, sovereignty of the archipelagic State is to be exercised in conformity with Part IV of the LOSC.¹⁴⁰

Ships of all states, in accordance with the LOSC, enjoy a range of navigational regimes within archipelagic waters. First, Article 52 states that all ships enjoy the right of innocent passage through archipelagic waters and this right is to be applied in accordance with Part II of the Convention. Like the right of innocent passage within the territorial sea, this right may also be temporarily suspended by the archipelagic states in specified areas of the archipelagic waters if such a suspension is essential for the protection of its security.¹⁴¹ This suspension requires due publication before taking effect. In accordance with this arrangement, ships can enter into the archipelagic waters of an archipelagic State and enjoy the right of innocent passage as they enjoy the same right in the territorial sea.

¹³⁸ The IMO is recognized as the only international organization responsible for establishing and adopting measures on an international level concerning the routing of ships. Moreover, based on a study conducted by the UN Office for Ocean Affairs and the Law of the Sea, the term 'Traffic Separation Scheme' is explained as 'a routing measure aimed at the separation of opposing streams of traffic by appropriate means and by the establishment of traffic lanes; See UN Office for Ocean Affairs and the Law of the Sea, *Baselines: An Examination of the Relevant Provisions of the United Nations Convention on the Law of the Sea* (1989) and International Maritime Organization, *Ships Routing* (IMO, 6th ed., 1991).

¹³⁹ See Muhammad Munawwar, *Ocean States: Archipelagic regimes in the Law of the Sea* (Martinus Nijhoff Publishers, 1995); Robert Cribb and Michele Ford, *Indonesia beyond the Water's Edge, Managing an Archipelagic State* (Institute of Southeast Asian Studies Publishing, 2009); Office for Ocean Affairs and the Law of the Sea, United Nations, *The Law of the Sea, Archipelagic States: Legislative History of Part IV of the United Nations Convention on the Law of the Sea*, (New York, 1990); Office for Ocean Affairs and the Law of the Sea, United Nations, *The Law of the Sea, Practice of Archipelagic States* (New York, 1992).

¹⁴⁰ Ibid; Donald R. Rothwell, 'The Indonesian Straits incident: Transit or archipelagic sea lanes passages?' (1990) *Marine Policy*, 497-498.

¹⁴¹ LOSC art 52.

Another navigational feature specified by the Convention in connection with the archipelagic waters is the archipelagic sea-lanes passage.¹⁴² Article 53 outlines rules for archipelagic states, and all ships and aircraft, with respect to archipelagic sea-lanes passage. It mainly duplicates the regime of transit passage as provided in Part III of the LOSC. Archipelagic sea-lanes passage is exercised in sea lanes and air routes as designated by an archipelagic state, that are suitable for the continuous and expeditious passage of foreign ships and aircraft through or over its archipelagic waters and the adjacent territorial sea.¹⁴³ Archipelagic sea-lanes passage is defined as:

the exercise in accordance with this Convention of the rights of navigation and overflight in the normal mode solely for the purpose of continuous, expeditious and unobstructed transit between one part of the high seas or an EEZ and another part of the high seas or an EEZ.¹⁴⁴

All ships exercising the right of archipelagic sea-lanes passage are to respect applicable sea lanes and traffic schemes.¹⁴⁵ If they call at a port within archipelagic waters, they are not exercising rights under archipelagic sea-lanes passage, but rather revert to their rights under the innocent passage regime.

The Exclusive Economic Zone (EEZ) was established by the LOSC as a claimable zone that differs from the continental shelf, which exists *ipso facto* and *ab initio* to coastal states.¹⁴⁶ Article 57 specifies that a state shall not extend the EEZ beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.¹⁴⁷ Most states, including non-parties to the LOSC,

¹⁴² Chris Forward, 'Archipelagic Sea-lanes in Indonesia - Their Legality in International Law' (2009) 23 *Australia & New Zealand Maritime Law Journal*.

¹⁴³ LOSC art 53; Rothwell et al, above n 22.

¹⁴⁴ *Ibid*; This definition is referred to principles 9 to 13 of the 18 Principles for inclusion in archipelagic articles distributed by the Bahamas. These contained several provisions relating to archipelagic sea lanes. It therefore incorporated, with slightly modification, in article 124 of the ISNT/Part II. See 18 Principles for inclusion in archipelagic articles (Bahamas) and A/CONF.62/WP.8/Part II (ISNT, 1975), article 124, IV Off. Rec. 152, 169 (Chairman, Second Committee).

¹⁴⁵ Satya N. Nandan and Shabtai Rosenne (eds), *United Nations Convention on the Law of the Sea 1982: A Commentary Volume II* (Martinus Nijhoff Publishers, 2002).

¹⁴⁶ Rothwell and Stephens, above n 11; Barbara Kwiatkowska, *The 200 Mile Exclusive Economic Zone in the New Law of the Sea* (Dordrecht Martinus Nijhoff, 1989); David Attard, *The Exclusive Economic Zone in International Law* (Oxford University Press, 1987).

¹⁴⁷ The 200 nautical miles distance of the EEZ is mainly influenced by 'patrimonial sea' that contains the maximum breadth of the sea zone (for economic purpose) which is 200 nautical miles.

have claimed an EEZ to the 200 nautical miles limit, and many have passed legislation applicable in these waters with reference to the Convention.¹⁴⁸ With respect to the use of baselines in measuring the breadth of the EEZ, other provisions on normal, straight and archipelagic baselines shall be taken into account. For an archipelagic state like Indonesia, the regime of archipelagic baselines provided in Article 47 allows for an EEZ to be claimed from archipelagic baselines determined in accordance with Part IV of the Convention.

Within the EEZ, the LOSC outlines that the coastal state has 'sovereign rights for the purpose of exploring, exploiting, conserving and managing natural resources of the seabed, subsoil and water column'.¹⁴⁹ The coastal state also has jurisdiction in relation to artificial islands, structures, marine scientific research and environmental protection.¹⁵⁰ The LOSC provides that all states enjoy the freedoms identified in Article 87 particularly of navigation, within the EEZ.¹⁵¹

Article 58(2) specifies that several provisions in the LOSC relating to the high seas apply within the EEZ to the extent that they are compatible with Part V, specifically on issues such as the nationality of ships,¹⁵² the duties of flag states and piracy.¹⁵³ The rights of navigation in the EEZ are not as extensive as those exercisable on the high seas. In this respect, the coastal State may pass, for example, pollution control legislation in accordance with international law, and take effective measures to enforce the legislation within its EEZ.¹⁵⁴

¹⁴⁸ See Part V of the LOSC on the EEZ; for summary of national legislations on the EEZ see Rothwell and Stephens above n 11.

¹⁴⁹ LOSC art 56.

¹⁵⁰ Ibid.

¹⁵¹ Ibid art 58; See article 87 on freedom of the high seas which covers, among other matters, (a) freedom of navigation, (b) freedom of overflight, (c) freedom to lay submarine cables and pipelines, subject to Part VI, (d) freedom to construct artificial islands and other installations permitted under international law, subject to Part VI, (e) freedom of fishing, subject to section 2, and (f) freedom of scientific research, subject to Parts VI and XIII; Worth noting that art 58(3) provides limitation on this right by stating: 'in exercising their rights and performing their duties under this Convention in the EEZ, States shall have due regard to the rights and duties of the coastal State and shall comply with the laws and regulations adopted by the coastal State in accordance with the provisions of this Convention and other rules of international in so far as they are not incompatible with this Part.

¹⁵² Ibid art 92.

¹⁵³ Ibid art 94.

¹⁵⁴ Ibid arts 101-108.

The high seas are parts of the sea that are not included in the EEZ, in the territorial sea or in the internal waters of a state, or in the archipelagic waters of an archipelagic state.¹⁵⁵ They are open for all states to use and enjoy. Article 87 of the LOSC lists freedom of navigation as one of the freedoms of the high seas. The list in Article 87 is an extended version of the list found in the *High Seas Convention*.¹⁵⁶

The freedom of navigation in the high seas is highly important for ships including tankers transporting oil and gas. This freedom reflects considerable state practice and customary international law.¹⁵⁷ It is notable that ships enjoying freedom of high seas navigation are expected to fly a flag showing their nationality and are subject to the jurisdiction of the flag state whilst on the high seas.¹⁵⁸ Moreover, ships may be bound to comply with a number of relevant international conventions including SOLAS, MARPOL and COLREG. Finally, several other limitations upon the freedom of high seas navigation outlined by the Convention are procedures for penal jurisdiction arising from collisions or other navigational incidents on the high seas, transportation of slaves, piracy, drug trafficking and unauthorised high seas broadcast.¹⁵⁹

2.3.1.2. LOSC Provisions Relating to Marine Pollution from Ships

In connection with the operation of tankers, the LOSC also contains provisions on marine pollution from ships. The LOSC made significant changes and addresses comprehensive matters related to marine pollution from ships.¹⁶⁰ It accords considerably with existing customary and conventional law including the

¹⁵⁵ Ibid art 86; This definition acts as an introduction to Part VII (the High Seas) and indicates where this Part apply. It also provides a link to Part V (the EEZ) where the freedoms enjoyed by all States in the EEZ in accordance with article 58 are not abridged by article 86 of the LOSC. There is the unity of the oceans and preserves the rights and interests of all States in the EEZ; See Satya N. Nandan and Shabtai Rosenne (eds), *United Nations Convention on the Law of the Sea 1982: A Commentary Volume III* (Martinus Nijhoff Publishers, 2002), 60-61.

¹⁵⁶ Ibid art 87; See note 29; Stuart Kaye, 'Freedom of Navigation in the Indo-Pacific Region' (2008) 22 *Australian Maritime Affairs* 2-15.

¹⁵⁷ See for example the International Court of Justice judgment on the *Corfu Channel* case (*United Kingdom v Albania*) (*Judgment*) [1949] ICJ Rep 4.

¹⁵⁸ LOSC art 94; See the Permanent Court of International Justice decision on the *Lotus* case (*France v Turkey*) (*decision*) [1927] PCIJ Rep ser A no 10.

¹⁵⁹ Ibid arts 97, 99, 100, 101-109; Churchill and Lowe, above n 11, 206-208.

¹⁶⁰ Birnie, Boyle and Redgewell, above n 50.

emphasis on 'generally accepted international rules and standards'. Discussion on the international legal frameworks for marine pollution from ships will be presented in Chapter Four of this thesis. Nonetheless, several salient features of the LOSC provisions on marine pollution will be dealt with briefly in the following paragraphs.

In dealing with marine pollution from ships, the Convention makes three allocations of state jurisdiction: coastal state, flag state and port state. Article 2 of the LOSC makes a clear statement that the coastal state enjoys sovereignty in its internal waters and in the territorial sea, and with it the power to apply domestic law. Consequently, the regulation of marine environmental protection within these maritime zones has been assumed or asserted in national legislation and in treaties on dumping or pollution from ships.¹⁶¹ Such legislation and treaties must be in conformity with the Convention and other rules of international law.¹⁶²

Within the EEZ, the coastal state has sovereign rights over living and mineral resources, and jurisdiction over the protection and preservation of the marine environment.¹⁶³ The coastal state acquires responsibility for regulating pollution from activities within the EEZ. Its regulatory jurisdiction over vessels is limited to the application of international rules for enforcement purposes only.¹⁶⁴ MARPOL and other applicable relevant instruments adopted by the IMO may represent such international rules. In the exercise of sovereign rights and jurisdiction, the

¹⁶¹ Ibid, 414.

¹⁶² LOSC art 21; Hence, article 24 of the LOSC also mentions that when it comes to the enforcement measure on marine pollution from ships there is exist certain limitations particularly in the territorial waters i.e. close its territorial sea to foreign oil and gas tankers in innocent passage even where the tankers' cargo presents a significant environmental risk. Nevertheless, the coastal State has a right to impose certain precautionary measures to minimise the risk for instance by requiring tankers to carry certificate and to limit their routes to specified sea lanes, see LOSC arts 22(2) and 23.

¹⁶³ LOSC art 56.

¹⁶⁴ Ibid arts 208, 210, 211(5 and 6).

coastal state must have due regard for the rights and duties of other states, including the right of freedom of navigation.¹⁶⁵

As for the flag state, the LOSC defines duties of such states, in relation to the prevention and protection of marine environment from pollution by ships, through a number of provisions. Article 211 of the Convention makes a clear statement in setting the relevant international standards such as SOLAS and MARPOL as an obligatory minimum. Article 217 requires flag states to take measures necessary for the implementation and effective enforcement of international rules and standards. These include the certification and inspection procedures instituted by rules and standards such as SOLAS and MARPOL. It also reiterates the obligation of flag states to investigate violations and bring appropriate proceedings, and to act on the request of other states where a violation is reported.

The third allocation of state jurisdiction with regard to marine pollution lies with the port state. According to the Convention, the port state acquires power to investigate and prosecute discharge violations over a vessel within a port or at an off-shore terminal.¹⁶⁶ The port State may only act if the State concerned makes a request on discharge violations.¹⁶⁷ In other words, the decision remains with the flag state as to whether the proceedings by the port state are allowed or not.¹⁶⁸

2.3.2. SOLAS

The SOLAS Convention is one of the most important international treaties concerning the safety of merchant ships that has been produced by the international community. Originally, the first version of SOLAS was adopted in 1914 as a legal response to the Titanic disaster.¹⁶⁹ Since then, there have been a

¹⁶⁵ For further discussion see Tan above n 118, Louise de La Fayette, 'The Marine Environment Protection Committee: The Marine Environment Protection Committee: The Conjunction of the Law of the Sea and International Environmental Law' (2001) 16 *The International Journal of Marine and Coastal Law* 194; M'Gonigle and Zacher, *Pollution, Politics and International Law: Tankers at Sea* (University of California Press, 1979).

¹⁶⁶ LOSC art 18.

¹⁶⁷ Ibid.

¹⁶⁸ Birnie, Boyle and Redgewell, above n 50, 422-423.

¹⁶⁹ International Maritime Organization (IMO), *History of SOLAS* <<http://www.imo.org/en/KnowledgeCentre/ReferencesAndArchives/HistoryofSOLAS/Pages/defa>

number of developments that led to the adoption of subsequent versions of SOLAS. The present version of SOLAS was adopted in 1974 and entered into force in 1980.¹⁷⁰ The Convention is considered to be the mother of the maritime safety system.¹⁷¹

SOLAS influences considerably the operation of tankers in various spectrums. SOLAS contains technical rules concerning many aspects including construction of ships,¹⁷² saving appliances and arrangements,¹⁷³ radio communications,¹⁷⁴ navigation,¹⁷⁵ carriage of dangerous goods,¹⁷⁶ safety management,¹⁷⁷ and special measures on maritime safety and security.¹⁷⁸ Principally, there are four parts of SOLAS that are highly related to tankers: chapter II-1 and 2 concerning construction; chapter VII concerning carriage of dangerous goods; chapter IX concerning management for the safe operation of ships; and chapter XI concerning special measures to enhance maritime safety and security.

ult.aspx>; IMO, *Surviving disaster-The Titanic and SOLAS* <<http://www.imo.org/en/OurWork/Safety/Regulations/Documents/TITANIC.pdf>>.

¹⁷⁰ The International Convention for the Safety of Life at Sea (SOLAS), 1974, currently in force, was adopted on 1 November 1974 by the International Conference on Safety of Life at Sea, which was convened by IMO, and entered into force on 25 May 1980. It has since been amended twice by means of protocols: (i) by the Protocol adopted on 17 February 1978 by the International Conference on Tanker Safety and Pollution Prevention (1978 SOLAS Protocol), which entered into force on 1 May 1981; and (ii) by the Protocol adopted on 11 November 1988 by the International Conference on the Harmonized System of Survey and Certification (1988 SOLAS Protocol), which entered into force on 3 February 2000 and replaced and abrogated the 1978 Protocol, as between Parties to the 1988 Protocol.

In addition, the 1974 SOLAS Convention has been amended by means of resolutions adopted either by IMO's Maritime Safety Committee (MSC) in its expanded form specified in SOLAS article VIII or by Conferences of SOLAS Contracting Governments, also specified in article VIII. The 1974 SOLAS Convention has recently been amended by resolutions MSC.350(92), MSC.365(93) and MSC.366(93) which would enter into force on 1 January 2015, 1 January 2016 and 1 January 2016, respectively, subject to their acceptance in accordance with article VIII(b)(vi)(2)(bb) of the Convention.

¹⁷¹ It is assumed that maritime safety system means the system that ensures safety at sea which cover safety of human life and property at sea, and prevention of pollution of maritime environment from ships. It is composed of the elements: (a) Law-making institutions including the IMO and its organs, (b) International maritime legal instruments such as conventions, regulations and other frameworks, (c) Operational institutions, and (d) users of the sea. (See Z. Kopacz, W. Morgaś and J. Urbański, 'The Maritime Safety System, its Main Components and Elements' (2001) 2 *The Journal of Navigation* 201).

¹⁷² SOLAS chapters II-1 and II-2.

¹⁷³ Ibid chapter III.

¹⁷⁴ Ibid chapter IV.

¹⁷⁵ Ibid chapter V.

¹⁷⁶ Ibid chapter VII.

¹⁷⁷ Ibid chapter IX.

¹⁷⁸ Ibid chapter XI.

Chapter II of SOLAS comprises two sections, chapter II-1 and chapter II-2. The first outlines requirements with which tankers should comply: having means to gain safe access to the bow even in unfortunate weather conditions; emergency towing arrangements at both ends of the ship; and a permanent means of access to enable inspections and measurement of the ship's structural thickness. Chapter II-1 also requires that ships shall be designed to be safe and environmentally friendly. Chapter II-2 focuses on rules for ships' fire protection. The chapter obliges tankers of 20,000 tonnes dwt and upwards to use a fixed inert gas system in order to protect the cargo tanks.¹⁷⁹

Chapter VII of SOLAS contains rules on the carriage of dangerous goods, which apply to carriers of gas. One of the key features of this chapter is the requirement for a gas carrier to comply with the International Gas Carrier (IGC) Code including its survey and certification procedures.¹⁸⁰ Chapter IX of the Convention refers to the International Safety Management (ISM) Code for all ships covered by this chapter.¹⁸¹ It also highlights the possession and the issuance mechanism for Documents of Compliance as required by the ISM Code. Finally, Chapter XI requires oil tankers to have an enhanced programme of inspections in accordance with IMO resolutions.¹⁸²

¹⁷⁹ The International Code for Fire Safety System (FSS Code) 2015 Edition, IMO publishing. See Koichi Yoshida, *Fire Safety ISO Standards in ISOTC 92SC1* <http://www.transfeu.eu/fileadmin/user/pdf/TRANSFEU_to_IMO_and_ISO_K_Yoshida.pdf>.

¹⁸⁰ SOLAS chapter VII regulation 13.

¹⁸¹ IMO, *ISM Code and Guidelines on Implementation of the ISM Code* <<http://www.imo.org/en/OurWork/HumanElement/SafetyManagement/Pages/ISMCode.aspx>>; See Resolution MSC.104(73) (adopted on 5 December 2000) concerning Adoption of Amendments to the International Safety Management (ISM) Code <[http://www.imo.org/en/OurWork/HumanElement/SafetyManagement/Documents/104\(73\).pdf](http://www.imo.org/en/OurWork/HumanElement/SafetyManagement/Documents/104(73).pdf)>.

¹⁸² See IMO resolutions A.744(18), MSC/Circ.655 on guidance for planning the enhanced programme of inspections surveys of bulk carriers and oil tankers and MSC/Circ.686, guidelines on the means of access to structures for inspection and maintenance of oil tankers and bulk carriers.

2.3.3. MARPOL

Besides SOLAS, MARPOL is another key legal instrument for the operation of tankers. The Convention was adopted in 1973¹⁸³ and was followed by a substantial amendment in 1978 to expedite its entry into force, through the 1978 Protocol.¹⁸⁴ It principally aimed at preventing and minimizing pollution from ships, both accidental and from routine operations. Today MARPOL is the pre-eminent international framework designed to prevent pollution from almost all activities that may arise from ship operation.¹⁸⁵ Although deeper analysis of MARPOL provisions on oil and gas carrier activities will appear in Chapter Four of this thesis, this section outlines several key features of the Convention that relate to tanker operations.

MARPOL regulates the prevention of oil pollution by tankers over 150 GT and other vessels over 400 GT through Annex I. It contains provisions that specify 'any discharge into the sea of oil or oily mixtures from oil tankers shall meet with the conditions as provided on this Convention'.¹⁸⁶ Among these conditions include that: the tanker must not be within a special area; the tanker shall be positioned at a distance of more than 50 nautical miles from the nearest land; it shall proceed *en route*; and the instantaneous rate of discharge of oil content

¹⁸³ MARPOL has much influenced by the previous International Convention for Oil Pollution (OILPOL 1954). The 1954 OILPOL Convention, which entered into force on 26 July 1958, attempted to tackle the problem of pollution of the seas by oil - defined as crude oil, fuel oil, heavy diesel oil and lubricating oil. Although the 1954 OILPOL Convention went some way in dealing with oil pollution, growth in oil trade and developments in industrial practices were beginning to make it clear that further action, was required. Nonetheless, pollution control was at the time still a minor concern for IMO, and indeed the world was only beginning to wake up to the environmental consequences of an increasingly industrialised society.

¹⁸⁴ In 1978, an international conference on Furthermore, the Conference, held in 1978, adopted a Protocol to the 1973 MARPOL Convention. This Protocol made a number of changes to Annex I namely the introduction of segregated ballast tanks (SBT) which are required to all new tankers of 20,000 dwt and above; requirement of SBTs which have to be protectively located; and introduction of crude oil washing (COW), which under this system tanks are washed not with water but with crude oil. The 1978 protocol also comprehends thirty regulations in seven chapters in relation to oil pollution from ships. These regulations covered areas as follows: general definitions and applications' surveys and certification; flag administration and Port State Control (PSC); ship construction; discharge control and equipment (for oil tankers) shipboard oil pollution emergency plan (SOPEP); reception facilities; and Floating Production Storage and Offloading Facilities or Floating Storage Units (FPSOs and FSUs). Accordingly, the main principle found in those regulations is that all discharges prohibited unless certain criteria have been satisfied.

¹⁸⁵ See Birnie, Boyle and Redgwell above n 14, 403-408; Tan above n 28, 126-155.

¹⁸⁶ MARPOL 73/78, Annex I, Regulation 9.

must not exceed 30 litres per nautical mile. In order to ensure any discharge of oil or oil mixtures occurs in the proper way, the government of each party must operate reception facilities at loading terminals, repair ports, and in other ports.¹⁸⁷

Annex I of MARPOL requires new oil tankers of 20,000 tons dwt and above, and every new product carrier of 30,000 tons dwt and above, to be equipped with segregated ballast tanks (SBT) and to comply with the provisions of these regulation.¹⁸⁸ It also establishes a regime governing: (i) oil tankers with dedicated clean ballast tanks; (ii) crude oil washing; (iii) existing tankers engaged in specific trades; (iv) existing oil tankers having special ballast arrangements; (v) protective location of segregated ballast spaces; and (vi) prevention of oil pollution in the event of collision or stranding.

Regulation 16 of the Annex includes obligations for any ships of 400 tons gross tonnage and above but less than 10,000 tons gross tonnage to be fitted with oil filtering equipment.¹⁸⁹ The regulation allows the government of the flag state to waive these requirements for any ships engaged exclusively on special areas voyages under certain conditions, such as - the ship is fitted with a holding tank having a volume adequate for total oil retention, and provided it satisfies the government.¹⁹⁰ Another MARPOL regulation describes that every ship of 400 tons gross tonnage and above shall have a tank or tanks of adequate capacity.¹⁹¹ Finally, every oil tanker of 150 gross tonnage and above shall be provided with an Oil Record Book Part I (Machinery Space Operations) and Part II (Cargo/Ballast Operations) as required by Regulation 20.

¹⁸⁷ Ibid, reg 12.

¹⁸⁸ Ibid, reg 13.

¹⁸⁹ For any ship of 10,000 tons gross tonnage and above, the filtering equipment shall be coupled with alarm and automatically stopping discharge arrangements; See regulation 16 of Annex I.

¹⁹⁰ Worth noting that the Government shall take into consideration the recommendation of the IMO on the specification of oil filtering.

¹⁹¹ Ibid, reg 17; In addition, the tanks of any new ship shall be designed and constructed so as to facilitate their cleaning and discharge of residues to reception facilities.

2.3.4. Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGS)

The COLREGS Convention was adopted on 20 October 1972 and entered into force on 15 July 1977. It was designed to update and replace the Collision Regulations of 1960. The Convention is applicable to all vessels, including oil tankers, upon the high seas and in all waters connected therewith which are navigable by seagoing vessels.¹⁹² The COLREGS comprise nine articles and 38 rules, which are divided into five sections namely Part A (General); Part B (Steering and Sailing Rules); Part C (Lights and Shapes); Part D (Sound and Light Signals); and Part E (Exemptions). Additionally, there are four Annexes regulating technical matters related to lights and shapes and their positioning, sound signalling appliances, additional signals for fishing vessels when operating in close proximity, and international distress signals.¹⁹³

The Convention does not specifically contain rules and provisions concerning oil and gas tankers, but it establishes requirements relevant to ships in general. Among these requirements are that every vessel at all times must: maintain a proper look-out by sight and hearing;¹⁹⁴ proceed at a safe speed;¹⁹⁵ and comply with rules on action to avoid collisions.¹⁹⁶ COLREGS also specifies through Rule 9 that a vessel proceeding along the course of a narrow channel or fairway is obliged to keep 'as near to the outer limit of the channel or fairway which lies on her starboard side as is safe and practicable.' One of the most important features of COLREGS is the rule concerning traffic separation schemes (TSS). Rule 10 provides guidance in determining safe speed, the risk of collision and the conduct of vessels operating in or near a TSS.

¹⁹² COLREGS part A rule 1; IMO, *Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGS)*

<<http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/COLREG.aspx>>.

¹⁹³ Ibid annexes I-IV.

¹⁹⁴ Ibid part B rule 4.

¹⁹⁵ Ibid rule 5.

¹⁹⁶ Ibid rule 8.

2.3.5. International Convention on Load Lines, 1966

The Load Lines Convention focuses on the freeboard of ships division and damage stability calculations. It comprises provisions on the potential hazards in various zones and in different seasons.¹⁹⁷ The Convention also contains an annex regulating safety measures with respect to doors, freeing ports, hatchways and other items. In principle, the purpose of the Load Lines Convention is to ensure the safety of life and property at sea through the watertight integrity of ships' hulls below the freeboard deck.¹⁹⁸ Although there is no particular regulation in the Load Lines Convention devoted to tankers, the Convention's role is to set a standard applicable to wide-ranging types of ships including oil and gas carriers.¹⁹⁹

2.4. Important Legal Developments Relevant to Offshore Installations and Tankers

2.4.1. The Comité Maritime International (CMI) Draft Conventions

The legal regime for offshore installations under the frameworks of the CMI and the IMO involves a wide spectrum of international instruments from multilateral agreements, to technical guidelines, and a draft convention. This section highlights the legal definition and status of offshore oil and gas installations offered by the CMI and IMO frameworks such as the *2001 CMI Draft Convention on Offshore Units, Artificial Islands and Related Structures Used in the Exploration for and Exploitation of Petroleum and Seabed Mineral Resources*; SOLAS; the London Convention; the *1989 IMO Resolution No. A.671(16) on Safety Zones and Safety of Navigation around Offshore Installations and Structures*²⁰⁰ and others.

¹⁹⁷IMO, *International Convention on Load Lines, 1966* <<http://www.imo.org/en/OurWork/Safety/StabilityAndSubdivision/Pages/LoadLines.aspx>>; International Association of Classification Societies (IACS), *Interpretations of the International Convention on Load Lines, 1966* <http://www.iacs.org.uk/document/public/Publications/Unified_interpretations/PDF/UI_LL_pdf1700.pdf>.

¹⁹⁸ Load Lines Convention, intro.

¹⁹⁹ Ibid art 4.

²⁰⁰ International Maritime Organisation (IMO), Resolution A.671 (16) (19 October 1989).

2.4.1.1. The 1977 Draft Convention on Offshore Mobile Craft and the 1994 Draft Convention on Offshore Mobile Craft

The CMI developed a *Draft Convention on Offshore Mobile Craft* in 1977 at its XXXIst International Conference in Rio de Janeiro, Brazil.²⁰¹ This draft, known as the 'Rio Draft', was aimed at applying the regulations of existing maritime conventions on various matters such as arrest,²⁰² collisions,²⁰³ mortgages,²⁰⁴ oil pollution,²⁰⁵ and salvage²⁰⁶ to any offshore installations or craft of any nature.²⁰⁷

The Draft Convention defines the term 'craft' as:

Any marine structure of whatever nature not permanently fixed into the seabed which is (a) capable of moving or being moved whilst floating in or on water, whether or not attached to the seabed during operations, and (b) is used or intended for use in the exploration, exploitation, processing, transport or storage of the mineral resources of the sea-bed or its subsoil or in ancillary activities.²⁰⁸

The Draft was not developed further until early 1990s by the IMO. This was principally due to the fact that there was less demand for offshore oil developments. At that time, the international interest in global energy prices considerably reduced following the low prices of oil. Moreover, a number of other more urgent subjects were introduced to the IMO agenda and superseded the Rio Draft discussion.²⁰⁹

At the 63rd session of the IMO Legal Committee held in September 1990, the Committee decided to request the IMO Secretariat to contact the CMI with a

²⁰¹ See CMI Yearbook. CMI: Antwerp, 1977 as cited in Canadian Maritime Law Association, 'Background Paper for an International Convention on Offshore Units, Artificial Islands and Related Structures Used in the Exploration for and Exploitation of Petroleum and Seabed Mineral Resources' (Background Paper, CMI Yearbook, 1994) 186.

²⁰² *CMI Draft Convention on Offshore Mobile Craft*, adopted in September 1977, IMO Doc LEG/34/6(b), 19 December 1977, (not yet in force) art 4 ('Rio Draft').

²⁰³ Ibid art 2.

²⁰⁴ Ibid art 6.

²⁰⁵ Ibid art 7.

²⁰⁶ Ibid art 3.

²⁰⁷ Esmaeili, above n 7.

²⁰⁸ Rio Draft art 1; See Martin Rémond-Gouilloud, 'Pollution from Seabed Activities' in Douglas Johnston (ed), *The Environmental Law of the Sea* (1981) 245, 257 as cited in Chester Brown 'International Environmental Law in the Regulation of Offshore Installations and Seabed Activities: the Case for A South Pacific Regional Protocol' (1998) 17 *Australian Mining and Petroleum Law Journal*, 114.

²⁰⁹ Canadian Maritime Law Association, 'Background Paper for an International Convention on Offshore Units, Artificial Islands and Related Structures Used in the Exploration for and Exploitation of Petroleum and Seabed Mineral Resources' (Background Paper, CMI Yearbook, 1994) 186.

view to having the CMI prepare an updated version of the Rio Draft, in the light of developments since the draft convention was approved in 1977.²¹⁰ The CMI Executive Council accepted the need to prepare an update of the draft convention based on its questionnaire, which it submitted to the Member Associations.²¹¹ Hence, an updated draft was submitted to the CMI for consideration at the CMI 35th International Conference in Sydney, 2-8 October 1994.²¹²

The Sydney Draft contained several modifications of the Rio Draft, as it incorporated the new or revised international maritime conventions adopted since 1977. Examples of these conventions include the *International Convention on Maritime Liens and Mortgages 1993*,²¹³ the *United Nations Convention on Conditions for Registration of Ships 1986*,²¹⁴ and the *1976 and 1992 Protocols of the CLC Convention on Oil Pollution*.²¹⁵ This Draft (the Sydney Draft Convention on Mobile Offshore Craft) was unanimously approved by the Conference which attended by 29 Member Associations. Nevertheless, the Sydney Draft was deficient and adopted with strong reservations by the Member Associations.²¹⁶ Subsequently the Conference resolved that 'the CMI establish a working group for the further study of, and development of where appropriate, an international convention of offshore units and related matters.'²¹⁷

²¹⁰ Ibid.

²¹¹ 'Final Report of the Chairman of the International Sub-Committee' (1994) *CMI Yearbook 1994*.

²¹² *CMI Draft International Convention on Offshore Mobile Craft*, approved on October 6, 1994 (not yet in force) ('Sydney Draft').

²¹³ Ibid art 6.

²¹⁴ Ibid.

²¹⁵ Ibid art 7.

²¹⁶ Michael White 'Offshore Craft and Structure: A Proposed International Convention' (1999) 18 *Australian Mining and Petroleum Law Journal* 21, 22.

²¹⁷ During the 1994 CMI Conference, the Canadian Maritime Law Association (CMLA) submitted a working paper explaining that the CMLA could not support the Rio Draft approach taken by the Sub-Committee. Based on such working paper, known as 'Background Paper for an International Convention on Offshore Units, Artificial Islands and Related Structures Used in the Exploration for and Exploitation of Petroleum and Seabed Mineral Resources'; Canadian Maritime Law Association above n 49.

2.4.1.2. The 2001 Draft Convention on Offshore Units, Artificial Islands and Related Structures Used in the Exploration for and Exploitation of Petroleum and Seabed Mineral Resources

Following the establishment of a working group and its work on the principles for the development of a draft convention (as published in the 1996 CMI Yearbook), the CMLA presented the draft convention for consideration by the international community.²¹⁸ This draft convention, which was published in May 2001, was entitled *Convention on Offshore Units, Artificial Islands and Related Structures Used in the Exploration for and Exploitation of Petroleum and Seabed Mineral Resources*. It was a comprehensive draft, which included ownership,²¹⁹ registration,²²⁰ mortgages,²²¹ safety,²²² civil and penal jurisdiction, and salvage,²²³ removal,²²⁴ pollution and limitation of liability.²²⁵

Article 1 of the 2001 Draft Convention differentiates the term 'offshore unit' from 'artificial island'. According to this Article, offshore unit:

shall mean any structure of whatever nature when not permanently fixed into the seabed which (i) is capable of moving or being moved while floating in or on water, whether or not attached to the sea bed during operations, (ii) is used or intended for use in Economic Activities, and (iii) includes units used or intended for use in the accommodation of personnel and equipment related to the activities described in this paragraph (paragraph 1.1).

This definition excluded pipelines, particularly in respect to artificial islands.²²⁶

The 2001 Draft Convention contains the most comprehensive regulations to date in international conventions dealing with the offshore units, artificial islands and related structures used in the exploration and exploitation of hydrocarbon resources.²²⁷

²¹⁸ *CMI Draft Convention on Offshore Units, Artificial Islands and Related Structures Used in the Exploration for and Exploitation of Petroleum and Seabed Mineral Resources*, published on May, 2001 (not yet in force) ('Canadian Draft'); See *CMI News Letter*, No. 1, 2004, 3-13.

²¹⁹ *Ibid* art III.

²²⁰ *Ibid* art IV.

²²¹ *Ibid* art V.

²²² *Ibid* art VIII.

²²³ *Ibid* arts VI, VII and IX.

²²⁴ *Ibid* art X.

²²⁵ *Ibid* arts XI and XIII.

²²⁶ *Ibid* art 1; *CMI News Letter*, No. 1, 2004, 4.

²²⁷ Jacqueline Allen 'A Global Oil Stain - Cleaning Up International Conventions for Liability and Compensation for Oil Exploration/Production' (2011) 25 *Australia and New Zealand Maritime Law Journal*, 91.

In the wake of the incidents of the *Deepwater Horizon*²²⁸ and the *Montara*,²²⁹ both the CMI and the IMO Legal Committee have expressed in principle support for continuing discussions to consider the adoption of an international legal framework concerning offshore oil and gas installations activities, particularly with respect to liability and compensation issues connected with transboundary pollution damage from such activities. However, there is a significant debate over whether the IMO is the right organization to carry this subject forward or whether other international bodies such as the International Seabed Authority (ISA) and United Nations Environment Programme (UNEP) are more suitable institutions. At the 97th Session of the IMO Legal Committee, which met in September 2010, the Indonesian delegation submitted a proposal on the issue of liability and compensation for oil pollution damage resulting from offshore exploration and exploitation activities.²³⁰ It is suggested that the Committee could consider such proposal and develop a new instrument to cover liability and compensation for damage resulting from offshore oil activities.²³¹

After deliberation among the states, the Committee recognised that bilateral and regional arrangements were the most appropriate way to address this matter, and that there was no compelling need to develop an international convention on this subject.²³² Finally, the CMI held an international colloquium and assembly

²²⁸ The *Deepwater Horizon* incident was occurred in 2010 and located 66 km off the coast of Louisiana, the Gulf of Mexico. The incident was caused 11 workers killed and 17 injuries. It was estimated by the US government-commissioned panel of scientist that 4.9 million barrels of oil leaked into the Gulf of Mexico.

²²⁹ The *Montara rig* leaked in 2009 and located about 250 km off the north-west coast of Australia, south-east of Timor Leste (East Timor) and east of Indonesia. It was estimated that 500,000 litre of crude oil leaked into the Timor Sea daily from the incident.

²³⁰ Report of the Legal Committee on the Work of its Ninety-Seventh Session (LEG 97/15 1 December 2010); Report of the Legal Committee on the Work of its Ninety-Eight Session (LEG 98/13 1 February 2011); Damos Dumoli, 'Designing New Scheme of Liability and Compensation Regime cause by Transboundary Oil Spill resulting from Offshore Exploration and Exploitation Activities' (Paper presented at the CMI International Colloquium and Assembly, Istanbul, Turkey, 8 June 2015).

²³¹ Proposal to add a new work program item to address liability and compensation for oil pollution damage resulting from offshore oil exploration and exploitation, submitted by Indonesia (LEG 97/14/1 10 September 2010); Nikita Scicluna, 'A Legal Discussion on Civil Liability for Oil Pollution Damage resulting from Offshore Oil Rigs in the Light of the Recent *Deepwater Horizon* Incident' (Mediterranean Action Plan UNEP (DEPI)/MED WG.384/INF.6, United Nations Environment Program (UNEP), 6 June 2013) 31-33.

²³² Report of the Legal Committee on the Work of its Ninety-Ninth Session (LEG 99/14 24 April 2012); Julien Rochette, 'Towards an International Regulation of Offshore Oil Exploitation'

in 2015, with one of the agendas to discuss the development of offshore drilling regulation and liabilities. However, due to the nature of this event as a seminar rather than a formal meeting session, no significant decision resulted from this forum. It was agreed by the participants that the CMI International Working Group would continue its work with the IMO Intersessional Correspondence Group to improve drafts of Guidance on issues of pollution from offshore activities.²³³

2.4.2. Adoption of the International Code for Ships Operating in Polar Waters

An important development in relation to the legal framework governing tankers can be found in the adoption of the *International Code for Ships Operating in Polar Waters* (Polar Code) by the IMO in November 2014.²³⁴ The IMO has adopted the Polar Code and related amendments to make them mandatory under both the SOLAS and MARPOL.²³⁵ They are expected to enter into force on 1 January 2017. As described by the Organization, the Code contains a wide range of requirements with regard to ship structure, subdivision and stability, fire safety/protection, safety of navigation and communication.²³⁶ The Code is applicable to various types of ships operating in the two poles. However, in addition to general provisions for ships in broader term, there are certain specific provisions dedicated to oil tankers.

(Working Paper No. 15, Institut du Développement Durable et des Relations Internationales (IDDRI), 12 July 2012) 8.

²³³ *CMI News Letter*, No. 1-3, 2015, 23.

²³⁴ The Polar Code and SOLAS amendments were adopted during the 94th session of IMO's Maritime Safety Committee (MSC) in November 2014; See Media Centre, *Shipping in polar waters Adoption of an international code of safety for ships operating in polar waters (Polar Code)* (2016) International Maritime Organization <<http://www.imo.org/en/mediacentre/>>.

²³⁵ According to the preamble of the Polar Code, the Code 'has been developed to supplement existing IMO instruments in order to increase the safety of ships' operation and mitigate the impact on the people and environment'. These existing IMO instruments comprise of SOLAS and MARPOL. Therefore, it may be imposed additional requirements beyond the existing one of the SOLAS, MARPOL as well as other relevant IMO instruments for ships operate in polar waters.

²³⁶ *International Code for Ships Operating in Polar Waters (Polar Code)*, adopted in November 2014 (not yet in force) chapters 3, 4, 7, 9 and 10; See Robert Beckman and Zhen Sun, 'The Development of the Polar Code & Challenges to Its Implementation' (Paper presented at International Symposium on "Global Common and the Law of the Sea", Hangzhou, 22-23 June 2015); J. Ashley Roach, 'The Polar Code and Its Adequacy: Warts and Omissions' (Paper presented at CIL-JCLOS Conference on Governance of Arctic Shipping, Singapore, 9-11 December 2015) for further general analysis on the Code.

The Code includes general requirements that apply to all ships, including tankers. First, in relation to ship safety, the Polar Code requires all ships to comply with several matters as follow (i) ships shall have equipment such as ice removal and specific standard of clothing;²³⁷ (ii) requirements on design and construction of ship including special materials and structure;²³⁸ and (iii) operations and manning, as well as requirements to obtain polar ship certificate and special training for ship officers or crews.²³⁹ Second, the Code also sets out provisions relating to marine environmental protection which are included under Part II-A of the Polar Code. The Code specifies that any discharge of oil or oily mixtures from any ship into the sea shall be prohibited.²⁴⁰ The Code also requires all oil fuel tanks at ship shall be separated from the outer shell by a distance not less than 0.76 metre.²⁴¹

The Code defines 'tanker' to mean oil tankers as defined in SOLAS regulation II-1/2.22,²⁴² and gas carrier as defined in SOLAS regulation VII/11.2.²⁴³ The Code requires that for oil tankers less than 5,000 tonnes deadweight constructed on or after 1 January 2017, the entire cargo tank of such tankers shall be protected with double bottom spaces complying with the applicable requirements as regulated by MARPOL Annex I.²⁴⁴ In addition, the cargo tank shall also be protected with wing tanks arranged in accordance with regulation of MARPOL Annex I.²⁴⁵

²³⁷ Polar Code chapter 4.

²³⁸ Ibid chapter 3.

²³⁹ Ibid chapter 12.

²⁴⁰ Ibid part II-A.

²⁴¹ Ibid.

²⁴² According to SOLAS, an oil tanker is the oil tanker defined in regulation 1 of Annex 1 MARPOL. In this regard, Annex I of MARPOL explains that 'Oil tanker means a ship constructed or adapted primarily to carry oil in bulk in its cargo spaces and includes combination carriers..'

²⁴³ Regulation VII/11.2 of SOLAS defines gas carrier as a cargo ship constructed or adapted and used for the carriage in bulk of any liquefied gas or other product listed in chapter 19 of the International Gas Carrier Code.'

²⁴⁴ Polar Code part II-A.

²⁴⁵ Ibid.

2.4.3. International Goal-Based Ship Construction Standards for Bulk Carriers and Oil Tankers

Another significant development can be seen in the application of the Goal-Based Standards (GBS) for oil tankers and bulk carriers. The GBS concept was discussed through a series of IMO Assembly, Council and Maritime Safety Committee (MSC) meetings from 2002 to 2006.²⁴⁶ In May 2006, the MSC agreed that the scope of GBS would include bulk carriers and oil tankers and that they would consider expansion to other ship types and areas of safety at a later time.²⁴⁷ Subsequently, the MSC set out that in general there are five-tier systems in relation to GBS work: goals; functional requirements; verification of conformity; rules and regulations for ship design and construction; and industry practices and standards.

In this respect, as for tiers one to three, they became mandatory on 1 January 2012 under the SOLAS regulation II-1/3-10.²⁴⁸ The regulation set out that GBS was applicable to bulk carriers and oil tankers of 150 m in length and above for which the building contract is placed on or after 1 July 2016, the keels of which are laid or which are at a similar stage of construction on or after 1 July 2017, or the delivery of which is on or after 1 July 2020.²⁴⁹

The requirements of the GBS were defined by the SOLAS regulation II-1/3-10 as follows:

²⁴⁶ See *Generic Guidelines for Developing IMO Goal-based Standards* (14 June 2011) <<http://www.imo.org/en/OurWork/Safety/SafetyTopics/Documents/1394.pdf>>; *Focus on IMO-International Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers* (January 2015) <<http://www.imo.org/en/OurWork/Safety/SafetyTopics/Documents/>>; International Maritime Organization (2016) IMO Goal-based standards <<http://www.imo.org/en/OurWork/Safety/SafetyTopics/Pages/Goal-BasedStandards.aspx>>; Heike Hoppe, 'Goal-based Standards-A New Approach to the International Regulation of Ship Construction (2005) 4 *WMU Journal of Maritime Affairs* 2, 169-180; M Huss, 'Status at IMO: Where are we heading with goal-based standards?' (Paper presented at SAFEDOR-the Mid Term Conference, May 2007).

²⁴⁷ *Focus on IMO-International Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers* (January 2015) <<http://www.imo.org/en/OurWork/Safety/SafetyTopics/Documents/>>.

²⁴⁸ *Ibid.*

²⁴⁹ International Maritime Organization (2016) IMO Goal-based standards <<http://www.imo.org/en/OurWork/Safety/SafetyTopics/Pages/Goal-BasedStandards.aspx>>.

Ships shall be designed and constructed to be safe and environmentally friendly for a specified design life, when properly operated and maintained under the specified operating and environmental conditions, in intact and specified damage conditions, throughout their life.

The functional requirement tier system (second tier) comprises fifteen requirements such as design life, which requires ships to be designed for a lifespan of not less than 25 years, special design considerations for the North Atlantic due to environmental conditions, and structural strength requirements, in order for the ship's design to be compatible with purpose.

2.4.4. The Arctic Sunrise Case

The *Arctic Sunrise* Case was a dispute before the International Tribunal of the Law of the Sea (ITLOS) concerning the boarding and detention of the vessel *Arctic Sunrise* in the EEZ by Russia and the detention of the persons on board the vessel by the Russian authorities.²⁵⁰ The *Arctic Sunrise* vessel flew the flag of the Netherlands. The boarding and detention of the *Arctic Sunrise* occurred following the attempt of Greenpeace activists to board the *Prirazlomnaya* oil platform on 18 September 2013.²⁵¹ During the attempt, the *Arctic Sunrise* launched five boats that carried a number of activists and moved in the direction of the *Prirazlomnaya*. These activists then attempted to board the *Prirazlomnaya*. There is no indication the *Arctic Sunrise* itself at any time entered the safety zone around the platform, although it did enter the three-nautical mile zone at one point.²⁵² While in the Netherlands' view, the *Arctic Sunrise* ship was exercising freedom of navigation in the Russian EEZ and the LOSC prohibits the boarding of foreign vessels in the EEZ without the consent from the flag State, Russia invoked a number of grounds to justify boarding the *Arctic Sunrise*, including violation against criminal domestic law, terrorism, and piracy.²⁵³

The focus of this case was the request by the Netherlands to the ITLOS for the prescription of provisional measures under Article 290 (5) of the LOSC. The

²⁵⁰ *The "Arctic Sunrise" Case (Kingdom of The Netherlands and Russian Federation) (Provisional Measures)* [2013] ITLOS Case No. 22.

²⁵¹ Alex G. Oude Elferink, 'The *Arctic Sunrise* Incident: A Multi-faceted Law of the Sea Case with a Human Rights Dimension (2014) 29 *The International Journal of Marine and Coastal Law* 248.

²⁵² *Ibid*, 249-251.

²⁵³ *Ibid*.

Tribunal delivered an order prescribing provisional measures. According to this order, the Russian Federation, *inter alia*, should immediately release the vessel and all persons who have been detained, upon the posting of a bond or other financial security by the Netherlands of 3.6 million euros.²⁵⁴

Although the focus of this case was the request for provisional measures in relation to the prompt release of *Arctic Sunrise* and its crew members, the *Arctic Sunrise* Case contains relevant and valuable lessons on the security of offshore installations. There are at least three features in this case that are related to the thesis: maritime security threats to offshore installation; safety zones around an offshore installation; and enforcement action by the coastal state over infringement of the safety zones. First, with reference to the SUA Protocol, the action of the *Arctic Sunrise* can be categorised as an offence. Article 2(1) of the SUA Protocol provides '[a]ny person commits an offence if that person unlawfully and intentionally seizes or exercises control over a fixed platform by force or threat thereof or any other form of intimidation.'

This legal framework was used by Russia to rebut the Netherlands' claim in respect to the the detention of the *Arctic Sunrise*.²⁵⁵ Mikhail Kashubsky characterizes the *Arctic Sunrise* action by Greenpeace as a civil protest, which can be considered a type of maritime security threat to offshore platforms.²⁵⁶ He observes that interference with offshore oil and gas operations can be caused by non-violent environmental activists, striking workers and anti-government protesters.²⁵⁷ In this regard, two other examples are the recent Seattle protests

²⁵⁴ Eustathia Laina, 'The "Arctic Sunrise" Case', 45 *Environmental Policy and Law* (2015) 268.

²⁵⁵ *Ibid.*

²⁵⁶ See Mikhail Kashubsky, *Protecting Offshore Oil and Gas Installations: Security Threats and Countervailing Measures* (13 August 2013) *Journal of Energy Security* <<http://www.ensec.org/>>; Mikhail Kashubsky, 'A Chronology of Attacks on and Unlawful Interferences with, Offshore Oil and Gas Installations, 1975-2010' (2011) 5 *Perspectives on Terrorism*.

²⁵⁷ *Ibid.*

against Shell's drilling rig (2015)²⁵⁸ and the action of the Greenpeace vessel *Solo* in protesting against the *Ross Rig* in Norway (1993).²⁵⁹

With respect to safety zones around an offshore installation, the LOSC clearly provides that all ships are required to respect these zones as regulated by Articles 60(6) and 58(3) of the Convention. In addition, *International Maritime Organisation (IMO) Resolution A.671(16) concerning safety zones and safety of navigation around offshore installations and structures* also deals with ships navigating in the vicinity of offshore installations.²⁶⁰ Neither the LOSC and IMO Resolution explain explicitly who has jurisdiction to enforce the infringement of safety zones around offshore installations. The coastal state can be seen to be the most appropriate party to enforce safety zones and police their infringement. Article 60(4) and (5) of the Convention stipulates "[t]he coastal State may, where necessary, establish reasonable safety zones around such artificial island, installations and structures" and "[t]he breadth of the safety zones shall be determined by the coastal State, taking into account applicable international standards."

There are many pertinent legal issues arising in the *Arctic Sunrise* case, which could have been explored by the Tribunal. The fact that the Tribunal merely focussed on the Netherlands' request, rather than examining these issues, is most likely due to the absence of Russia as the respondent State. By not participating in the judicial process, Russia presented no opposing evidential and legal basis for the consideration of the Tribunal.²⁶¹

²⁵⁸ See 'Protests in Seattle greet Shell oil rig destined for Arctic drilling', *the Guardian* (online), 14 May 2015 <[https:// www.theguardian.com/us-news/2015/may/15/protests-in-seattle-greet-shell-oil-rig-destined-for-arctic-drilling](https://www.theguardian.com/us-news/2015/may/15/protests-in-seattle-greet-shell-oil-rig-destined-for-arctic-drilling)>.

²⁵⁹ See *Shoot: Shell Ross Oil Rig Action Barents Sea* (26 October 1993) Greenpeace media <http://media.greenpeace.org/C.aspx?VP3=SearchResult_VPage&STID=27MZIFIZZQQ>.

²⁶⁰ IMO Resolution A.671 (16) (19 October 1989).

²⁶¹ Richard Caddell, 'Platforms, Protestors and provisional Measures: The *Arctic Sunrise* Dispute and Environment Activism at Sea' (2015) 45 *Netherlands Yearbook of International Law* 368-370.

2.4.5. Recent Developments in the South China Sea

The South China Sea is a semi-enclosed sea, stretching from Singapore and the Straits of Malacca to the Strait of Taiwan.²⁶² The Sea contains hundreds of small islands, rocks and reefs, which are located mostly in the Paracel and Spratly Island chains. The South China Sea is rich in resources and possesses significant strategic political importance. It is difficult to determine the amount of oil and natural gas underlying the South China Sea because of under-exploration and territorial disputes. According to the U.S. Energy Information Administration (EIA), the South China Sea contains approximately 11 billion barrels of oil and 190 trillion cubic feet of natural gas in proved and probable reserves.²⁶³ The South China Sea is a major transport route, including for oil and gas. It is estimated that about 14 million barrels of crude oil pass through the South China Sea and Gulf of Thailand per day, which equates to almost a third of global oil movements, according to data from Lloyd's List Intelligence tanker-tracking service and GTIS Global Trade Atlas.²⁶⁴

Due to the significant potential hydrocarbon resources in the South China Sea, it is not surprising that a number of coastal states are competing to claim maritime areas within the South China Sea.²⁶⁵ Several disputed features and areas located inside the South China Sea include Spratly Island, Paracel Island, and West South China Sea. There are a wide range of legal issues related to the South China Sea dispute, such as delimitation of maritime boundaries, status of artificial islands or

²⁶² See *Marine Gazetteer Placedetails* (20 September 2012) Marineregions <<http://www.marineregions.org/gazetteer.php?p=details&id=4332>>; 'Limits of Oceans and Seas' (Special Publication No 23, The International Hydrographic Organization, 1986).

²⁶³ *South China Sea* (7 February 2013) Energy Information Administration <<https://www.eia.gov/beta/international/regions-topics.cfm?RegionTopicID=SCS>>.

²⁶⁴ Crude oil flow in the South China Sea also comes from Intra-Southeast Asia regional trade, particularly from Malaysian (0.4 MMbbl/d), Indonesian (0.3 MMbbl/d), and Australian (0.2 MMbbl/d) oil exports. Intra-regional trade is approximately equally distributed between Singapore, South Korea, Japan, and China, with smaller amounts going to other Southeast Asia countries. A fifth of intra-regional crude oil flow, the most for any importer, goes to Singapore for refining.

²⁶⁵ See Leszek Buszynski and Iskandar Sazlan, 'Maritime Claims and Energy Cooperation in the South China Sea' (2007) 29 *Contemporary Southeast Asia* 143-171; Leszek Buszynski, 'The South China Sea: Oil, Maritime Claims and US-China Strategic Rivalry' (2012) 35 *The Washington Quarterly* 135-156; Robert Beckman, 'The UN Convention on the Law of the Sea and the Maritime Disputes in the South China Sea' (2013) 107 *The American Journal of International Law* 142-163.

land reclamation, and dispute settlement mechanism.²⁶⁶ However, this thesis only intends to highlight the issue of the implication of competing maritime claims toward offshore oil and gas activities in the South China Sea.

In relation to tanker operations, the territorial disputes in the South China Sea in fact do not directly affect the safety and security of oil and gas carrier or shipping activities. However, general maritime security threats to vessels exist in parts of the South China Sea. According to the International Maritime Bureau (IMB) Piracy Report, a number of hijackings of small product tankers occurred off the coast of Malaysia, Indonesia and Singapore in the South China Sea. This trend started in April 2014 and is continuing.²⁶⁷

The overlapping territorial claims in the South China Sea have a greater impact on offshore installations. The oil and gas industry is not interested in investing large sums of money to develop hydrocarbon deposits in disputed maritime areas.²⁶⁸ The investor seeks a secure title for their investment through a guaranteed mining license issued by the host country.²⁶⁹ In the South China Sea context, there are several disputes over maritime area and features, which may undermine security of title. For example, the entire group of Spratly Islands is claimed by China and Vietnam, while the Philippines claims sovereignty over a few of them. Other claimants are Malaysia and Brunei.²⁷⁰ Given the complex circumstances present in the South China Sea maritime area, offshore installation operations are highly risky. Many potential offshore oil and gas activities through rigs or platforms cannot be carried out efficiently or even started. If the contractor and the claimant countries contend to operate such

²⁶⁶ See Murray Hiebert et al, *Perspectives on the South China Sea-Diplomatic, Legal, and Security Dimensions of the Dispute* (Rowman & Littlefield, 2014).

²⁶⁷ 'Piracy and Armed Robbery Against Ships' (Report for the period 1 January-31 December 2014, ICC International Maritime Bureau).

²⁶⁸ Rainer Lagoni, 'Oil and Gas Deposits Across National Frontiers' (1979) 73 *The American Journal of International Law* 216-218

²⁶⁹ Lagoni, above n269; Carl W Dundas, 'The impact of maritime boundary delimitation on the development of offshore mineral deposits' (1994) 20 *Resources Policy* 273-274.

²⁷⁰ See Vu Hai Dang, 'Disputes between Vietnam and China in the South China Sea: A Legal Analysis' in Hiebert et al, *Perspectives on the South China Sea-Diplomatic, Legal, and Security Dimensions of the Dispute* (Rowman & Littlefield, 2014) 45-52; Leonardo Bernard, 'UNCLOS & the South China Sea' (Paper presented at International Malaysia Law Conference, 27 September 2012).

structures in the South China Sea, it could likely provoke other parties to undertake counter measures.²⁷¹

The status of artificial islands or land reclamation in the South China Sea is another contested area. Within a short period, China has constructed many artificial islands and radically changed the geographical characters of other maritime features in the South China Sea, particularly in its southeastern part known as the Spratly Group.²⁷² These constructions or developments have occurred over various features including Mischief Reef, Subi Reef, Fiery Cross Reef, Johnson South Reef, Cuateron Reef, Hughes Reef and Gaven Reef.²⁷³ Commentators mostly argue that China's action in building such islands and reefs through reclamation is both provocative to regional order and threatening to the marine environment.²⁷⁴ Since these maritime features of the South China Sea are the subjects of a sovereignty dispute, it is bad faith for a claimant to completely and irreversibly change their geographical condition.²⁷⁵

From a legal perspective, there are two obvious concerns that are important to address in this context. First, with respect to the development in Mischief Reef and Subi Reef, China's claims over those features are contrary to international law, which does not allow claims on low-tide elevations beyond a state's existing territorial sea. Mischief Reef and Subi Reef are positioned below the water line at

²⁷¹ Mike Ives, 'Vietnam Objects to Chinese Oil Rig in Disputed Waters', *The New York Times* (online), 20 January 2016 <http://www.nytimes.com/2016/01/21/world/asia/south-china-sea-vietnam-china.html?_r=0>; Lindsay Murdoch, 'South China Sea: Vietnam accuses China of dragging oil rig into its waters', *The Sydney Morning Herald* (online), 21 January 2016 <<http://www.smh.com.au/world/south-china-sea-vietnam-accuses-china-of-dragging-oil-rig-into-its-waters-20160120-gmafr1.html>>.

²⁷² Mira Rapp-Hooper, *Before and After: The South China Sea Transformed* (18 February 2015) Asia Maritime Transparency Initiative <<https://amti.csis.org/before-and-after-the-south-china-sea-transformed/>>; Victor Robert Lee, *China's New Military Installations in the Disputed Spratly Islands: Satellite Image Update* (16 March 2015) Satellite Image Analysis <<https://medium.com/satellite-image-analysis/china-s-new-military-installations-in-the-spratly-islands-satellite-image-update-1169bacc07f9#.qitqyke0r>>.

²⁷³ *South China Sea* above n 300; *Island Features of the South China Sea* (2016) Asia Maritime Transparency Initiative <<https://amti.csis.org/scs-features-map/>>.

²⁷⁴ Huy Duong, *Massive Island-Building and International Law* (15 June 2015) Asia Maritime Transparency Initiative <<https://amti.csis.org/massive-island-building-and-international-law/>>; *An AMTI Interview featuring John Norton Moore* (Center for Strategic & International Studies, 17 December 2015).

²⁷⁵ Duong, above n 274.

high tide and are more than 12 nautical miles from other islands. As for Fiery Cross Reef, Johnson South Reef, Cuarteron Reef, Hughes Reef and Gaven Reef, although they are located within 12 nautical miles from other islands (and therefore within China's claimed territorial seas) considerable constructions on the reefs may cause significant and permanent effects on the EEZ beyond the reefs' territorial seas. Therefore, in accordance with Article 74 of the LOSC and customary international law, the development of artificial islands or changes to land characteristics on those reefs are illegal due to the environmental implications to the zone outside of the reefs' water territories, even if the actions themselves take place in the territorial sea.

It is most likely that the international tribunal, in arbitrating the territorial disputes, would not consider the land reclamation activities in the South China Sea to be significant in determining the claims, as the activities occurred after the 'critical date' – here, the time when the dispute between China and the Philippines was crystallised. There are various options in determining a critical date, for instance in the Nicaragua and Colombia dispute the critical date was when the two countries exchanged diplomatic notes concerning sovereignty claim over the islands following the issuance of Nicaraguan oil contracts in that vicinity.²⁷⁶ Despite various views on when the critical date occurred, it is clear that the current construction carried out by China in the South China Sea will not be relevant in the context of international law.

2.5. Conclusion

This chapter has considered a range of international legal instruments and legal developments, demonstrating that there is a complex regulatory system governing offshore installations and tanker operations. A large number of legal instruments regulating offshore installations regrettably do not constitute a clear and effective regulatory regime. Despite this lack of clarity, relevant legal

²⁷⁶ Mirasola, above n 10; Further, legal discussions on the critical date concept can also be found in the dispute between Nicaragua and Colombia regarding Caribbean islands and Sipadan and Ligitan islands case between Indonesia and Malaysia.

frameworks were examined in order to identify relevant and applicable international regulations for offshore installations.

Offshore installations and tankers are key elements of offshore oil and gas operations. As has been highlighted in this chapter, international legal frameworks regulating offshore installations are immature compared to frameworks regulating tankers. There are a number of reasons for this discrepancy. First, tankers have been operating for a much longer time than offshore installations, and so have received more attention from states over a longer period. Another dissimilarity is states' position on the role of international organisations as a responsible body for ships or tankers and for offshore installations. It is beyond doubt that the IMO is the agreed international organisation responsible for ship activities. On the other hand, states have diverse views on the international organisation responsible for offshore installations. One of the consequences of these differences is that there is no specific treaty on offshore installations.

This chapter has highlighted a number of key global legal frameworks including the LOSC, SOLAS MARPOL, OPRC Convention, SUA Convention and its Protocol, London Convention, and several IMO resolutions. These frameworks comprise the international legal principles and rules for offshore installations. In essence these principles and rules can be divided into four main domains: rights to construct offshore installations; safety of offshore installations; security of offshore installations, and marine environment protection from offshore installations. While the LOSC contains intersecting provisions, SOLAS together with the 1989 IMO Resolutions mainly address the safety of offshore installations. The 1988 SUA Protocol and its 2005 protocol cover the security of offshore installations. MARPOL, OPRC Convention and the London Convention provide rules and standards for marine environment protection from offshore installations.

This chapter also examined the major global conventions relating to tanker operations: the LOSC, SOLAS, MARPOL, COLREGs and Load Lines Convention.

Unlike the laws regulating offshore installations, the legal regime for tanker operations is much more comprehensive. In fact, almost all aspects surrounding tanker activities have been governed by numerous regulations and standards mainly formulated by IMO, including safety of tanker construction, ship or tanker navigation, and marine pollution from tanker operations.

This chapter also examined a number of important developments relating to offshore installations and tanker operations. The most significant development is the development of a legal framework regulating offshore installations under the CMI. The chapter revealed that the CMI has been working on a legal framework on offshore installations for a long time, until the present day. Salient projects of the CMI were discussed, such as the 1994 draft convention on offshore mobile craft and the 2001 draft convention on offshore units, artificial islands and related structures. These drafts are critical for the making of an international convention on offshore installations in the future. With respect to tankers, there were a number of regulatory initiatives aimed at implementing sustainable development objectives and policies. These included the adoption of the Polar Code, an agreement on the reduction of greenhouse emissions from international shipping, and the adoption of goal-based standards for oil tankers' design and construction.

In addition to those developments, this chapter also discussed other developments relating to offshore installations and tankers: the *Arctic Sunrise* case and claims in the South China Sea region. These developments were analysed to shed light on the practical factors that may influence the development of future legal frameworks.

Beside international conventions and regulations, it is important to examine another legal context: regional arrangements on offshore oil and gas operations. Accordingly, the next chapter will consider regional legal frameworks for offshore installations and tanker operations.

CHAPTER 3

REGIONAL LEGAL FRAMEWORKS ON OFFSHORE OIL AND GAS ACTIVITIES

3.1. Introduction

Regional governance structures are an essential level of regulation of offshore oil and gas operations, encompassing offshore installations and tankers, for three main reasons. First, the geographical characteristics of oceans, such as enclosed or semi-enclosed waters, often determine which rules or standards will apply, and this varies from region to region.¹ This consideration is recognized under the LOSC:² the Convention outlines that although it is important to take into account the regional legal framework, specifically on marine pollution issues, the regional legal framework should be no less effective than generally accepted international law.³ Second, regional regimes offer a more feasible basis for integrated regulatory systems involving key institutions.⁴ For instance, there are various ASEAN cooperation frameworks as well the Coral Triangle Initiative (CTI) on Coral Reefs, Fisheries and Food Security where state members of these frameworks can cooperate directly with other parties.⁵ Third, a regional arrangement may facilitate cooperation and lead to stronger standards and increased supervision of compliance. Successful examples of such mechanisms include

¹ Patricia Birnie, Alan Boyle and Catherine Redgwell, *International Law & the Environment* (Oxford University Press, 3rd ed, 2009) 391-394.

² See LOSC art 208 (5); R.R. Churchill and A.V. Lowe, 371-372.

³ Ibid.

⁴ See e.g. Daud Hassan, South China Sea: Control of Land Based Sources of Marine Pollution, A Regional Overview (Part 1) (2012) *Environmental Policy and Law* 42(2); Peter Hayward, 'Environmental Protection: Regional Approaches' (1984) 8(2) *Marine Policy* 162-174; Adalberto Vallega, 'The Regional Seas in the 21st Century: An Overview' (2002) 45 *Ocean and Coastal management* 925-934.

⁵ See *Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF)* Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands, and Timor-Leste, released on 15 May 2009; CTI-CFF, *About CTI-CFF* <<http://www.coraltriangleinitiative.org/about-us>>.

intergovernmental supervisory institutions to regulate marine pollution in the North Sea, the Baltic, and the Mediterranean.⁶

This chapter discusses regional legal regimes relevant to offshore oil and gas activities. A number of conventions that consider offshore installations and tankers have been adopted in regions such as the North-Atlantic and Arctic Oceans, the Mediterranean Sea and Southeast Asia. This chapter intends to discuss salient features of general UNEP Regional Seas Programme and major regional conventions including (i) *Convention for the Protection of the Marine Environment of the North-East Atlantic*, 1992 (The OSPAR Convention);⁷ (ii) the *1989 Kuwait Protocol concerning Marine Pollution resulting from Exploration and Exploitation of the Continental Shelf* (Kuwait Convention);⁸ (iii) *Convention for the Protection of the Mediterranean Sea against Pollution*, 1976 (Barcelona Convention) and its 1994 Protocol;⁹ (iv) *Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region*, 1981 (Abidjan Convention);¹⁰ and (v) *Memorandum of Understanding*

⁶ Respective intergovernmental institution for the North Sea, the Baltic and the Mediterranean are the OSPAR Commission, the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC), and the Abidjan Convention Secretariat; See <<http://www.ospar.org/>>, <<http://www.rempec.org/>>, and <<http://abidjanconvention.org/>>.

⁷ *Convention for the Protection of the Marine Environment of the North-East Atlantic*, adopted 22 September 1992, 2354 UNTS 67 (entered into force 25 March 1998) ('OSPAR Convention').

⁸ *Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution*, signed 24 April 1978, UN Treaties Registration Number 17898 (entered into force 1 July 1979) art XXVIII ('Kuwait Convention').

⁹ *Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean*, adopted 16 February 1976, 1102 UNTS 27 (entered into force 12 February 1978) ('Barcelona Convention'); *Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (Offshore Protocol)*, adoption 14 October 1994 (entered into force 24 March 2011) ('1994 Offshore Protocol').

¹⁰ *The 1985 Protocol concerning Cooperation in Combating Pollution in Cases of Emergency in the Western and Central African Region*, and the *2012 Additional Protocol to the Abidjan Convention concerning Cooperation in the Protection and Development of Marine and Coastal Environment from Land-Based Sources and Activities in the Western, Central and Southern African Region*; See <http://abidjanconvention.org/index.php?option=com_content&view=article&id=99&Itemid=199&lang=en>.

(MoU) on Association of South East Asian Nations (ASEAN) Cooperation Mechanism for Joint Oil Spill Preparedness and Response, 2014.¹¹

3.2. United Nations Environment Programme (UNEP) Regional Seas Programme

The Regional Seas Programme was initiated by United Nations Environment Programme (UNEP) in 1974 as a global programme implemented through regional components.¹² It is an action-oriented programme that implements region-specific activities, bringing together stakeholders including governments, scientific communities and civil societies. UNEP is mandated to coordinate eighteen (18) Regional Seas Conventions and Action Plans, in which 146 countries participate. UNEP administers seven Regional Seas Conventions and Action Plans (Caribbean, East Asian Seas, Eastern Africa, Mediterranean, North-West Pacific, Western Africa and Caspian Sea).¹³ Fourteen of these 18 programmes have legally binding conventions, and 15 have action plans. Accordingly, each regional programme is individualized to address the specific priorities of the member states, leading to significant differences, for example, in methodologies for environmental status assessments.¹⁴

The original impetus for establishment of the individual programmes was to manage marine pollution. This single-sector model has been superseded by the multi-sector integrated ecosystem-based approach that has dominated emerging modern environmental management strategies.¹⁵ Among these programmes, there are few regional arrangements that related to the protection of marine environment from offshore oil and gas activities matters such as the Convention

¹¹ *Memorandum of Understanding on ASEAN Cooperation Mechanism for Joint Oil Spill Preparedness and Response*, signed on 28 November 2014, Mandalay, Myanmar ('ASEAN MoU').

¹² See United Nations Environment Programme, <http://unep.org/regionalseas/default.asp>; Makram A. Gerges, 'Marine Pollution Monitoring, Assessment and Control: UNEP's Approach and Strategy' 28 *Marine Pollution Bulletin* 4 (Elsevier, April 1994); P Akuwumi and T Melvasalo, 'UNEP's Regional Seas Programme: approach, experience and future plans' 22 *Marine Policy* 3 (Elsevier, 1998).

¹³ United Nations Environment Programme, 'Regional Seas Reports and Studies No. 201-UN Environment (2016) Regional Seas Strategic Directions (2017-2020)' 2016.

¹⁴ *Ibid.*

¹⁵ Jon M. Van Dyke, 'Whither the UNEP Regional Seas Programmes?' in Harry N. Scheiber and Jin-Hyun Paik, *Regions, Institutions, and Law of the Sea: Studies in Ocean Governance* (Brill Publisher, 2013).

for the Protection of the Mediterranean Sea against Pollution 1976 (Barcelona Convention),¹⁶ Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution (Kuwait Convention)¹⁷ and Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention).¹⁸

Table 3.1.
18 Regional Seas Programmes and Action Plans¹⁹

| No. | Regional Seas | Convention/ Action plan | Year adopted | Year entered into force | Number of member states |
|-----|----------------------------|----------------------------|--------------|-------------------------|-------------------------|
| 1. | Mediterranean | Barcelona Convention | 1976/1995 | 1978/2004 | 22 |
| 2. | Middle east | Kuwait Convention | 1978 | 1979 | 8 |
| 3. | Western and Central Africa | Abidjan Convention | 1981 | 1984 | 22 |
| 4. | South-East Pacific | Lima Convention | 1981 | 1986 | 4 |
| 5. | Red Sea and Gulf of Aden | Jeddah Convention | 1982 | 1985 | 8 |
| 6. | Wider Caribbean | Cartagena Convention | 1983 | 1986 | 28 |
| 7. | Eastern Africa | Nairobi Convention | 1985 | 1996 | 10 |
| 8. | South Pacific | Noumea Convention | 1986 | 1990 | 19 |
| 9. | Black Sea | Bucharest | 1992 | 1994 | 6 |

¹⁶ *The Convention for the Protection of the Mediterranean Sea against Pollution*, adopted 16 February 1976, 1102 UNTS 27 (Barcelona Convention).

¹⁷ *Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution*, signed 24 April 1978, UN Treaties Registration Number 17898 (entered into force 1 July 1979) art XXVIII ('Kuwait Convention').

¹⁸ *The Convention for the Protection of the marine Environment of the North-East Atlantic* adopted 22 September 1992, 2354 UNTS 67 (entered into force 25 March 1998) (the 'OSPAR Convention').

¹⁹ Adopted from Johnson, David et al, 'Measuring Success: Indicators for the Regional Seas Conventions and Action Plans/UNEP Regional Seas Report and Studies No. 194' (UNEP, 2014).

| | | Convention | | | |
|-----|---------------------|-------------------------------|------------------------|----------------------|----|
| 10. | North-East Pacific | Antigua Convention | 2002 | Action plan in force | 8 |
| 11. | East Asian Seas | None | 1984 (revised in 1993) | Action plan in force | 9 |
| 12. | North-West Pacific | None | 1994 | Action plan in force | 4 |
| 13. | South Asian Seas | None | 1995 | Action plan in force | 5 |
| 14. | Baltic Sea | Helsinki Convention | 1974/92 | 1980/2000 | 10 |
| 15. | North-East Atlantic | Oslo-Paris (OSPAR) Convention | 1974/78/92 | 1998 | 16 |
| 16. | Antarctic | Antarctic Treaty | 1959/80 | 1961/82 | 32 |
| 17. | Caspian Sea | Tehran Convention | 2003 | Not in force | 5 |
| 18. | Arctic | None | | | 8 |

Another instance is a Regional Oil Spill contingency Plan which was adopted under the framework of the North-West Pacific Regional Seas Programme or North-West Pacific Action Plan (NOWPAP) in 2003.²⁰ A year later, a Memorandum of Understanding on Regional Cooperation Regarding Preparedness and Response to Oil Spills in the Marine Environment of the North-West Pacific Region (NOWPAP's Oil Spill Contingency Plan) was signed on May 2004.²¹

As a background, in that region, several most dramatically oil spill incidents were included the break-up of the Russian tanker *Nakhodka* in January 1997 and the

²⁰ Van Dyke, above n 15, 102-103.

²¹ Ibid.

spill on the Korean coast in December 2007 caused by the *Hebei Spirit*. The *Nakhodka*, going from Shanghai to Petropavlovsk, Russia, broke up in stormy weather on January 2, 1997, in the East Sea (off the Oki Islands of Shimane Prefecture), with a cargo of about 19,000 tons of heavy oil, which caused heavy damage to Japan's coast.²² After the *Hebei Spirit* collided with a Samsung crane barge in December 2007, 11,000 tons of oil leaked into the sea and onto the Korean coast. In June 2008, the International Oil Pollution Compensation Fund estimated the damage from this spill to reach up to 573.5 billion Korean won because of the decrease in tourists and the damage to the fishing industry. Those incidents in fact were contributed to the making of regional seas programme aims to prevent and response similar incident in the future.²³

Furthermore, in commenting different types of regional arrangements or programme as mentioned above, it is suggested that such regional programme, ideally, should be formed in a binding convention/legal instrument, ratified by all countries in the region; should be staffed by a well-funded secretariat; should have responsibility over resource exploitation (especially fishing), over land-based pollution, and pollution from ships; should govern coasts, estuaries, wetlands, rivers, and open ocean areas through integrated multi-sector ecosystem management techniques; should promote the establishment of marine protected areas; and should undertake active research projects to monitor and understand climate change.

Additionally, although the countries and citizens of each region must ultimately take responsibilities for such regional organizations and ensure their success, it will also be significantly useful for UNEP to provide strong international leadership by supporting and promoting a more concrete cooperative approach in linking those regional seas programmes.

²² Ibid.

²³ Ibid.

3.3. Convention for the Protection of the Marine Environment of the North-East Atlantic, 1992 (The OSPAR Convention)

The OSPAR Convention contains 34 Articles and is supplemented by five Annexes and three Appendices which form an integral part of the Convention.²⁴ Its provisions include general obligations, such as the requirement for all Parties to take:

all possible steps to prevent and eliminate pollution and shall take the necessary measures to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve marine ecosystem, and, when practicable, restore marine areas which have been adversely affected.²⁵

The Convention also provides that states shall adopt programmes and measures shall harmonise their policies and strategies, including applying the precautionary principle and polluter pays principle.²⁶

²⁴ *The Convention for the Protection of the marine Environment of the North-East Atlantic* adopted 22 September 1992, 2354 UNTS 67 (entered into force 25 March 1998) (the 'OSPAR Convention'). It has been signed and ratified by all of the Contracting Parties to the original Oslo or Paris Conventions. The OSPAR Convention entered into force on 25 March 1998. It replaces the Oslo and Paris Conventions. However, decisions, recommendations and all other agreements adopted under those Conventions will continue to be applicable, unaltered in their legal nature, unless they are terminated by new measures adopted under the OSPAR Convention. The Parties are Belgium, Denmark, the European Community, Finland, France, Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom of Great Britain and Northern Ireland and by Luxembourg and Switzerland. The OSPAR Convention entered into force on 25 March 1998. The Convention is a regional framework convention which comprises of general principles in regard to several sources of marine pollution in its Annexes. Annex I refer to the prevention of marine pollution and elimination of pollution from land-based sources. Annex II deals with the prevention and elimination of pollution by dumping and incineration. Annex III consider the prevention and elimination of pollution from offshore sources. Annex IV concerning the assessment of the quality of the marine environment. Annex V deals with the protection and conservation of the ecosystems and biological diversity of the maritime area. Appendix I regarding criteria for the definition of practices and techniques mentioned in paragraph 3(b)(I) of article 2 of the convention. Appendix 2 concerning criteria mentioned in paragraph 2 of article 1 of Annex I and paragraph 2 of article 2 of Annex III, and Appendix 3 refer to criteria for identifying human activities for the purpose of annex V.

²⁵ OSPAR Convention art 2; Ellen Hay, Ton Ijlstra and André Nollkaemper, 'The 1992 Paris Convention for the Protection of the Marine environment of the North-East Atlantic: A Critical Analysis' (1993) 8 *International Journal Marine & Coastal Law* 10-11.

²⁶ OSPAR Convention art 2; the precautionary principle, according to the UN Secretary General, is described as of 'considerable significance for future approaches to marine environmental protection and resource conservation'. See UN Doc. A/45/721 & Corr. (19 November 1990) and *International Organizations and the Law of the Sea Documentary Yearbook* [1992] *Netherlands Institute of the Law of the Sea (NILOS)* 83 as cited in Ellen Hay, Ton Ijlstra and André Nollkaemper, 'The 1992 Paris Convention for the Protection of the Marine environment of the North-East Atlantic: A Critical Analysis' (1993) 8 *International Journal Marine & Coastal Law* 10-11; D. Freestone, 'The Precautionary Principle', in R.R. Churchill and D. Freestone (eds) *International*

The OSPAR Convention first defines 'offshore installation' and 'vessel' in Article

1. According to the Article:

offshore installation means any man-made structure, plant or vessel or parts thereof, whether floating or fixed to the seabed, placed within the maritime area for the purpose of offshore activities. ... offshore pipeline means any pipeline which has been placed in the maritime area for the purpose of offshore activities.²⁷

'Vessel' is defined as a waterborne craft of any type whatsoever, its parts and other fittings. It includes air-cushion craft, floating craft whether self-propelled or not, and other maritime man-made structures, but excludes offshore installations.²⁸

The OSPAR Convention focuses on the protection of the environment from marine pollution from various sources including offshore installations and vessels. It obliges Parties to the Convention to prevent pollution from offshore sources and comply with the rules set out by the OSPAR Convention. Article 5 of the Convention requires that the contracting states shall take all possible steps to prevent and eliminate pollution from offshore installations for the purpose of exploration of the seabed and exploitation of its natural resources.

Annex III on the prevention and elimination of pollution from offshore sources also contains provisions on the prevention and elimination of pollution from offshore sources.²⁹ Annex III requires the Parties to use the 'best available techniques and best environmental practice including, where appropriate, clean technology'.³⁰ It also provides that any dumping of wastes or other matter from

Law and Global Climate Change (1991) 21-33; Moreover, the polluter pays principle is viewed as 'one of the central guiding principles of the OSPAR Convention and requires that the costs of pollution prevention, control and reduction measures must be borne by the polluter'. It was introduced in the 1970s by the Organisation for Economic Co-operation and Development (OECD) and reaffirmed globally in the 1992 Rio Declaration on Environment and Development. See OSPAR Commission, *Polluter Pays Principle* < <http://www.ospar.org/about/principles/polluter-pays-principle>>.

²⁷ OSPAR Convention art 1.

²⁸ *Ibid* art 1.

²⁹ The term 'offshore sources' has been defined as offshore installations and offshore pipelines from which substances or energy reach the maritime area; See OSPAR Convention art 1(k).

³⁰ Annex III of the OSPAR Convention on The Prevention and Elimination of Pollution from Offshore Sources, art 2.

offshore installations is prohibited.³¹ The Convention and Annex III do not contain specific rules in respect of discharges from offshore installations.

As most of the requirements in the Annex are already part of the domestic legislation of the parties, the Annex mainly emphasises the implementation of its provisions and requires states to take appropriate measures to implement national frameworks and the recommendations of international organisations. Article 10, however, does create specific requirements for the Commission: (i) to collect information about substances which are used in offshore activities; (ii) to list substances which are toxic, persistent and liable to bio-accumulate and to draw up plans for the reduction and phasing out of their use on, or discharge from, offshore sources; and (iii) to draw up criteria, guidelines and procedures for the prevention from dumping of disused offshore installations and of disused offshore pipelines, including the leaving one, in the maritime area of North-East Atlantic.³² The Convention sets out the timeframe to be used to fulfil this commitment.³³

3.4. *Convention for the Protection of the Mediterranean Sea against Pollution, 1976 (Barcelona Convention) and its 1994 Offshore Protocol*

The Barcelona Convention and its Offshore Protocol contain essential regulations in relation to offshore oil and gas installations and tanker operations in the Mediterranean. The instruments focus on measures to prevent pollution from several sources, including offshore installations and ships. The Convention requires all the Contracting Parties, individually or jointly:

³¹ Ibid art 3.

³² Daud Hassan, 'Regional Frameworks for Land Based Sources of Marine Pollution Control: A Legal Analysis on the North East Atlantic and the Baltic Sea Regions' (2004-2005) *Queensland University of Technology Law & Justice Journal* 4(1).

³³ Hay, Ijlstra and Nollkaemper, above n 14, 29-33.

to take all appropriate measures in accordance with the provisions of this Convention and those Protocols in force to which they are party, to prevent, abate and combat pollution of the Mediterranean Sea Area and to protect and enhance the marine environment in that area.³⁴

The Barcelona Convention also obliges the Contracting Parties to formulate and adopt procedures for the determination of liability and compensation for damage resulting from the pollution of marine environment.³⁵

The Offshore Protocol encompasses a wide range of offshore oil and gas activities such as surveys or exploration, installation establishment, drilling, storage, and transportation to shore.³⁶ The Protocol defines 'installation' as 'any fixed or floating structure, and any integral part thereof, that is engaged in exploration, exploitation and scientific research activities'.³⁷ Examples of installations include fixed or mobile offshore drilling units, fixed or floating production units such as dynamically-positioned units, offshore storage facilities including ships, and offshore loading terminals and transport systems for the extracted products, such as submarine pipelines.³⁸ To ensure the safety of offshore installations, the Protocol obliges those undertaking relevant activities, particularly erection of installations, to obtain written authorisation from the competent authority.³⁹ The Protocol also covers other matters related to offshore exploration and exploitation such as wastes and harmful or noxious substances and materials, safeguarding actions, and cooperation.

In regard to safeguarding actions, Article 15 of the instrument specifies that all Contracting Parties shall ensure that safety measures are taken with respect to the design, construction, placement, operation, and maintenance of installations.

³⁴ *Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean*, adopted 16 February 1976, 1102 UNTS 27 (entered into force 12 February 1978) ('Barcelona Convention') art 33, art 4.

³⁵ *Ibid* art 12.

³⁶ Julien Rochette, 'Towards an International regulation of offshore oil exploitation' report of the experts workshop held at the Paris Oceanographic Institute on 30 March 2012 (Working paper no. 15, Institut du développement durable et des relations internationales (IDDRI), 12 July 2012) 10.

³⁷ *Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (Offshore Protocol)* adoption 14 October 1994 (entered into force 24 March 2011) art 32, art 1.

³⁸ *Ibid*.

³⁹ The authority shall be satisfied that the installation has been constructed according to international standards and practice and that the operator has the technical competence and the financial capacity to carry out the activities before granting the authorisation. See art 4(1).

It also requires the Parties to have adequate equipment and devices, and a certificate of safety issued by a recognized body and a safety inspection. Thus, Article 20 requires the operator to remove any installation which is abandoned or disused in order to ensure safety of navigation.⁴⁰

Another significant feature of this instrument is its provisions on liability and compensation. The Protocol contains suggestions for the Parties 'to cooperate as soon as possible in formulating and adopting appropriate rules and procedures for the determination and compensation for damage resulting from the activities dealt with in this Protocol'.⁴¹ Article 27 also states that 'pending development of such procedures', the Parties shall ensure that the operators shall have and maintain insurance cover or other financial security in order to ensure compensation for damages caused by the activities cover by the Protocol.⁴² Liability and compensation are undoubtedly important matters to be regulated and appropriately updated within any regional framework.

3.5. *Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region, 1981 (Abidjan Convention)*

There are regional governance mechanisms pertaining to offshore oil and gas installations and tankers in other parts of the globe. One of these governance structures is the Abidjan Convention.⁴³ Besides general provisions requiring regional cooperation, the Abidjan Convention also contains two protocols - the *1981 Protocol concerning cooperation in combating pollution in cases of emergency*, and the *2012 Protocol concerning cooperation in the protection and*

⁴⁰ In conducting offshore installations removal, the operator shall take into account the guidelines and standards adopted by the competent international organization. Such removal shall also have due regard to other legitimate uses of the sea, in particular fishing, marine environmental protection and the rights and duties of other States.

⁴¹ Offshore Protocol art 27.

⁴² Ibid.

⁴³ *Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region*, Benin, Cameroon, Congo (Democratic Republic of), Congo (Republic of), Côte d'Ivoire, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mauritania, Nigeria, Senegal, Sierra Leone, South Africa and Togo, signed 23 March 1981, (entered into force 5 August 1984) (Abidjan Convention) art 29.

*development of marine and coastal environment from land-based sources and activities.*⁴⁴

The first Protocol contains regional arrangements among the Contracting Parties in relation to marine pollution incidents in the Eastern African Sea.⁴⁵ Several examples of these arrangements are the exchange of information, mutual assistance and operational measures.⁴⁶ According to Article 9 of the Protocol, '(t)he Contracting Parties shall also endeavour to maintain and promote, either individually or through bilateral or multilateral co-operation, marine emergency contingency plans and means for combating pollution by oil and other harmful substances.' It further requires the Parties 'co-operate in developing standing instructions and procedures to be followed by their appropriate national authorities who have responsibility for receiving and transmitting reports of pollution by oil and other harmful substances made pursuant to article 7 of this Protocol.'⁴⁷

However, this Protocol does not address offshore installations and tankers directly. The Annex of the 1985 Protocol concerning Guidelines for the report to be made pursuant to Article 5(1) of this Protocol merely mentions that ships and fixed or floating platforms or any other structure may be a source of pollution without further elaboration. The Protocol focusses on the terms 'marine pollution incident' and 'oil', instead of ships and offshore structures as the source of marine pollution.

⁴⁴ *The 1981 Protocol concerning Cooperation in Combating Pollution in Cases of Emergency in the Western and Central African Region (Marine Emergency Protocol), and the 2012 Additional Protocol to the Abidjan Convention concerning Cooperation in the Protection and Development of Marine and Coastal Environment from Land-Based Sources and Activities in the Western, Central and Southern African Region (LBSA Protocol);* See <http://abidjanconvention.org/index.php?option=com_content&view=article&id=99&Itemid=199&lang=en>.

⁴⁵ *The 1985 Protocol concerning Cooperation in Combating Pollution in Cases of Emergency in the Western and Central African Region* art 2; See Julien Rochette above n 14, 9-11.

⁴⁶ Ibid arts 6, 7 and 8.

⁴⁷ Ibid art 9.

3.6. The Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, 1989 (Kuwait Convention)

The Kuwait Convention is among the earliest and the most comprehensive regional conventions related to marine environment protection.⁴⁸ It was inspired by the preparatory work of the 1972 *United Nations Conference on the Human Environment* in Stockholm and the intensified international debate on environmental problems at that time.⁴⁹ The Convention together with the *Action Plan for the Protection of the Marine Environment and the Coastal States Areas of Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates* (Kuwait Action Program)⁵⁰ are instrumental for the coordination of all eight littoral States in responding to a great necessity in the region, as the Convention Sea Area is the home of the Strait of Hormuz, the world's busiest shipping lane, accommodating over 30% of global maritime transport activity.⁵¹ Furthermore, each year, no fewer than 30,000 tankers pass through this region, and some 150,000 metric tons of oil pollute the Sea Area.⁵²

The Kuwait Convention contains obligations for contracting parties to combat five types of marine pollution: pollution from ships, pollution caused by dumping, pollution from land-based sources, pollution resulting from exploitation of the seabed outside internal waters, and pollution from other human activities including dredging and land reclamation.⁵³ It introduces the

⁴⁸ *Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution*, signed 24 April 1978, UN Treaties Registration Number 17898 (entered into force 1 July 1979) art XXVIII ('Kuwait Convention'); Said Mahmoudi, 'Legal Protection of the Persian Gulf's Marine Environment' (1997) 21 *Marine Policy* 53-54.

⁴⁹ *Ibid*; the 1972 United Nations (UN) Conference on Human Environment in Stockholm was the UN's first major conference on international environmental issues and symbolised a significant development of international environmental politics. See *Report of the United Nations Conference on the Human Environment* (5-16 June 1972) UN Documents <<http://www.un-documents.net/aconf48-14r1.pdf>>.

⁵⁰ *Action Plan for the Protection of the Marine Environment and the Coastal States Areas of Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates*, adopted 24 April 1978 (entered into force 1 July 1979) ('Kuwait Action Plan').

⁵¹ U.S. EIA, *World Oil Transit Chokepoints Critical to Global Energy Security* (1 December 2014) <<http://www.eia.gov/todayinenergy/detail.cfm?id=18991>>.

⁵² Mahmoudi above n 36, 55.

⁵³ Kuwait Convention arts IV, V, VI, VII and VIII.

concept of 'environmental impact assessment'.⁵⁴ The Convention also establishes a Regional Organization for the Protection of the Marine Environment (ROPME)⁵⁵ and special Judicial Commission for dispute settlement purpose. The Kuwait Convention has five protocols: the *Protocol concerning Regional Cooperation in Combating Pollution by Oil and Other Harmful Substances in Cases of Emergency*, 1978; *Protocol concerning Marine Pollution resulting from Exploration and Exploitation of the Continental Shelf*, 1989; *Protocol for the Protection of the Marine Environment against Pollution from Land-Based Sources*, 1990; *Protocol on the Control of Marine Trans-boundary Movements and Disposal of Hazardous Wastes and Other Wastes*; 1998 and *Protocol concerning the Conservation of Biological Diversity and the Establishment of Protected Areas*.⁵⁶

Detailed regulations on marine environmental protection are found in the protocols of the Convention. This chapter will not review all of the protocols due their limited relevance and space constraints, but focuses on two protocols which are closely related to offshore installations and tanker activities. First, the 1978 *Protocol concerning regional co-operation in combating pollution by oil and other harmful substances in cases of emergency*.⁵⁷ This Protocol establishes the Marine Emergency Mutual Aid Centre,⁵⁸ obliges contracting states to provide specific information required by the Marine Emergency Centre,⁵⁹ and creates mandatory procedures for the contracting state to promptly notify the Marine Emergency Centre, the other contracting states and the flag state of any foreign

⁵⁴ Kuwait Convention art XI; Robin Warner and Simon Marsden (eds), *Transboundary Environmental Governance-Inland, Coastal and Marine Perspectives* (Ashgate, 2012).

⁵⁵ According to the Convention, the ROPME shall consist of a Council, a Secretariat, and a Judicial Commission for the Settlement of Disputes. Kuwait Convention, arts XVI-XVIII. See <<http://www.unep.org/regionalseas/programmes/nonunep/ropme/instruments>> and <<http://www.ropme.org/Home.clx>> for further explanation on the ROPME.

⁵⁶ For full document/text of these Protocols find at <<http://www.unep.org/regionalseas/programmes/nonunep/ropme/instruments/default.asp>> and <http://www.ropme.org/1_KAP_LEGAL_EN.clx>.

⁵⁷ *Protocol concerning regional co-operation in combating pollution by oil and other harmful substances in cases of emergency*, adopted 24 April 1978 (entered into force 1 July 1979) ('The 1979 Kuwait Protocol').

⁵⁸ *Protocol concerning Regional Co-operation in Combating Pollution by Oil and Other Harmful Substances in Cases of Emergency*, signed 24 April 1978, art III.

⁵⁹ *Ibid* arts V and VI.

ship, in the event of an emergency.⁶⁰ According to Article XI of the Protocol, the contracting states must use their best endeavours within their capabilities to render assistance to any contracting state which requires assistance in a marine emergency circumstance.

Second, the 1989 *Protocol concerning marine pollution resulting from exploration and exploitation of the continental shelf*.⁶¹ Under this Protocol, the coastal state shall impose upon offshore operators the duty to make an environmental impact assessment (EIA) before granting a license to the operator. The results of any EIA must be made known to other coastal states.⁶² This Protocol highlights the importance of safety maintenance on offshore installations, and requires safety procedures at offshore installations to be in accordance with 'good oilfield or other relevant practice'. In the event of accidents, the operator needs an approved contingency plan fitting into the contingency plans of the national and local authorities of the coastal state.⁶³ Article IX of the Protocol sets out rules for discharges from offshore installations. It specifies the maximum amount of oil content that can be discharged from offshore installations.⁶⁴ Other discharges such as drilling muds and water-based drilling muds are also covered in this provision.⁶⁵ The Protocol prohibits the disposal of plastics, garbage and sewage from offshore installations into the sea.⁶⁶ It requires each offshore operator to prepare a chemical use plan, which has to be approved by the competent authority of the relevant contracting state, in order to prevent marine pollution from chemical substances.⁶⁷

⁶⁰ Ibid art X.

⁶¹ *Protocol concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf*, signed 29 March 1989, art IV ('The 1989 Kuwait Protocol').

⁶² The 1989 Kuwait Protocol art IV.

⁶³ Ibid, art VIII; Ton Iljstra, 'Pollution from Offshore Installations: The Kuwait Protocol' (1990) 21 *Marine Pollution Bulletin* 8-9.

⁶⁴ The 1989 Kuwait Protocol, art IX. The oil content which discharges from machinery space drainage of an offshore installations shall not exceed 15 mg per litre whilst undiluted. Other discharges, except one derived from drilling operations, shall not greater than 40 mg per litre as an average in any calendar month, and shall not at any time exceed 100 mg per litre.

⁶⁵ Ibid.

⁶⁶ Ibid art IX.

⁶⁷ Iljstra, above n 51, 9-10.

Further, Article XIII of the 1989 Kuwait Protocol also covers the removal of abandoned and disused offshore installations within the Sea Area of the Protocol.⁶⁸ According to the Article, the contracting state has the power to require the offshore operator to remove installations. Due to the shallowness of the sea in the region, the contracting state must ensure that no decommissioned offshore installations are placed on the seabed of the continental shelf. The Protocol also provides the competent state authority with the power to require the operator to flush and to remove any residual pollutants from pipelines and to bury or to remove the offshore installation in whole or in part to ensure the safety of navigation and fishing activity.⁶⁹

This Convention is the first regional legal framework to lay down detailed regulations for marine pollution resulting from exploration and exploitation on the seabed. It set up clear and valuable rules for offshore installations that can be followed in an international or other regional context. These rules include the requirement to hold an EIA for drilling activity, strict standards for safety procedures at offshore installations, norms for discharges from offshore installations, and obligations for the offshore operator to remove offshore installations in order to ensure the safety of navigation and in the interests of fishing.

3.7. The Association of South East Asian Nations (ASEAN) Regional Framework relating to Offshore Oil and Gas Activities

Offshore installations and tanker operations in the Southeast Asian region represent a significant portion of global offshore oil and gas activities. It is estimated that there are currently more than 1228 platforms located within Southeast Asian seas.⁷⁰ These platforms range from the fixed jacket type to

⁶⁸ The 1989 Kuwait Protocol art XIII.

⁶⁹ The 1989 Kuwait Protocol arts XII and XIII; Mahmoudi above n 36, 57.

⁷⁰ Brian Twomey, *Study Asses Asia-Pacific Offshore Decommissioning Cost* (15 March 2010) Oil & Gas Journal <<http://www.ogj.com/articles/print/volume-108/issue-10/Technology/study-assesses-asia-pacific-offshore-decommissioning-costs.html>>; World Offshore Field development Guide Database-Vol.2: Asia, India, Australasia and Far East, Oilfield Publication Ltd. (OPL), 2010. It is not easy to gather specific information in regard numbers of offshore installations in Southeast Asia seas. In fact there are several sources that display different amount of such structures,

Floating Production, Storage and Offloading (FPSO). Indonesia and Malaysia have the most offshore oil and gas platforms. Some reports indicate that approximately 530 installations are situated in Indonesian seas. Malaysia has 249 installations within its offshore regions.⁷¹

Southeast Asian seas are play a pivotal role in the transportation of oil and gas by tankers. Southeast Asia is the home of several major sea lanes for oil and gas carriers, such as the Straits of Malacca and Singapore, the Sunda Strait, and the Lombok Strait. Many tankers from the Middle East use the Straits of Malacca and Singapore in order to reach various Asian ports. Approximately 26 tankers pass through the Singapore Strait every day.⁷² The traffic through the Malacca Straits is also one of the busiest in the world, with approximately 60,000 ships carrying 80% of the oil transported to Northeast Asia passing through the Strait.⁷³ The other two key sea lanes, the Lombok Strait and the Sunda Strait, are both also crucial for regional and national shipping operations including traffic from and to Australia and China. Given the importance of the Southeast Asian maritime area for offshore oil and gas activities, it is vital to have a clear and effective regional legal framework to ensure the safety and security of offshore oil and gas operations.⁷⁴

nonetheless, this observation has tried to describe the best interpretation possible. The Southeast Asia Seas term in this context are including the Gulf of Thailand, the Straits of Malacca, the Singapore Strait, the Indonesian Seas, the Sulu-Celebes Sea, and the South China Sea.

⁷¹ Twomey, above n 57; See also Youna Lyons, 'Transboundary Pollution from Offshore Oil and Gas Activities in the Seas of Southeast Asia' in Robin Warner and Simon Marsden (eds), *Transboundary Environmental Governance* (Ashgate, 2012) 167-202.

⁷² Joshua H. Ho, 'The Security of Sea Lanes in Southeast Asia' (2006) XLVI *Asian Survey* 4, 558-574.

⁷³ Andrej Dávid and Peter Píala, *The Strategic Maritime Canals and Straits* (July, 2016) Univerzita Pardubice <pernerscontacts.upce.cz/43_2016/David.pdf> 9; Bambang Muryanto, 'Higher traffic in Malacca Strait raises concerns about accidents', *The Jakarta Post* (online), 27 September 2016 <<http://www.thejakartapost.com/news/2016/09/27/higher-traffic-malacca-strait-raises-concern-about-accidents.html>>.

⁷⁴ Koh Kheng Lian and Nicholas A. Robinso, 'Regional Environmental Governance: Examining the Association of Southeast Asian Nations (ASEAN) Model' (2002) *Global Environmental Governance*, 1-20; Hao Duy Phan, 'Institutional Building for Maritime Security in Southeast Asia: The Role of ASEAN' (Paper presented at the 37th Annual Conference: Global Challenges and Freedom of Navigation, Seoul, South Korea, 1-3 may 2013); Lee Cordner, 'Managing Regional Risk: Offshore Oil and gas Safety and Security in the Asia-Pacific Region' (2011) 3 *Australian Journal of Maritime and Ocean Affairs* 1, 21.

ASEAN has created a wide range of frameworks for offshore oil and gas operations. These frameworks do not specifically address offshore installations and tankers activities. It is therefore proposed to approach the analysis of offshore oil and gas operations in Southeast Asia from three perspectives: security, marine environment protection, and maritime transportation. Among various relevant forums and instruments on these three domains, there are three key frameworks: the *2009 ASEAN Political-Security Community (APSC) Blueprint*,⁷⁵ The *2016-2025 Kuala Lumpur Transport Strategic Plan*,⁷⁶ and *Memorandum of Understanding (MoU) on ASEAN Cooperation Mechanism for Joint Oil Spill Preparedness and Response, 2014*.⁷⁷

3.7.1. The 2009 ASEAN Political-Security Community (APSC) Blueprint

ASEAN adopted the APSC Blueprint in 2009. This Blueprint is an important reference which contains a roadmap and timetable to establish the ASEAN Political-Security Community by 2015.⁷⁸ It envisions ASEAN to be a rules-based community of shared values and norms; a cohesive, peaceful, stable and resilient region with shared responsibility for comprehensive security, as well as a dynamic and outward-looking region in an increasing integrated and interdependent world.⁷⁹ In relation to the maritime sector, the Blueprint outlines actions to be taken to promote ASEAN Maritime Cooperation. These actions are:

(i) establish the ASEAN Maritime Forum; (ii) Apply a comprehensive approach that focuses on safety of navigation and security concern in the region that are of common concerns to the ASEAN Community; (iii) Stock take maritime issues and identify maritime cooperation among ASEAN member countries, and (iv) Promote cooperation in maritime safety and SAR through

⁷⁵ *ASEAN Political Security Community* (June 2009) Association of South East Asian Nations (ASEAN) <<http://www.asean.org/wp-content/uploads/images/archive/5187-18.pdf>>; Hao Duy Phan, *Institutional Building for Maritime Security in Southeast Asia: the Role of ASEAN* (1-3 May 2013) Center for Oceans Law and Policy <<http://www.virginia.edu/colp/pdf/Seoul-Phan.pdf>>.

⁷⁶ *Kuala Lumpur Transport Strategic Plan (ASEAN Transport Strategic Plan) 2016-2025* (December 2015) <http://www.asean.org/storage/2016/01/11/publication/KUALA_LUMPUR_TRANSPORT_STRATEGIC_PLAN.pdf>.

⁷⁷ *Memorandum of Understanding (MoU) on ASEAN Cooperation Mechanism for Joint Oil Spill Preparedness and Response* (19 December 2014) <http://treaty.kemlu.go.id/uploads-pub/5622_ASEAN-2014-0405.pdf>; See also *Joint Ministerial Statement* (27 November 2014) ASEAN <http://www.asean.org/storage/images/pdf/2014_upload/20%20ATM%20JMS%20Final.pdf>.

⁷⁸ *ASEAN Political Security Community*, above n 62.

⁷⁹ *Ibid.*

activities such as information sharing, technological cooperation and exchange of visits of authorities concerned.⁸⁰

Although the Blueprint does not directly address offshore oil and gas production and transportation issues, it contains the basis and forum for further dialogue and cooperation in maritime security. Through the afore-mentioned actions in the Blueprint, there are appropriate measures to deal with the security aspects of offshore installations and tankers such as by developing ASEAN Maritime Forum, enhancing common safety of navigation and security concerns in the region, and joint activities on maritime security and safety.⁸¹

3.7.2. The 2016-2025 Kuala Lumpur Transport Strategic Plan

The second key instrument is *Kuala Lumpur Transport Strategic Plan* or *ASEAN Transport Strategic Plan 2016-2025*.⁸² This Strategic Plan serves as a guide to ASEAN regional policy on transportation, and outlines a number of specific goals, actions and milestone in various areas of transportation.⁸³ In relation to maritime transport, it describes seven goals and actions for the period of 2016-2025. These include realising the ASEAN Single Shipping Market; realising the Ro-Ro shipping network; developing an efficient and integrated in waterway transport network; enhancing navigation systems and security measures in accordance with international standards; formulating necessary policy and recommendations on strategic maritime transport logistics development; transport safety regional cooperation intensification, and strengthening ASEAN SAR cooperation.⁸⁴ Of the goals and actions outlined in the Maritime Sector Strategic Plan, enhancement of navigation system and security measures, and regional cooperation on transport

⁸⁰ Ibid para A.2.5.

⁸¹ As one of the actions adopted within the Blueprint, the 1st ASEAN Maritime Forum has been convened on 28-29 July 2010 in Surabaya, Indonesia.

<<http://www.kemlu.go.id/en/berita/siaran-pers/Pages/1st-Meeting-Of-Asean-Maritime-Forum-AMF.aspx>>. Currently, there is an Expanded ASEAN Maritime Forum as the follow up of the ASEAN Leaders and the East Asia Summit (EAS) Leaders agreement. This Forum is designed to enhance the cooperation not only between the ASEAN and EAS but also to relevant stakeholders' e.g. international organisations and maritime industries. The 1st Expanded ASEAN Maritime Forum was held in Manila, Philippines, and it has continued to the latest (4th) Expanded ASEAN Maritime Forum which was convened on 10 September 2015 in Manado, Indonesia.

⁸² *Kuala Lumpur Transport Strategic Plan (ASEAN Transport Strategic Plan) 2016-2025* (December 2015) ASEAN Secretariat.

⁸³ Ibid 15-38.

⁸⁴ Ibid 27-31.

safety are the most relevant to offshore oil and gas activities in Southeast Asia particularly for the operation of tankers.

3.7.3. The 2014 MoU on ASEAN Cooperation Mechanism for Joint Oil Spill Preparedness and Response

This MoU is the latest framework on oil spill preparedness and response adopted by ASEAN member states following previous instruments such as the 1993 MoU.⁸⁵ The 2014 MoU was based mainly on the provisions of the *International Convention on Oil Pollution Preparedness, Response and Cooperation* (OPRC) 1990⁸⁶ and the *ASEAN Strategic Transport Plan (Brunei Action Plan) 2011-2015*.⁸⁷ It provides a regional framework for collaborative work such as building capacities and capabilities, and mutual assistance in preparing and responding oil spill incidents in the ASEAN region.⁸⁸

The MoU covers the areas of cooperation; implementation of applicable relevant IMO conventions and regulations; undertaking of measures to respond oil spill incidents; development of a regional oil spill contingency plan, strategies and action programmes; sharing of information and conducting research, and promoting of partnership.⁸⁹ Article 3 therefore requires the Parties to designate national focal points. The focal points need to coordinate with the ASEAN

⁸⁵ The full name of the MoU on OSRAP 1993 is the Memorandum of Understanding among the Governments of Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and the Kingdom of Thailand on Oil Spill Response Action Plan; This MoU has an objective to provide a cooperative plan for mutual assistance from State parties in the event of a major oil spill incidents which exceeds the response capability of the national government. It was adopted as basis for co-operation at the operational level and promote its implementation. This focuses on oil pollution preparedness and response. Besides, it also includes exchange of information on incidents when necessary and appropriate. The 1993 MoU provides the offices of State Parties respectively as the point of contact to implement this arrangement. Importantly, State parties should also give particular attention to the conduct of mutual visits by personnel responsible for oil pollution preparedness and response; undertake joint exercises and training for oil pollution combating; promote research and development of oil pollution combating measures, techniques and equipment; and facilitate expeditious trans-boundary mobility of personnel, materials and equipment in case of emergency.

⁸⁶ The 1990 *International Convention on Oil Pollution Preparedness, Response and Co-operation*, adopted 30 November 1990, 1891 UNTS 51 (entered into force 13 May 1995).

⁸⁷ See *International Convention on Oil Pollution Preparedness, Response and Cooperation* (OPRC) arts 6-9 and *ASEAN Strategic Transport Plan (Brunei Action Plan)* para 54 (MTA-8).

⁸⁸ *ASEAN Cooperation Mechanism for Joint Oil Spill Preparedness and Response* art 1.

⁸⁹ *Ibid* art 2.

Maritime Transport Working Group in order to report the progress towards implementation.

The MoU does not describe the sources of oil pollution incidents such as ships, offshore installations, and sea ports. It simply recognises that due to the serious threat posed by such activities, the ASEAN Member States have agreed to conclude this instrument. The adoption of the *MoU on ASEAN Cooperation Mechanism for Joint Oil Spill Preparedness and Response* demonstrates the high level of attention ASEAN member states place on regional mechanisms to address oil spill incidents. Progress has been made in implementing international conventions and developing regional strategies on the protection of the marine environment.

3.8. Conclusion

The existing regional legal regimes applying primarily or partially to offshore installations and tanker operations set out important rules and standards. In particular, they address the characteristics of marine areas where offshore installations and tanker activities mainly take place.⁹⁰ Regional seas governance structures have their challenges especially when we compare one to another, including human resources and funding gaps, different technological and technical abilities, lack of inter-regional co-operative mechanisms, and absence of regional legal systems governing offshore oil and gas activities.⁹¹

This chapter contains an overview of regional legal frameworks relating to offshore installations and tanker operations established in various seas areas. The discussions in this chapter encompass a number of key conventions and protocols, namely the Kuwait Convention, OSPAR Convention, Barcelona Convention, Abidjan Convention and ASEAN OSPAR MoU. The chapter sheds light on features of those frameworks such as the prohibition of and prevention

⁹⁰ Birnie et al, above n 1; Julien Rochette, 'Towards an International Regulation on Offshore Oil Exploitation' (Working Paper No. 1, Institut du Développement Durable et des Relations Internationales (IDDRI), 12 July 2012) 10-13.

⁹¹ Julien Rochette and Raphaël Billé, 'Bridging the Gap between Legal and Institutional Developments within Regional Seas Frameworks' (2013) 28 *The International Journal of Marine and Coastal Law* 433-463.

of marine pollution from various sources. Those instruments, although in different formulations, contain the obligation for their respective contracting states to take all possible steps to eliminate and prevent pollution from offshore installations and vessels.⁹² Such steps include using the best available techniques and best environmental practice.⁹³

Most of the regional conventions mentioned above also set out the establishment of regional organizations or centres for marine environmental protection including ROPME, the OSPAR Commission Secretariat, and the REMPEC. The conventions emphasize cooperation mechanisms, in the form of scientific and technological cooperation,⁹⁴ sharing information,⁹⁵ and the development of rules of procedure in the event of emergency.⁹⁶

To conclude, it is paramount to create and enforce regional legal frameworks for marine environmental protection from offshore installations and vessels. In the context of the global efforts to provide comprehensive regulations on offshore installations or to address marine pollution from various sources including offshore installations and tankers, a uniform global treaty is needed. Such a treaty could remedy the gaps among regional conventions. It is crucial at the same time that existing regional legal frameworks relating to offshore installations and tankers are also strengthened.

⁹² See, eg, Kuwait Convention arts III, IV and VII; OSPAR Convention arts 2 and 5, and annex III; Barcelona Convention arts 6 and 7; ASEAN OSPAR MoU art 2.

⁹³ See, eg, Kuwait Convention art II; OSPAR Convention art 2.

⁹⁴ Kuwait Convention art X; OSPAR Convention art 8; Barcelona Convention art 11; ASEAN OSRAP MoU art 2.

⁹⁵ OSPAR Convention art 9.

⁹⁶ Kuwait Convention art IX; Abidjan Convention art 12.

CHAPTER 4

LEGAL ANALYSIS OF THE INDONESIAN LEGAL FRAMEWORKS FOR OFFSHORE INSTALLATIONS AND TANKER OPERATIONS

4.1. Introduction

This chapter analyses key domestic legal frameworks pertaining to offshore oil and gas activities in Indonesian waters. These frameworks include *Law No. 32 of 2014 on the Sea* (Indonesian Law of the Sea),¹ *Law No. 17 of 2008 on Shipping* (Shipping Law),² *Law No. 1 of 1946 on Criminal Law* (Indonesian Penal Code),³ and *Government Regulation No. 5 of 2010 on Navigation* (Navigation Regulation).⁴ The chapter will also explore the links between these Indonesian laws and international law, in particular with LOSC, SOLAS, and SUA. The first part of this chapter clarifies domestic legislation relating to offshore oil and gas installations. Three main features are explored: the legal status of offshore installations, safety and security aspects, and decommissioning of offshore oil and gas installations. The second part of this chapter elaborates on the legal situation of tankers, focussing on navigation of tankers and safety and security of tankers through Indonesian waters. It considers the national major shipping routes, types of security threats to tankers, and the relationship between domestic laws on tankers and international conventions. This chapter's scope does not cover maritime insurance, registration of ships, lien or salvage.

¹ *Undang-Undang Nomor 32 Tahun 2014 Tentang Kelautan* [Law No. 32 of 2014 on the Sea] (Indonesia) ('Indonesian Law of the Sea').

² *Undang-Undang Nomor 17 Tahun 2008 Tentang Pelayaran* [Law No. 17 of 2008 on Shipping] (Indonesia) ('Indonesian Shipping Law').

³ *Undang-Undang Nomor 1 Tahun 1946 Tentang Hukum Pidana* [Law No. 1 of 1946 on Criminal Law] (Indonesia) (Indonesian Penal Code').

⁴ *Peraturan Pemerintah Nomor 5 Tahun 2010 Tentang Navigasi* [Government Regulation No. 5 of 2010 on Navigation] (Indonesia) ('Navigation Regulation').

4.2. The Operation of Offshore Installations in Indonesian Waters

4.2.1. Legal Treatment and Safety of Offshore Installations

4.2.1.1. Legal Status of Offshore Installations in Indonesian Law

The terms 'offshore platform' is not often mentioned in domestic laws relating to ocean and maritime affairs. These laws typically provide rules and guidelines for the operation of ships, marine environmental protection, maritime zones, and safety and security of navigation. However, some hints to the legal status of offshore facilities can be found in several laws, such as Indonesian Law of the Sea, Shipping Law, and *Government Regulation (GR) No. 51 of 2002 on Shipping* (Shipping Regulation).⁵

The Indonesian Law of the Sea provides an updated and comprehensive legal framework for sea-related undertakings in Indonesia.⁶ It is not the first domestic law to regulate maritime zones, or the protection of the marine environment.⁷ However, the Law made some essential changes to previous laws and introduced new provisions in order to clarify Indonesia's rights, responsibility, and position towards international law. Unlike previous laws that regulated different maritime zones separately, it encompasses all maritime zones. This law updates the definition of 'continental shelf' contained in *Law No. 1 of 1973 on Continental Shelf*,⁸ which itself was drawn from the *1958 Geneva Convention on Continental Shelf*,⁹ to the definition found in the LOSC.¹⁰ Another change introduced by *Law No. 32 of 2014* is the provision on maritime security, which emphasises the role

⁵ *Peraturan Pemerintah Nomor 51 Tahun 2002 Tentang Perkapalan* [Government Regulation No. 51 of 2002 on Shipping] (Indonesia).

⁶ *Naskah Akademis Rancangan Undang-Undang Tentang Kelautan dan Penjelasan Undang-Undang Nomor 32 Tahun 2014 Tentang Kelautan* (Indonesia) [Academic Paper of Indonesian Law of the Sea Draft and Explanatory Note of Law No. 32 of 2014 on the Sea].

⁷ See *Undang-Undang Nomor 6 Tahun 1996 Tentang Perairan Indonesia* [Law No. 6 of 1996 on the Indonesian Waters] (Indonesia) ('Indonesian Waters Law'), *Undang-Undang Nomor 1 Tahun 1973 Tentang Landas Kontinen* [Law No. 1 of 1973 on Continental Shelf] (Indonesia), and *Undang-Undang Nomor 5 Tahun 1983 Zona Ekonomi Eksklusif* [Law No. 5 of 1983 on the Exclusive Economic Zone] (Indonesia).

⁸ *Undang-Undang Nomor 1 Tahun 1973 Tentang Landas Kontinen* [Law No. 1 of 1973 on Continental Shelf] (Indonesia).

⁹ *Convention on the Continental Shelf*, signed 29 April 1958, 499 UNTS 311, 499 (entered into force 10 June 1964) ('Continental Shelf Convention').

¹⁰ Indonesian Law of the Sea, art 9.

of the Indonesian Maritime Security Board (Bakamla) as the central authority in securing Indonesian waters.¹¹

The Indonesian Law of the Sea specifies that marine natural resources utilization may be carried out through offshore installations. These installations shall not interfere with navigation activities, for safety reasons. The establishment of offshore installations shall take into account efforts to preserve the natural resources of coastal regions and small islands.¹²

The Law outlines the government's responsibility to supervise the removal of offshore installations.¹³ Scant explanation concerning these provisions is found in the explanatory note of the Law. It explains that the term 'offshore installations/structures' means any construction either above the sea and/or under the sea, attached to the seabed, or not, including reclamation construction, tourism and transportation facilities.¹⁴ It outlines that further requirements and rules on the establishment of offshore installations will be governed by regulation. This is understandable as the Indonesian Law of the Sea is an umbrella act for other ocean-related implementing or technical regulations.

Law No. 32 of 2014 does not clarify the legal status of offshore oil and gas facilities, in particular whether they should be treated as ships, artificial islands or another category. The Indonesian Law of the Sea's definition of 'offshore installations/structures' is quite loose and may include submarine pipelines. Some commentators have raised doubts about whether safety zones apply to submarine pipelines, if pipelines do in fact qualify as offshore installations. In summary, the Law is intended to provide general legal principles for the establishment and operation of offshore installations prior to the development of implementing regulations.

Insight into the legal status of offshore oil and gas platforms can also be gained by examining the Shipping Law, another umbrella act for rules on maritime

¹¹ Ibid arts 60-68.

¹² Ibid art 32.

¹³ Ibid art 33.

¹⁴ Explanatory note of the Indonesian Law of the Sea art 32(1).

affairs in Indonesia.¹⁵ This Law focuses on four aspects of shipping: water-based transportation, ports, safety and security of shipping, and maritime environmental protection. It aims to strengthen legal frameworks on sea transportation by updating the previous *Law No. 21 of 1992 on Shipping*.¹⁶ Among the reasons for updating the Shipping Law were developments in the Indonesian legal system, including granting of regional autonomy to various regions, and improvements in maritime science and technology.¹⁷

Tracing the typical terms used to describe facilities such as ‘offshore installation’ or ‘floating structure’ in the Shipping Law provides insight into how the Law treats this subject. The term ‘floating structure’ is included within the definition of ‘ship’ in Article 1, which specifies that a ‘ship’ is a water-based form of transport with a specific shape and type, driven by wind energy, mechanical energy or other type of energy, pulled or tugged, and includes permanent floating structures. The term ‘offshore installation’ is mentioned in a number of provisions in the Law.¹⁸ However, none of them are relevant to understanding the legal status of offshore facilities. For example, Article 195 refers to the obligation to meet certain requirements and to obtain approval before the construction, movement and removal of offshore installations, which does not relate to the legal status of offshore installations. Although explanatory note of Article 172(4) refers to the term ‘oil platform’, it does not give any indication of its legal status. The note simply describes the navigational aid facilities that must be established surrounding the platform.

In analysing the Shipping Law, several remarks can be made. It contains a definition of ‘ship’ that includes permanent floating structures. Consequently,

¹⁵ According to the explanatory note of the Shipping Law, rather similar with Law No. 32 of 2014 on the Sea, the Law No. 17 of 2008 contains general principles on the relevant matters of shipping. While, further technical and operational aspects will be regulated by Governmental Regulation and other implementing regulation.

¹⁶ *Undang-Undang Nomor 21 Tahun 1992 Tentang Pelayaran* [Law No. 21 of 1992 on Shipping] (Indonesia).

¹⁷ *Naskah Akademis Rancangan Undang-Undang Tentang Pelayaran* [Academic Paper of the Shipping Law Draft].

¹⁸ *Undang-Undang Nomor 17 Tahun 2008 Tentang Pelayaran* (Indonesia) [Explanatory Note of Law No. 17 of 2008 on Shipping] Law of the No. 17 of 2008 on the Shipping arts 119 and 195 (‘Shipping Law’).

any type of permanent floating structure including offshore oil and gas facilities will be treated as a ship according to Article 1 of the Law. However, there is no detailed legislative history or documentation of proceedings that is publicly accessible that can confirm this legal treatment. The context of the Shipping Law, which is to regulate water transport in Indonesia, indicates that the Law does not necessarily provide detailed regulation on offshore platforms.¹⁹

GR No. 51 of 2002 on Shipping (Shipping Regulation) contains a similar definition of 'ship' to that provided in the Shipping Law.²⁰ It finds that the Shipping Law adopted its definition of ship from the Shipping Regulation. The Regulation defines a ship as 'any type and form of water's vessel, which driven by mechanical power, wind power or tug, including... permanent floating structures'. Moreover, rather clearer than the Shipping Law, the explanatory note of the 2002 Regulation stipulates that 'floating structures' are floating facilities or floating platforms without any self-propeller, place in a specific location in the sea and unremoved for long term period.²¹ These include accommodation barges, oil storage barges, and Mobile Offshore Drilling Units (MODU).²²

As the Regulation specifically includes MODUs as a type of floating structures, it raises a question on the status of fixed offshore oil and gas facilities such as jack up unit type: are these structures also included within the ambit of 'floating structures'? There is no legislative history or documentation of proceeding that can be found to answer this question. However, Article 1 of the Regulation and its explanatory note clearly include the term 'permanent floating structures' within the definition of 'ship'.

Offshore oil and gas facilities are also governed by other implementing regulations, namely (i) the *GR No. 17 of 1974 on the Supervision of Offshore Oil*

¹⁹ See Explanatory Note of Shipping Law intro.

²⁰ *Peraturan Pemerintah Nomor 51 Tahun 2002 Tentang Perkapalan* (Indonesia) [Government Regulation (GR) No. 51 of 2002 on Shipping] art 1 ('Shipping Regulation').

²¹ Explanatory Note of Shipping Regulation.

²² *Ibid.*

*and Gas Exploration and Exploitation Operations (Supervision Regulation)*²³; *Minister of Mining Regulation No. 05/P/M/PERTAMB/1977 on the Obligation to Obtain Certificate of Structure Worthiness for Offshore Oil and Gas Platform (Certificate of Structure Worthiness Regulation)*,²⁴ and (ii) the *Minister of Energy and Mineral Resources Regulation No. 1 of 2011 on the Technical Guidance for Offshore Oil and Gas Installation Decommissioning (Decommissioning Regulation)*.²⁵ Unlike the Indonesian Law of the Sea and the Shipping Law, these Regulations specifically govern offshore oil and gas installations.

The Supervision Regulation contains provisions on the definition of offshore installations; requirements and procedures to establish offshore oil and gas platforms; obligations to remove disused offshore installations; operator's liability, and penal sentences for breaches of the Regulation. It defines 'offshore installation' as an oil and gas mining installation that is established in the offshore area for the purpose of oil and gas mining activities. The Regulation specifies that any party who intends to establish offshore installations shall inform the Director General of Oil and Gas, at least fourteen days prior to the operation of an installation. In establishing the installations, the operator is required to ensure safety of workers and navigation; to avoid damage to submarine cables and pipelines; and to prevent the loss of the offshore installation.²⁶ Supervision Regulation obliges all operators to remove disused offshore oil and gas platforms in order to ensure the safety and security of sea-lanes. It applies strict liability to the operators of offshore installations for any damage caused by an installation. The Regulation outlines the penalty of three

²³ *Peraturan Pemerintah No. 17 Tahun 1974 Tentang Pengawasan Eksplorasi dan Eksploitasi Minyak dan Gas Bumi di Daerah Lepas Pantai* [Government Regulation No. 17 of 1974 on the Supervision of Offshore Oil and Gas Exploration and Exploitation] (Indonesia) ('Supervision Regulation').

²⁴ *Peraturan Menteri Pertambangan Nomor 05/P/M/PERTAMB/1977 Tentang Kewajiban Memiliki Sertifikat Kelayakan Konstruksi untuk Platform Minyak dan Gas Bumi di Daerah Lepas Pantai* [Minister of Mining Regulation No. 05/P/M/PERTAMB/1977 on the Obligation to Possess Certificate of Structure Worthiness for Offshore Oil and Gas Platform] (Indonesia) ('Certificate of Structure Worthiness Regulation').

²⁵ *Peraturan Menteri Energi dan Sumber Daya Mineral No. 1 Tahun 2011 Tentang Pedoman Teknis Pembongkaran Instalasi Lepas Pantai Minyak dan Gas Bumi* [The Minister of Energy and Natural Resources Regulation No. 1 of 2011 on the Technical Guidance for Offshore Oil and Gas Installation Decommissioning] (Indonesia) ('Decommissioning Regulation').

²⁶ Supervision Regulation art 18.

months' imprisonment and a maximum fine of 10,000 rupiahs for any violation of its provisions.²⁷

The 1977 Certificate of Structure Worthiness Regulation defines 'offshore oil and gas platform' as every permanent installation built either above or under the seawater for the purpose of offshore oil and gas operations.²⁸ It requires a certificate of structure worthiness to be issued by the Ministry of Energy and Mineral Resources (MoEMR), and sets out the procedure and matters assessed in obtaining the certificate, and the types of technical inspection, which include design appraisal and physical inspection.²⁹

The Decommissioning Regulation defines offshore installations as oil and gas installations constructed for oil and gas activities in the waters of the Indonesian territorial sea and continental shelf.³⁰ The focus of the Regulation is to describe phases of decommissioning, which comprises the planning phase, decommissioning phase, and assessment and monitoring phase. The decommissioning of offshore oil and gas installations under the Indonesian legal framework will be discussed later in this chapter.

These three Regulations treat offshore oil and gas installations in different ways based on their individual focus. In defining offshore installations, the Supervision Regulation emphasises that offshore installations are hydrocarbon resources mining installations, while the Certificate of Structure Worthiness Regulation focuses on the location of installations, either above or under the seawater. As for the legal status of offshore oil and gas installations, these Regulations clearly differentiate between such installations and ships. Consequently, separate legal frameworks will apply to installations and ships, except for MODU. In conclusion, although there is no clear description of the legal status of offshore installations in the umbrella laws - the Indonesian Law of the Sea and the Shipping Law, the

²⁷ Ibid art 62.

²⁸ Certificate of Structure Worthiness Regulation, art 1.

²⁹ Ibid arts 2-10.

³⁰ Decommissioning Regulation, art 1(2).

three implementing Regulations mentioned clarify the distinct legal status of offshore installations compared to ships.

4.2.1.2. Rights to Construct and Jurisdiction over Offshore Installations

Rights and sovereignty of state over offshore oil and gas operations through in various maritime zones is an important subject not only to international law but also to the domestic legal framework.³¹ Under the LOSC and national legislation, the coastal state has different levels of sovereignty and jurisdiction over offshore installations depending on their location.³² This section discusses the control and exercise of Indonesia's jurisdiction over offshore oil and gas installations, based on national legislation. The general rights and duties of other states will also be examined.

Indonesia has six maritime zones that are governed under laws such as the *Law No. 43 of 2008 on the State's Territory (State's Territory Law)*,³³ *Indonesian Law of the Sea*, the *Law No. 6 of 1996 on Indonesian Waters (Indonesian Waters Law)*,³⁴ and the *Law No. 5 of 1983 on Exclusive Economic Zone (EEZ Law)*.³⁵ Maritime zones outlined in these laws include internal waters, archipelagic waters, territorial sea, EEZ and the continental shelf.³⁶

According to the Indonesian Waters Law, internal waters consist of inland sea and land waters.³⁷ While the inland sea shall be part of the sea located at the land side of the closing line of the low-water line, the land waters shall be waters located at the land side of the low-water line, except at a river mouth of land

³¹ For discussion on state's territorial sovereignty see e.g. Daud Hassan, *Territorial Sovereignty and State Responsibility-An Environmental Perspective (2015) Environmental Policy and Law* 45(3-4) 139-145.

³² Dikdik Mohamad Sodik, *Hukum Laut Internasional dan Pengaturannya di Indonesia (International Law of the Sea and its Implementation in Indonesia)* (Refika Aditama, 2014) 51-78.

³³ *Undang-Undang No. 43 Tahun 2008 Tentang Wilayah Negara* [Law No. 43 of 2008 on the State's Territory] (Indonesia) ('State's Territory Law').

³⁴ *Undang-Undang No. 6 Tahun 1996 Tentang Perairan Indonesia* [Law No. 6 of 1996 on Indonesian Waters] (Indonesia) ('Indonesian Waters Law').

³⁵ *Undang-Undang No. 5 Tahun 1983 Tentang Zona Ekonomi Eksklusif* [Law No. 5 of 1983 on Economic Exclusive Zone] (Indonesia) ('Indonesian EEZ Law').

³⁶ See *State's Territory Law* art 1; *Indonesian Law of the Sea* art 7.

³⁷ *Indonesian Waters Law* art 3.

waters.³⁸ However, to date, Indonesia has not completed the task of charting the lines to demarcate its internal waters. This work is important, because separate legal regimes apply to internal waters and archipelagic waters.³⁹

Indonesia has comprehensive sovereignty over its land territory, extending to its internal waters as well as the airspace above and the sea bottom and land thereunder including the sources of natural wealth contained therein.⁴⁰ Therefore, the activities of offshore installations in internal waters are performed under the sovereignty and jurisdiction of Indonesian domestic regulations. It is necessary for foreign states and companies to obtain the express permission of the Indonesian government to construct and operate installations in Indonesia's internal waters, such as in lakes or rivers.

Several key regulations on the upstream business of oil and gas resources, water-based transport or navigation include *the 1974 Supervision Regulation*, and *Minister Regulation No. 02.P/075/MPE/1992 on the Guidelines for Monitoring Exploration and Exploitation of Oil and Gas Activities* (Oil and Gas Activities Monitoring Regulation).⁴¹ In relation to the passage of oil and gas tankers, the Indonesian Waters Law specifies that there is no right of innocent passage in the internal waters.⁴² Consequently, tankers carrying hydrocarbon resources must obtain permission before crossing internal waters. This includes a requirement to convey prior notification of the transport of hydrocarbon resources to the port/terminal master and compliance with other technical rules, particularly relating to navigation.⁴³

³⁸ Ibid art 7(3).

³⁹ Arif Havas Oegroseno, 'Indonesia's Maritime Boundaries' in Robert Cribb and Michele Ford (eds), *Indonesia Beyond the Water's Edge* (Institute of Southeast Asian Studies Singapore, 2009) 51.

⁴⁰ Indonesian Waters Law art 4.

⁴¹ *Peraturan Menteri Energi dan Sumber Daya Mineral No.02.P/075/MPE/1992 Tentang Panduan untuk Pengawasan Kegiatan Eksplorasi dan Eksploitasi Minyak dan Gas Bumi [Minister Regulation No. 02.P/075/MPE/1992 on the Guidelines for Monitoring Exploration and Exploitation of Oil and Gas Activities]* (Indonesia).

⁴² Indonesian Waters Law arts 4 and 11.

⁴³ *Peraturan Pemerintah No. 20 Tahun 2010 Tentang Angkutan Perairan* (Indonesia) [Government Regulation No. 20 of 2010 on Water Transport] art 188.

The archipelagic waters are all the waters located on the inner side of the straight baseline of the archipelago without regard to the depth or the distance from the coast.⁴⁴ In this regard, the straight archipelagic baseline is the straight lines which connect the furthestmost points of the low-water line of the islands and the furthestmost dry rocks of the archipelago.⁴⁵ The regulations on the straight archipelagic baselines provided in the Indonesian Waters Law are referred to the provisions of the LOSC. These baselines must not exceed 100 miles in length, except that up to 3% of the total number of lines may be between 100 and 125 miles in length.⁴⁶ The archipelagic straight baseline also shall not be drawn from and to a low-tide elevation, except if a lighthouse or a similar installation has already been built thereon, which exists permanently, or if the said low-tide elevation is located entirely or partly at a distance closer than territorial sea.⁴⁷

Indonesia has sovereignty and jurisdiction over its archipelagic waters as well as the sea-bed and subsoil thereunder including the natural resources contained therein.⁴⁸ Although not mentioned explicitly in the 1996 Law, Indonesia, by virtue of its sovereignty over its archipelagic waters, has the authority to build offshore installations within its archipelagic waters. However, the operation of offshore installations in the archipelagic waters shall not interfere with other peaceful uses of the sea, particularly shipping activity including oil and gas transportation by tankers.⁴⁹ Similar rules and requirements to construct and operate offshore oil and gas installations in internal waters and territorial sea

⁴⁴ Indonesian Waters Law art 3. Dikdik Mohamad Sodik, 'The Indonesian Legal Framework on Baselines, Archipelagic Passage, and Innocent Passage' (2012) 43 *Ocean Development & International Law* 334-335.

⁴⁵ Indonesian Waters Law art 5(3).

⁴⁶ *The United Nations Convention on the Law of the Sea*, signed 10 December 1982, 1833 UNTS 3 (entered into force 16 November 1994) art 47 ('the LOSC').

⁴⁷ Indonesian Waters Law art 5(4).

⁴⁸ See Shipping Law, Indonesian Law of the Sea, *Peraturan Pemerintah No. 38 Tahun 2002 Tentang Daftar Koordinat Geografis Titik-Titik Garis Pangkal Kepulauan Indonesia* (Indonesia) [Government Regulation No. 38 of 2002 on the List of the Coordinates of the Indonesian Archipelagic Basepoints], and *Peraturan Pemerintah No. 37 Tahun 2008 Tentang Perubahan Atas Peraturan Pemerintah No. 38 Tahun 2002 tentang Daftar Koordinat Geografis Titik-Titik Garis Pangkal Kepulauan Indonesia* (Indonesia) [Government Regulation No. 37 of 2008 on Amendment of the GR No. 38 of 2002 on the List of the Coordinates of the Indonesian Archipelagic Basepoints].

⁴⁹ Indonesian Waters Law art 18.

apply in the archipelagic waters. These include rules for monitoring of offshore installations, and regulation of navigational aspects.⁵⁰

Unlike in the internal waters, ships of all states enjoy the right of innocent passage in the archipelagic waters.⁵¹ This innocent passage, as regulated by Articles 11 and 12 of the Indonesian Waters Law, shall be conducted in accordance with international law and domestic regulations. The right of innocent passage may only be suspended - temporarily and in specified areas - for security reasons, after due notice has been given.⁵² Besides the right of innocent passage, there is a right of archipelagic sea lanes passage within the archipelagic sea lanes of Indonesia. According to Article 18 of the Law, this right is the implementation of shipping and aviation rights as provided by the LOSC. Vessels and aircraft of foreign states enjoy the right to crossing over the archipelagic sea in a normal way, but in continuous and direct transit as quickly as possible and without any obstruction.⁵³ Further regulations on Indonesian archipelagic sea lanes can be found in Article 19.

Indonesia shall respect and honour the existing approvals and agreements with other states concern parts of the archipelagic waters. Instances of these approvals and agreements include the agreement between Indonesia and Papua New Guinea (PNG) in 1980,⁵⁴ which recognized traditional fishing rights of PNG's fishermen in the northern part of Papua Island, and the Treaty between Indonesia and Malaysia in 1982, which guarantees navigation and overflight between East and West Malaysia, recognizes cables linking East and West Malaysia, and permits Malaysian fishermen to fish traditionally in part of Indonesia's archipelagic waters (the Anambas Islands).⁵⁵

⁵⁰ Indonesian Law of the Sea art 7(3)(a).

⁵¹ Indonesian Waters Law arts 11-17. Sodik, above n 32.

⁵² Ibid art 13.

⁵³ Kresno Buntoro, *Lintas Navigasi di Nusantara Indonesia (Navigation in the Archipelago of Indonesia)* (Rajawali Press, 2014).

⁵⁴ *Agreement on Maritime Boundaries between the Republic of Indonesia and Papua New Guinea (PNG) and Co-operation on Related Matters*, 13 December 1980.

⁵⁵ *Treaty relating to the Legal Regime of Archipelagic State and the Rights of Malaysia in the Territorial Sea and Archipelagic Waters as well as in the Airspace above the Territorial Sea*,

Historically, Indonesia introduced the concept of the territorial sea after the proclamation of Indonesian nationhood in 1945. At that time, Indonesia applied a breadth of three nautical miles for its territorial sea as provided by customary international law. Through the *Djuanda declaration*⁵⁶ and *Law No. 4 Prp of 1960 on Indonesian Waters* (the 1960 Indonesian Waters Law),⁵⁷ Indonesia revised the breadth of its territorial sea to 12 nautical miles and declared the waters located on the inner side of the baselines to be inland waters.⁵⁸ Article 1(2) of the Indonesian Waters Law specifies that Indonesian territorial sea is the sea channel of a width of twelve (12) sea miles measured from the Indonesian straight baselines. Based on this legislation, Indonesia's sovereignty extends to its internal waters and territorial sea. Following rapid international developments on the law of the sea, Indonesia promulgated the new Law on Indonesian Waters in 1996. The Indonesian Waters Law contains provisions on archipelagic waters, innocent passage, archipelagic sea lanes, and transit passage.⁵⁹ Unlike the 1960 Law, it contains more comprehensive rules on Indonesian waters.⁶⁰ The 1996 Indonesian Waters Law defines the Indonesian territorial sea to be 12 nautical miles from the archipelagic baselines. This covers vast areas of the Indonesian archipelago including narrower sections of the Malacca and Singapore Straits, where Indonesia's territorial sea is less than 12 nautical miles wide.

According to the new Indonesian Waters Law, Indonesia's sovereignty comprises the land, internal waters, archipelagic waters and territorial sea, as well as the airspace, the seabed and subsoil, and all the natural resources contained

Archipelagic Waters and the Territory of the Republic of Indonesia lying between East and West Malaysia, 25 July 1982.

⁵⁶ See John G. Butcher, 'Becoming an Archipelagic State: The Juanda Declaration of 1957 and the 'Struggle' to Gain International Recognition of the Archipelagic Principle' in Robert Cribb and Michele Ford (eds), *Indonesia beyond the water's edge: Managing An Archipelagic State* (Institute of Southeast Asian Studies Publishing, 2009)

⁵⁷ *Undang-Undang No. 4 Prp Tahun 1960 Tentang Perairan Indonesia* [Law No. 4 Prp of 1960 on Indonesian Waters] (Indonesia).

⁵⁸ Indonesian Waters Law art 3.

⁵⁹ *Ibid.*

⁶⁰ *Undang Undang Nomor 4Prp Tahun 1960 Tentang Perairan Indonesia* (Indonesia) [Law No. 4 of 1960 on Indonesian Waters] ('Old Indonesian Waters Law') simply contains four provisions on territorial sea and internal waters, map of illustration, innocent passage, and entry into force (arts 1-4).

thereon.⁶¹ Consequently, Indonesia has a right to operate or authorise the activities of offshore installations in its territorial sea. It may also exercise its jurisdiction in the territorial sea such as in the exercise of Indonesia's criminal law, immigration and customs. By virtue of Indonesia's sovereignty, the Indonesian Government can regulate the passage of foreign ships through its territorial sea where it is concerned about the safety of navigation.⁶² However, the construction of oil and gas platforms and other installations cannot interfere with international navigation for reasons of safety.⁶³ In addition to those rules, Indonesia may establish a safety zone around its offshore oil and gas platforms for their protection.⁶⁴

Besides the rights to operate and jurisdiction over offshore oil and gas platforms and other installations, there are certain limitations provided by the Indonesian Law of the Sea. In summary, these include that all offshore installations shall not hamper sea lanes and archipelagic sea lanes, to ensure the safety of navigation; that the operating area of drilling installations must not be greater than the designated safety zone; that the construction of offshore installations shall take into account the sustainability of coastal and small islands resources; and that the government is responsible for monitoring the removal of offshore installations.⁶⁵

The Indonesian EEZ is the outer strip bordering the Indonesian territorial sea, covering the sea-bed, the subsoil thereof and the water above it with an outermost limit of 200 nautical miles, measured from the baseline of the Indonesian territorial sea. According to the EEZ Law, Indonesia shall have and exercise its sovereign rights to conduct the exploration, exploitation, management and conservation of the living and non-living resources on the sea-

⁶¹ The Indonesian Law of the Sea arts 6 and 7.

⁶² Indonesian Waters Law arts 11-17.

⁶³ Indonesian Law of the Sea art 32.

⁶⁴ See Shipping Law art 195 and *Peraturan Pemerintah No. 5 Tahun 2010 Tentang Kenavigasian* (Indonesia) [Government Regulation No. 5 of 2010 on the Navigation] art 38 ('Navigation Regulation').

⁶⁵ Indonesian Law of the Sea art 33.

bed and in the subsoil thereof.⁶⁶ Indonesia's rights and jurisdiction within the EEZ include the construction and use of artificial islands, installations and other structures.⁶⁷ Whoever constructs and/or uses any artificial island or installations or other structures within the Indonesian EEZ, may do so based on the permission of the Indonesian Government.⁶⁸

The construction and use of offshore oil and gas platforms and other structures shall be exercised in accordance with the legislative provisions on the Indonesian continental shelf, agreements concluded between Indonesia and its neighbouring states and the rules of international law in force. Within the Indonesian EEZ, the freedom of international navigation and overflight, as well as the freedom of laying submarine cables and pipelines, shall be respected in accordance with the principles of the international law of the sea.

It can be said that there are two legal regimes for coastal states' rights in relation to the natural resources of the seabed area that are on the EEZ and the continental shelf. Whilst coastal states have sovereign rights over their EEZ for the purpose of exploring and exploiting the natural resources, whether living or non-living, and other sovereign rights related to other economic activities, on their continental shelf coastal states have sovereign rights only for the purpose of exploring and exploiting the non-living natural resources.⁶⁹ In the domestic context, the State's Territory Law outlines that:

the continental shelf comprises of the seabed and subsoil of the submarine areas that extend beyond Indonesia's territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance, up to 100 - 350 nautical miles from a line connecting the depth of 2,500 metre.⁷⁰

The 1973 Continental Shelf Law provides the legal basis for the construction and use of offshore installations on Indonesia's continental shelf by specifying that in

⁶⁶ Indonesian EEZ Law art 4.

⁶⁷ Ibid.

⁶⁸ Ibid art 6.

⁶⁹ Hossein Esmaili, *the Legal Regime of Offshore Oil Rigs in International Law* (Ashgate Dartmouth, 2001) 77.

⁷⁰ State's Territory Law art 1(9).

order to explore and exploit natural resources, structures, vessels and/or other facilities can be erected, maintained and operated on and/or above the continental shelf.⁷¹ For the protection of offshore installation, vessels and/or other facilities, the government may establish a 500-metre special zone. The breadth of the special zone is measured from the outermost point of the installations. In addition to the continental shelf outlined in State's Territory Law, Indonesia can apply for its continental shelf to extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, as explained in the Indonesian Law of the Sea.⁷² This application should be submitted to the Commission on the Limits of the Continental Shelf set up under Annex II of the LOSC.

The operation of offshore installations and facilities at the sea, including on the continental shelf, must not interfere with either shipping sea-lanes or Indonesian archipelagic sea-lanes.⁷³ It shall also take into consideration the marine environment of the coastal area and small islands, and other government regulations on the construction of offshore installations. In relation to the removal of abandoned or disused offshore installation, the Indonesian Law of the Sea specifies that the Government has the responsibility to supervise such activity.⁷⁴

4.2.1.3. Safety of Offshore Installations' Activities

Construction is a crucial phase in the operation of offshore installations. The failure of or defect in any construction's design and safety would be dangerous to human life and to the marine environment. Alexander L. Kielland, a semi-submersible platform accident, which occurred about 235 miles east of Dundee, Scotland, in the Norwegian continental shelf in 1980 was a clear example of the impact of a technical failure of the platform structure. This accident killed 123 of

⁷¹ Continental Shelf Law art 6

⁷² Ibid art 9.

⁷³ The Indonesian Law of the Sea art 32.

⁷⁴ Ibid 33.

212 workers. The investigation concluded that the root cause of the accident was an undetected fatigue crack in one of the instruments.⁷⁵

In the Indonesian domestic context, although there were no clear explanations of the causes of two offshore installations incidents involving the E-20 UNOCAL platform and the Caltex submarine pipeline in 1997, undoubtedly these incidents resulted in severe detriment in economic, social and environmental aspects.⁷⁶

In the Indonesian legal context, the 1996 Indonesian Waters Law and the 2014 Indonesian Law of the Sea established the legal basis for constructing and/or authorizing the construction of offshore installations in different maritime zones. These laws do not provide detailed regulations of construction activity. Consequently, further regulations are required to ensure the safety and quality of installations, and to prevent any possible accidents in the future.

The next section of this chapter explores the Indonesian legal framework regulating the construction of offshore oil and gas installations, and relates it to international standards enacted through guidelines and codes. Key governmental agencies that administer the legal framework will also be reviewed. Of the numerous regulations related to maritime affairs, navigation and energy, there are four main regulations that this chapter will discuss.

1. The 1974 Supervision Regulation
2. Rules for the Classification and Construction of Offshore Installations⁷⁷
3. The 2010 Navigation Regulation
4. The 1977 Certificate of Worthiness Regulation

The 1974 Supervision Regulation comprises regulations on the construction of offshore platforms and pipelines; marine research for exploration and

⁷⁵Offshore technology.com, *the World's worst offshore oil rigs disasters* (2 January 2014) <<http://www.offshore-technology.com/features/feature-the-worlds-deadliest-offshore-oil-rig-disasters-4149812/>>.

⁷⁶ Mukhtasor, 'Penanggulangan Pencemaran Laut terhadap Aktivitas Migas di Indonesia' [Prevention of Marine Pollution from Indonesia's Oil and Gas Activities] (Institute Teknologi Sepuluh November (ITS), Surabaya).

⁷⁷ *Rules for the Classification and Construction of Offshore Installations* [Biro Klasifikasi Indonesia (Volume 7, edition 2011)].

exploitation purposes; drilling operations (exploration, development and appraisal); production activity; transboundary areas; investigative authority; and penal sentences.

It specifically provides regulations concerning supervision over exploration and exploitation of offshore oil and gas activity in Indonesia. The Regulation outlines the rights and duties of the Directorate General Oil and Gas as the representative of Indonesian government in carrying out such supervision. These rights and duties are: (i) entering all offshore installation's sites that are relevant to the supervision duties as provided in the Regulation;⁷⁸ (ii) inspecting the facilities to ensure compliance with the Regulation;⁷⁹ and (iii) issuing warning, punishment or determining approval for offshore installations' activities.⁸⁰

Articles 17-19 of the Supervision Regulation set out procedures and requirements to construct offshore installations:

- (i) First, the operator of offshore oil and gas installations shall inform the Director General of Oil and Gas of details of the construction, in writing, fourteen days prior to the construction.⁸¹
- (ii) Subsequently, in constructing the offshore oil and gas installations, the operator must take into account security of the workers at the construction site; maritime navigation security; the possibility of any damage to submarine cables and pipelines; and natural marine risks such as landfall and earthquake.⁸²
- (iii) Third, offshore installations shall be constructed in a way that adequately stabilises them against the effect of wind power, sea waves and water courses.⁸³

⁷⁸ Supervision Regulation art 10.

⁷⁹ Supervision Regulation art 11.

⁸⁰ Ibid.

⁸¹ Ibid art 17. The explanatory note of the Supervision Regulation elucidates that the operator shall also notify Director General of Marine Transportation; Director General of Post and Telecommunication, and Hydrographic Office, Navy in order to get any advice from these authorities and ensure that every interest of them are secured.

⁸² Ibid art 18.

⁸³ Ibid.

Although the Regulation was promulgated in 1974, it remains valid until the present day, as no regulation has been issued to replace it. The stipulation in *Minister of Energy and Mineral Resources Letter No. 11684/06/DJM.S/2006 on the Applicable Law and Regulations to Oil and Gas Upstream Activities* also indicates that the 1974 Regulation remains legally binding.

Technical aspects of construction of offshore installations are regulated by the Rules for Facilities on Offshore Installations. These Rules are promulgated by the Indonesian Classification Bureau (BKI)⁸⁴ and comprise fourteen volumes each dealing with different aspect of offshore installations. The Rules include:

| | |
|--|---|
| Rules for Classification and Surveys, 2011 | Rules for Facilities on Offshore Installations, 2013 |
| Rules for Structures, 2011 | Guidelines for Floating Offshore Liquefied Gas Terminals, 2013 |
| Rules for Machinery, 2011 | Guidelines for Floating Production Installations, 2013 |
| Rules for Electrical Equipment, 2011 | Guidance for Survey Using Risk-Based Inspection for the Offshore Industry, 2012 |
| Rules for Fixed Offshore Installations, 2011 | Guidance for Fatigue Assessment of Offshore Structure, 2015 |
| Rules for Offshore Mooring Chains, 2000 | |
| Rules for Single Point Mooring, 2013 | |
| Rules for Mobile Offshore Drilling Units and Special Purpose Units, 1999 | |

The BKI Rules contain numerous technical safety requirements and criteria applicable to offshore oil and gas production facilities.⁸⁵ These Rules set out provisions on the construction of offshore installations that shall take into consideration certain basic matters such as:

⁸⁴ The BKI was established on July 1, 1964 and the only national classification bureau appointed by the Indonesian government to give class of Indonesian-flagged vessels. Besides conducting ship and offshore installations construction inspection, supervision, testing, as well as issuance of ship registration class certificate, the BKI also provides consulting service and formulates national standards according to international regulations.

⁸⁵ Due to wide ranges matters that related to and various types of offshore installations, these Rules are consist of different volumes, where each of them is regulated specific subject of offshore installations e.g. structure, machinery, electrical and mooring.

- a. Construction design
- b. Types of materials
- c. Location of construction
- d. Machinery and electrical equipment
- e. Safety management system
- f. Environmental management
- g. Other relevant information

Some details of the technical requirements contained in the BKI Rules are set out in Table 1.

Table 1: Selected BKI technical requirements

| Safety Aspects/Elements | Technical Requirements |
|--------------------------------|---|
| Construction design | <p>The construction design shall allow the structure to be able to withstand all circumstances including extreme conditions to be expected at the location</p> <p>The height of the main deck of the structure shall enable a safe working area on the platform</p> <p>Sea wash and spray water shall not occur on the main deck during normal conditions</p> <p>The design shall be tolerant to damage for example by collision with a supply vessel</p> |
| Types of materials | <p>Steel</p> <p>Reinforced concrete</p> <p>Any other suitable material</p> <p>Combination of the above materials</p> |
| Location of construction | <p>Types of location: hazardous or non-hazardous areas, for example sea ice</p> <p>Requirement to conduct site investigations in determining location of construction, for instance bathometry survey, soil sampling and testing, and earthquake analysis</p> |
| Safety management system | <p>Personal safety of operating personnel (accident prevention, protection against exposure to toxic or radioactive substances, and general health control)</p> <p>Requirement of operational safety procedure of the technical installations system on the installation</p> <p>Requirement for having life-saving appliances</p> <p>Further practices based on agreement/contract with the owner/operator</p> |
| Environmental management | <p>Types of pollution and its sources from offshore installations' activities</p> <p>Protection of marine environment such as through waste</p> |

management

In this regard, requirements relating to construction design, equipment standard, and safety management systems were formulated in order to provide an adequate level of safety and in accordance with international standards.⁸⁶ In order to ensure the fulfilment of these requirements, the BKI conducts surveys and inspections based on the applicable regulations. Among the surveys and inspections that are conducted are structure and machinery/equipment surveys and inspections, tests and trials of certain parts of the installations, and certificate checks.⁸⁷

In constructing offshore oil and gas installations, the operator or owner shall consider provisions under the Navigation Regulation. This Regulation contains implementing or technical rules on navigation matters such as navigational infrastructure, maritime telecommunication facilities, safety zones, and safety of navigation.⁸⁸ With respect to offshore installations' construction, the Regulation describes that the erection, movement, and/or removal of offshore installations located in Indonesian waters must be authorised by the Minister.⁸⁹ Although this is the only provision regulating offshore installation construction in the Regulation, it contains other important rules applicable to the operation of offshore installations. According to the Regulation, offshore installations shall uphold requirements on:

- a. Placement, burial, and signing;
- b. Causing no damage to navigational aid facilities and sailing-telecommunication facilities;
- c. Considering free space on the bridge construction process;

⁸⁶ *Code for the Construction and Equipment of Mobile Offshore Drilling Units 2009 and The International Safety Management (ISM) Code*, International Maritime Organization (IMO) Assembly Resolution A. 741(18)-1993.

⁸⁷ *Rules for the Classification and Construction of Offshore Installations*, Volume 7, Rules for Fixed Offshore Installation (2011) S 1(D).

⁸⁸ See Shipping Law art 1.

⁸⁹ Navigation Regulation art 92.

- d. Taking into account the corridor of submarine cable and pipeline constructions, and
- e. Being located outside the pilotage area.

Every offshore installation must be equipped with navigational aid facilities. The establishment of these facilities is the responsibility of the owner after they have obtained permission from the Minister. Offshore installations are also required to have safety and security zones as designated by the Minister. The location of offshore installations, specification of aid facilities and safety and security zones must be announced on the sea map and marine book, and broadcast through coast radio.⁹⁰ Article 95 of the Regulation similarly explains that installations located in rivers or lakes must be equipped with special shipping-lane facilities, and surrounded by safety and security zones, which are approved by the Minister or the Head of the Region. Any offshore installation that does not comply with these requirements must be removed within fourteen days.⁹¹

The safety and security zone for offshore installations is another key feature of the Navigation Regulation. Article 38 of the Regulation describes that safety and security zones are divided into:

- (i) 500 metre prohibited zone measured from the outer limit of offshore installations or navigational aid facilities, and
- (ii) 1,250 metres restricted zone measured from the outer limit of prohibited zone, or 1,750 metres from outer limit of offshore platforms or navigational aid facilities.

In the prohibited zone, there is a strict prohibition on the construction of other installations or structures, while construction of other installations may be carried out in the restricted zone as long as they do not cause interference with the function and work of navigational aid facilities, and have been approved by the Minister.⁹² The aim of these zones is to ensure the safety of navigational aids

⁹⁰ Ibid art 94.

⁹¹ Ibid art 96.

⁹² Ibid.

surrounding offshore installations, and at the same time to provide a security perimeter around the platform. Besides the Navigation Regulation, safety and security zones are described in the Shipping Law.⁹³ In this respect, the Shipping Law contains similar definitions and regulations on safety and security zones to those provided by the Navigation Regulation.⁹⁴

In addition to the technical requirements set out in Supervision Regulation, BKI Rules and Navigation Regulation, construction of the offshore oil and gas installations must meet the administrative requirements in Certificate of Worthiness Regulation. The Regulation requires the operator or owner to obtain a certificate of structure worthiness and outlines standards for oil and gas rigs. According to Article 2, every installation, existing or under construction, shall possess a certificate of structure worthiness issued by Directorate General for Oil and Gas, Department of Mining. To that end, the Directorate General for Oil and Gas, alone or in cooperation with third parties, is empowered to carry out technical inspection of platforms. This Regulation states that there are two types of technical inspections: design appraisal and physical inspections. Following these inspections and the fulfilment of work safety and security requirements, a certificate of structure worthiness will be granted to the operator or owner for four years.⁹⁵ The certificate can be extended every four years, until the limit of the offshore platforms' life.⁹⁶

The four regulations mentioned above are not the only national laws and regulations related to offshore oil and gas installations' construction, but encapsulate the major requirements and procedures. There are two categories of requirements that must be met in the construction process: technical and administrative. While the Supervision Regulation, BKI Rules, and the Navigation Regulation provide technical guidelines for the construction of offshore oil and

⁹³ Shipping Law art 119.

⁹⁴ Ibid.

⁹⁵ *Peraturan Menteri Pertambangan No. 05/P/M/PERTAMB/1977 Tentang Kewajiban Memiliki Sertifikat Kelayakan Konstruksi untuk Platform Minyak dan Gas Bumi di Daerah Lepas Pantai (Indonesia)* [Minister of Mining Regulation No. 05/P/M/PERTAMB/1977 on the Obligation for Possessing the Construction Worthiness Certificate in relation to Offshore Oil and Gas Rigs] art 5 ('Certificate Regulation').

⁹⁶ Ibid.

gas installations, the Certificate of Worthiness Regulation outlines the administrative requirement to hold a construction worthiness certificate.

The Indonesian legal frameworks for constructing offshore installations make reference to international regulations including the IMO-International Safety Management (ISM) Code,⁹⁷ SOLAS, and the IMO-MODU Code.⁹⁸ References to international regulations can be seen in the *BKI Rules for the Classification and Construction of Offshore Installations* (Volume 7), 2011, Section 1 (4), which outlines that IMO-ISM procedure, particularly for mobile offshore units, is one of the procedures that may be subject to review by the BKI. Section 5 of the Rules mentions that life-saving appliances and equipment shall comply with the relevant applicable international regulations, include SOLAS, as far as practicable.⁹⁹ As for the MODU Code, the BKI Rules state in Section 5 of the 2011 Rules and Section 3 of the 2013 Edition, that the MODU Code sets the standard for offshore installations' activity.

On the other hand, the 2010 Navigation Regulation takes a different approach to the LOSC on safety zones regulations. Whilst Article 60 of the LOSC determines that the distance of safety zones is 500 metres around the offshore installation, the Indonesian Regulation includes possibility of the safety zone extending another 1,250 metres from the outer limit of prohibited zone.¹⁰⁰ In this respect, strict reference to the LOSC concept of safety zones should be applied in order to avoid unnecessary restrictions on freedom of navigation in Indonesia's EEZ.

4.2.2. The Protection of Offshore Oil and Gas Installations

4.2.2.1. Types of Maritime Security Threat

Offshore oil and gas installations are very vulnerable and attractive targets for attacks. Once taken over, they can be easily isolated and barricaded against reclamation by the state or commercial operator. Platforms have their own

⁹⁷ *The International Safety Management (ISM) Code*, International Maritime Organization (IMO) Assembly Resolution A. 741(18)-1993.

⁹⁸ *Code for the Construction and Equipment of Mobile Offshore Drilling Units 2009 (2009 MODU Code)* (adopted on 2 December 2009).

⁹⁹ See Chapter III of the International Convention on the Safety of Life at Sea (SOLAS) 1974 regarding Life-Saving Appliances and Arrangements.

¹⁰⁰ Navigation Regulation art 96.

power supply and hold food and other supplies that would permit terrorists, pirates or others to withstand a lengthy siege.¹⁰¹ In addition to threatening lives, the destruction of a major platform would lead to millions of dollars in losses and economic disruption of potentially strategic proportions.¹⁰² The vulnerability of offshore oil and gas platforms to attack may be due to the negligible need for security in day-to-day operations. Moreover, one may presume that the majority of the platforms have no security, surveillance or any equipment, which may assist in providing security.¹⁰³

The International Maritime Bureau (IMB) Piracy Reporting Centre (PRC) reports that Indonesian waters are among the most dangerous sea areas in the world. According to its 2014 and 2015 reports, no fewer than 100 incidents of piracy and armed robbery occurred in Indonesian waters.¹⁰⁴ It is possible that such security threats also occurred to offshore platforms or pipelines in Indonesian waters. Although offshore platforms and pipelines are not included within the definition of ship, the reports categorize FPSO as a type of ship.¹⁰⁵

On the other hand, offshore oil and gas installations have a number of unattractive features for potential attackers. First, they are surrounded by water, which reduces accessibility. Second, the seizure of offshore installations does not pose a direct danger to public safety. As a consequence, offshore installations

¹⁰¹ Mikhail Kashubsky, *Offshore petroleum security: Analysis of offshore security threats, target attractiveness, and the international legal framework for the protection and security of offshore petroleum installations* (PhD Thesis, University of Wollongong, 2011); CSCAP, 'Safety and Security of Offshore Oil and Gas Installations' (Memorandum 16, Council for Security Cooperation in the Asia Pacific, January 2011) 1; Robert Charm, 'Terrorist See Offshore as Tempting Target' (1983) January *Offshore* 62, 65.

¹⁰² Farhad Mehdiyev, 'Providing and Maintenance of Oil Platforms and Pipelines' <https://www.academia.edu/210612/Providing_and_maintenance_of_oil_platforms_and_pipelines_maritime_security>.

¹⁰³ Brian M Jenkins, *Potential Threats to Offshore Platforms* (The RAND Corporation, 1988), and Assaf Harel, 'Preventing Terrorist Attacks on Offshore Platforms: Do States Have Sufficient Legal Tools?' (2012) 4 *Harvard National Security Journal* 131.

¹⁰⁴ See definitions of 'Piracy' and 'Armed Robbery' under art 101 of the LOSC and Resolution A. 1025(26) 'Code of Practice for the Investigation of Crimes of Piracy and Armed Robbery against Ships'.

¹⁰⁵ ICC-IMB above n 12. On 21 March 2015, the Marshall Island flagged FPSO Yoho was attacked and boarded by armed pirates while anchored. Six pirates armed with guns from a small craft boarded the vessel. They fled after kidnapping three crew members.

are not frequently considered to be the main target of terrorists.¹⁰⁶ This has resulted in limited research devoted to threats to offshore platforms. There are few published studies of or articles on platform security thus far.¹⁰⁷ Nevertheless, based on a historical review, attacking offshore oil and gas installations is not a new phenomenon.¹⁰⁸ An attack on an offshore installation took place as early as August 2, 1899 off the shores of Santa Barbara, California. Attacks that involve various techniques, actors, weapons and objectives have continued until the present day. An excerpt of security incidents on offshore installation is outlined below.

Table 2: Major security incidents on offshore oil and gas installations¹⁰⁹

| No. | Date | Location | Details |
|-----|-------------|----------|---|
| 1. | 17 Nov 2010 | Cameroon | The Africa Marine Commando (AMC) rebel group carried out a deadly assault on an offshore oil platform at the offshore Moudi oil terminal (consisting of production platform, FSO <i>Moudi</i> and a single buoy mooring) located in the Gulf of Guinea about 50 km off Cameroon's disputed Bakassi peninsula. Six people were killed in the attack, including three members of Cameroon's Rapid Intervention Battalion (a national defence force) involved in the security of offshore oil and gas installations, two Cameroonian civilians and one of the attackers. |
| 2. | 15 Nov 2010 | Nigeria | Armed men boarded ExxonMobil's <i>Oso</i> offshore platform on the Nigeria's southeast coast and abducted eight offshore workers. At the time of the attack there were 74 people aboard the platform. The company suspended 75,000 bpd production from the facility. |
| 3. | 7 Nov 2010 | Nigeria | Movement for the Emancipation of the Niger Delta (MEND) insurgents attacked the <i>High Island VII</i> offshore drilling jack-up rig at the Okoro offshore field located about 12 km offshore and kidnapped 19 crew members including 12 Nigerians, two Americans, two Frenchmen, two Indonesians and one Canadian. Hostages were |

¹⁰⁶ Jenkins, above n 102.

¹⁰⁷ Ibid.

¹⁰⁸ Lee Cordner, 'Managing Regional Risk: Offshore Oil and Gas Safety and Security in the Asia-Pacific Region' (2011) 3 *Australian Journal of Maritime and Ocean Affairs* 16.

¹⁰⁹ Mikhail Kashubsky, *A Chronology of Attacks on and Unlawful Interferences with, Offshore Oil and Gas Installations, 1975-2010* (2011) Perspectives on Terrorism <<http://www.terrorismanalysts.com/pt/index.php/pot/index>>.

| No. | Date | Location | Details |
|-----|---------------|----------|---|
| | | | freed ten days later. |
| 4. | 5 July 2009 | Nigeria | MEND attacked Shell's <i>Well Head 20</i> platform located at Cawthorn Channel 1. The facility connects to the Bonny loading terminal in Rivers state. On the same day MEND militants attacked and blew up the strategic Okan manifold which controlled about 80 per cent of Chevron Nigeria Limited offshore crude oil to its BOP Crude Loading Platform in Delta state. |
| 6. | 24 April 2004 | Iraq | Terrorists carried out a suicide boat attack on offshore Al-Basra Oil Terminal (ABOT) in the Persian Gulf. Two zodiac type speedboats piloted by suicide bombers approached the terminal at high speed. The lead boat aimed at the platform and was fired upon, after which it detonated before it could hit the platform. The second boat was also fired upon, killing attackers but the boat still rammed <i>MV Takasuzu</i> oil tanker, yet it failed to detonate/explode. |
| 7. | 18 April 1988 | Iran | The US military attacked and destroyed Iranian offshore oil complexes, <i>Salman</i> (aka <i>Sassan</i>) and <i>Nasr</i> (aka <i>Sirri</i>), shortly after the US frigate, <i>Samuel B Roberts</i> was damaged by a mine, allegedly belonging to Iran, in international waters near Bahrain. |
| 8. | 2 August 1899 | USA | When an oil company began to construct an oil derrick off the shores of Montecito, a highly affluent suburb of Santa Barbara in the State of California, a local mob took direct action. They attacked the rig and demolished it. The local 'society men' responsible for the attack did not suffer any noteworthy legal repercussions for their actions, despite having been so well known. |

In the Indonesian domestic context, there is no clear information regarding the number of security incidents affecting offshore installations, but fragmented information from different sources can be gathered. In 2002, a terrorist attack took place in Northern Indonesia against Exxon Mobil petroleum facilities. Scant information is available on this incident except a brief reference by an article discussing oil platform security.¹¹⁰ Pirates attacked the offshore oil rig *Ocean*

¹¹⁰ Mehdiyev, above n 101.

Sovereign, causing extensive damage to the structure and threatening the crew, on November 3, 2014 in the Malacca Strait, outside Indonesia's territorial seas.¹¹¹ In 2007, it was reported that a group of thieves attempted to steal components or spare parts of an offshore platform located in the Java Sea, 20 nautical miles north of West Java. A similar incident occurred in 2013 to PERTAMINA's offshore platform.¹¹²

According to Michael Kashubsky, security threats to offshore platforms can be divided into eight categories. These are piracy, terrorism, insurgency, organized crime, civil protest, inter-state hostilities, vandalism and internal sabotage.¹¹³ Among the major dangers that are frequently faced by offshore installations are piracy, terrorism, protesters (such as environmental activists), sabotage and vandalism by criminal syndicates. Some general definitions of these threats according to Michael Kashubsky are as follow:

- a. Terrorism is any action that uses violence for political ends including violence for the purpose of inciting fear in the public or any section of the public.¹¹⁴
- b. Piracy is any illegal act of violence or detention, or any act of depredation, committed for private ends, occurring on the high seas or outside the jurisdiction of any State, which is committed against another ship or aircraft. The alleged illegal acts must be committed by the crew or passengers of a ship or aircraft, which is defined in Article 103 of the LOSC as a 'pirate ship or aircraft'.¹¹⁵
- c. Civil protest also poses a security threat to offshore oil and gas installations. Interference with offshore operations can be caused by non-violent environmental activists, indigenous activists, labour activists, striking workers, and anti-government protesters.¹¹⁶

¹¹¹ Kashubsky, above n 108.

¹¹² Navigation Regulation art 92.

¹¹³ Mikhail Kashubsky, *Protecting Offshore Oil and Gas Installations: Security Threats and Countervailing Measures* (13 August 2013) Journal of Energy Security <<http://ensec.org/index.php>>.

¹¹⁴ Ibid.

¹¹⁵ Ibid.

¹¹⁶ Example of recent protest has happened in relation to the launch of the second of Shell's two oil rigs plans to drill in the Arctic by Mid of 2015. The activists protest over Shell's intention as the Arctic is one of the most environmentally sensitive region in the world and if a spill incident occurred will result to the ecosystem disaster and extremely hard to clean. See *U.S. activists to protest against Shell Arctic oil rig* (30 June 2015) Reuters <<http://www.reuters.com/article/us-shell-arctic-idUSL1N0ZG01F20150630>>; *Seattle protesters plan to kayak blockade to stop Shell rig departure* (10 June 2015) Al Jazeera (America) <<http://america.aljazeera.com/articles/2015/6/10/raging-grannies-try-to-block-shell-rig-departure.html>>.

- d. Sabotage can be defined as ‘the deliberate destruction, disruption or damage of equipment’ by dissatisfied employees. The threat of internal sabotage comes from ‘insiders’ such as current and former employees of oil companies, contractors, offshore service providers, and other trusted persons.¹¹⁷
- e. Vandalism is ‘damaging cargo, support equipment, infrastructure, systems or facilities’.¹¹⁸

This section does not intend to discuss these security threats in detail or review the operational aspect of the protection of offshore oil rigs. Its focus is analysing existing domestic regulatory frameworks in relation to the protection offshore oil rigs and other structures such as submarine pipelines, in Indonesian waters. It will also review the links between these frameworks and international law and will make some suggestions to improve the frameworks.

4.2.2.2. Legal Measures to Tackle Maritime Security Issues

Key domestic laws on maritime security in relation to offshore oil and gas installations are the Indonesian Law of the Sea, *Law No. 1 of 1946 on Criminal Law* (Indonesian Penal Code) and the Shipping Law.

The Indonesian Law of the Sea provides the legal basis for the application of domestic law to protect offshore installations operating in Indonesia’s various maritime zones. Article 7 divides the oceans into separate areas of jurisdiction and allocates different levels of control. It provides that Indonesia has full sovereignty within its internal waters, archipelagic waters and territorial sea, special jurisdiction within its contiguous zone, and sovereign rights within its EEZ and continental shelf (see Table 3). Outside these zones, the extended continental shelf and the high seas and international seabed (the Area) have different regulations.

Article 7 reaffirms Indonesia’s maritime zones and sets the legal basis for the government to exercise its sovereignty and jurisdiction in order to protect offshore installations from maritime security threats. The government may exercise its control through sea patrols, inspections and rescue operations.

¹¹⁷ Kashubsky, above n 112.

¹¹⁸ Ibid.

Table 3: Indonesia’s maritime zones, sovereignty and jurisdiction

| Maritime zones | Sovereignty | Jurisdiction | Special jurisdiction | Sovereign rights |
|----------------------------|--------------------|---------------------|-----------------------------|-------------------------|
| Internal waters | v | v | | |
| Archipelagic waters | v | v | | |
| Territorial sea | v | v | | |
| Contiguous zone | | | v | |
| EEZ | | v | | v |
| Continental shelf | | v | | v |

Article 32 of the Law, although not directly related to security, briefly mentions that the operation of offshore installations, including decommissioning activity, shall take into consideration the safety of navigation. To that end, the government carries out supervision of the operations of offshore installations.¹¹⁹

Articles 58 and 59 outline the objectives of Indonesian maritime defence system namely to manage and protect Indonesia’s territory from any security threat. The system itself consists of security, law enforcement and safety aspects, and is organised by the Defence Ministry and the armed forces.¹²⁰ Articles 59-68 of the Law explain that the duties and functions of the Indonesian Maritime Security Board (Bakamla) are formulating national policy on Indonesian maritime safety and security, organising early warning systems for maritime safety in Indonesian waters, and conducting sea patrols in order to ensure safety and security of navigation.¹²¹

¹¹⁹ Indonesian Law of the Sea art 33.

¹²⁰ For further references see Law No. 2 of 2002 on the Indonesian Police (Polri) and Law No. 34 of 2004 on the Indonesian Armed Force (TNI).

¹²¹ Provisions on the establishment of Bakamla are currently can be found in two major domestic laws namely the Shipping Law and the Indonesian Law of the Sea. And since there are some discrepancies on the Bakamla regulations between those two Laws, therefore provisions on the Indonesian Law of the Sea shall take into the first place as the more recent law. In short, the regulations on Bakamla are transformed from the Shipping Law to the Indonesian Law of the Sea.

The Penal Code also provides for the protection of offshore platforms. It sets out national punitive regulations for general criminal acts in Indonesia. Chapter One of the Code (General Provisions) outlines that its provisions apply to any person who is guilty within Indonesia or outside Indonesia on board an Indonesian vessel, and to an Indonesian national who outside Indonesia and commits specific crimes as stated in Articles 5-7. Similar to the Indonesian Law of the Sea, the Penal Code uses a territorial approach to describe the extent of its provisions' operation. The words 'within Indonesia' in Article 3 are widely perceived as the land and sea where Indonesia's sovereignty can be fully exercised. In other words, this includes Indonesia's internal waters, archipelagic waters and territorial sea. The Code also applies to an Indonesian national who commits punishable act outside Indonesia on board an Indonesian vessel. Although there is no consensus on whether offshore installations are a type of 'vessel', at least some types of oil and gas rigs, particularly FPSO, are likely to be categorised as a vessel.

Several provisions of the Penal Code's second chapter are also relevant to offshore installations' security. These contain penal provisions on general criminal acts, which could include security threats to offshore installations. Table 4 outlines the provisions that may apply to crimes against offshore installations.

**Table 4:
KUHP provisions on criminal acts related to offshore oil and
gas installations security**

| No. | Articles | Criminal acts | Punishments |
|------------|------------------------------------|---|---|
| 1. | 187, 187 bis, 187 ter, 188 and 189 | Sets fire, causes an explosion or causes a flood | Maximum imprisonment between twelve and twenty years |
| 2. | 196 and 197 | Destroys, damages, removes or moves away a signal placed for the safety of navigation | Maximum imprisonment between four months and two weeks, and twenty years |
| 3. | 198 and 199 | Causes a vessel to sink or strand, or destroys, or damages a vessel | Maximum imprisonment between nine months (or a maximum light imprisonment of six months or a maximum fine of three hundred Rupiahs), and twenty years |

| No. | Articles | Criminal acts | Punishments |
|-----|-------------|---|--|
| 4. | 200 and 201 | Destroys or damages a building or a structure | Maximum imprisonment between four months and two weeks, and twenty years |
| 5. | 338 | Takes the life of another person, manslaughter | Maximum imprisonment of fifteen years |
| 6. | 340 | Premeditation takes the life of another person, murder | Capital punishment or a maximum imprisonment of twenty years |
| 7. | 351 | Maltreatment | Maximum imprisonment of seven years (if the fact results in death) |
| 8. | 362 | Takes property, wholly or partially belonging to another (theft) | Maximum imprisonment of five years |
| 9. | 368 | Forces someone either to deliver a good that wholly or partially belongs to another (extortion) | Maximum imprisonment of nine years |

The second chapter of the Code also includes penal provisions for specific crimes relating to navigation. These parts are much more relevant to the protection of vessels, includes tankers, and hence are reviewed later in this chapter. Under Articles 438-479 (Chapter XXIX: Crimes relating to navigation), it is specified that types of maritime crimes are piracy, unlawfully seizing a ship, insertion of false statement in the record of evidence, crew or passenger attacks (insubordination), destruction of ship facilities, and skipper's omission relating to escape of a convict.

Pursuant to Article 438, piracy is defined as the act of a person using a vessel to commit acts of violence in the open sea against other vessels or person or property on board, without thereto being authorized by a belligerent state or being part of the navy of a recognized state. It divides piracy into several types including beach or coast-piracy and river-piracy.¹²² The differences between those two types of piracy are due to the place of the violation: coast piracy occurs near the beach or the mouth of rivers, while river piracy take place on a

¹²² Indonesian Penal Code, art 438.

river.¹²³ Articles 438-442 of the Code outline that the maximum imprisonment for any perpetrator of piracy is fifteen years.

The Shipping Law sets out a number of shipping security requirements, and penal provisions for noncompliance with the requirements. It defines maritime security and safety as a condition where the ship sea-worthiness and navigation requirements are fulfilled.¹²⁴ The Law also regulates the management of ship security and requires operators of ship to hold an International Ship Security Certificate (ISSC) and Security Management Certificate issued by a competent institution.¹²⁵ Article 302 of the Law applies punishment for any noncompliance with security requirements. For instance, the penalty for any person who operates a ship without fulfilling the requirements is imprisonment for a maximum of two years or a fine of three hundred million rupiah at the most.¹²⁶

The Shipping Law specifies the duties and functions of the Indonesian Coordinating Board for Sea Security (Bakorkamla), which are ensuring shipping safety and security, formulating general policy on law enforcement at sea, and conducting sea patrols and hot pursuits.¹²⁷ Since the 2008 Shipping Law was promulgated prior to the Indonesian Law of the Sea, which transformed Bakorkamla into Bakamla (Indonesian Maritime Security Board), there are some discrepancies between those two laws and boards. In this respect, the current practice of maritime security in Indonesia should refer to the more recent law of 2014.

Article 195(a) outlines that the Government shall designate and announce security and safety zone in every location potentially disrupting safety of navigation. However, no further explanation whatsoever on the matter of these security and safety zones is provided by the Law. More detailed regulations on security and safety zones can be found in the 2010 Navigation Regulation. Article 38 of the Regulation specifies that security and safety zones consist of (i) 500

¹²³ Ibid.

¹²⁴ Shipping Law art 117.

¹²⁵ Ibid art 170.

¹²⁶ Ibid art 117(2).

¹²⁷ Ibid arts 276 and 277.

metre of prohibited zone measured from outer limit of offshore platforms or navigational aids facilities, and (ii) 1,250 metre restricted zone which measured from outer limit of the prohibited zone, or 1,750 metres from outer limit of offshore platforms or navigational aid facilities. While there is a prohibition on the construction of installation or facilities within the prohibited zone, such construction may be undertaken with certain conditions, namely the Minister's approval in cases where it will cause no interference to existing navigational aid facilities.¹²⁸ In terms of the passage of vessels, any vessel must traverse through the waters outside the security and safety zone. Nevertheless, if a water course, river or lake has a breadth of less than 500 metres, the vessel can pass across the zone while maintaining a safe distance from the offshore facilities (at least one and a half times the vessel length).¹²⁹

The security and safety zone is very important in ensuring the security and safety of navigational aids surrounding offshore structures or other navigational aids.¹³⁰ Practically, the zone functions as a security perimeter around offshore facilities in order to prevent and tackle possible maritime threats from outside the structure.

A number of other Indonesian laws and regulations are relevant to the protection of offshore oil and gas facilities, and have been grouped below under their primary purpose or subject matter.

Adoption of international instruments

- *Law No. 17 of 1985 on the Ratification of the United Nations Convention on the Law of the Sea (UNCLOS) 1982*¹³¹
- *Presidential Decision No. 65 of 1980 on the Ratification of the International Convention on the Safety of Life at Sea (SOLAS) 1974*¹³²

¹²⁸ Navigation Regulation art 38(5).

¹²⁹ Ibid art 40.

¹³⁰ Ibid art 38 (2).

¹³¹ *Undang-Undang Nomor 17 Tahun 1985 Tentang Ratifikasi United Nations Convention on the Law of the Sea (UNCLOS) 1982* [Law No. 17 of 1985 on the Ratification of the United Nations Convention on the Law of the Sea (UNCLOS) 1982] (Indonesia).

¹³² *Keputusan Presiden Nomor 65 Tahun 1980 Tentang Ratifikasi the International Convention on the Safety of Life at Sea (SOLAS) 1974* [Presidential Decision No. 65 of 1980 on the Ratification of the International Convention on the Safety of Life at Sea (SOLAS) 1974] (Indonesia).

- *Decision of Transportation Minister No. 33 of 2003 on the Implementation of the International Ships and Port Security (ISPS) Code*¹³³

Indonesia's maritime zones

- The 1996 Indonesian Waters Law
- The 1983 EEZ Law
- The 1973 Continental Shelf Law

Security Agencies

- *Law No. 2 of 2002 on the Indonesian Police (Indonesian Police Law)*¹³⁴
- *Law No. 34 of 2004 on the Indonesian Armed Force (Indonesian Armed Force Law)*¹³⁵
- *Presidential Regulation No. 178 of 2014 on the Establishment of the Indonesian Sea Security Board (Bakamla)*¹³⁶

Security Cooperation

- The 2010 agreement of BP Migas and the Navy on the Security and Monitoring over Offshore Oil and Gas Upstream Facilities in Indonesia's National Jurisdiction;¹³⁷
- The 2011 agreement of BP Migas and Dishidrosal on Survey, Mapping and Hydro-Oceanography study in relation to Oil and Gas Upstream Activities in Indonesian Waters and Jurisdiction¹³⁸

¹³³ *Keputusan Menteri Perhubungan Nomor 33 Tahun 2003 Tentang Implementasi the International Ships and Port Security (ISPS) Code* [Decision of Transportation Minister No. 33 of 2003 on the Implementation of the International Ships and Port Security (ISPS) Code] (Indonesia).

¹³⁴ *Undang-Undang Nomor 2 Tahun 2002 Tentang Kepolisian Republik Indonesia* [Law No. 2 of 2002 on the Indonesian Police] (Indonesia).

¹³⁵ *Undang-Undang Nomor 34 Tahun 2004 Tentang Tentara Nasional Indonesia* [Law No. 34 of 2004 on the Indonesian Armed Force] (Indonesia).

¹³⁶ *Peraturan Presiden Nomor 178 Tahun 2014 Tentang Pembentukan Badan Keamanan Laut (Bakamla)* [Presidential Regulation No. 178 of 2014 on the Establishment of the Indonesian Sea Security Board (Bakamla)] (Indonesia).

¹³⁷ *Perjanjian Kerjasama antara BP Migas dan TNI Angkatan Laut Tentang Keamanan dan Pengawasan terhadap Fasilitas Hulu Minyak dan gas Bumi di Wilayah Indonesia, 2010* [The 2010 agreement of BP Migas and the Navy on the Security and Monitoring over Offshore Oil and Gas Upstream Facilities in Indonesia's National Jurisdiction] (Indonesia).

In ensuring the effectiveness of implementation of these laws, regulations and decisions, a number of national government agencies have been established. These authorities are listed in Table 5.

**Table 5:
National Government Agencies involved in the protection of
offshore oil and gas installations**

| No. | Authority | Responsibility |
|-----|--|---|
| 1. | Indonesian Navy (TNI AL) | Protecting Indonesia's sea territory from external threats, including securing offshore oil and gas installations which operate in internal waters, territorial sea, archipelagic waters, EEZ and continental shelf |
| 2. | Indonesian Police/Marine Police (Polair) | Protecting Indonesia's sea territory from security threats, and investigating criminal acts which occur in internal waters, territorial sea and archipelagic waters |
| 3. | The Indonesian Maritime Security Board (Bakamla) | Formulating national policy on Indonesian maritime safety and security, and conducting sea patrols in order to ensure safety and security of navigation in Indonesian waters |
| 4. | Ministry of Energy and Mineral Resources/ Directorate General of Oil and Gas (Ditjen Migas) | Supervising offshore exploration and exploitation of oil and gas in Indonesian waters |
| 5. | Ministry of Transportation/ Directorate General of Sea Transportation (Hubla) | Coast and sea patrols, ship inspections, and maritime law enforcement |
| 6. | Attorney General Office | Investigation and prosecution of maritime criminal acts |
| 7. | Ministry of Forest and Environment | Protecting the Indonesian marine environment |
| 8. | Ministry of Law and Human Rights/ Directorate General of Immigration | Monitoring and conducting investigation of immigration criminal acts |
| 9. | Ministry of Finance/ Directorate General of Customs | Monitoring and conducting investigation of customs criminal acts |
| 10. | Shipping or General Court | Establishing judicial proceeding for maritime criminal case |

¹³⁸ *Perjanjian antara BP Migas dan Dishidrosal Tentang Survey, Pemetaan dan Studi Oceanography terkait dengan Kegiatan Hulu Minyak dan Gas Bumi di Perairan dan Yurisdiksi Indonesia* [The 2011 agreement of BP Migas and Dishidrosal on Survey, Mapping and Hydro-Oceanography Study in relation to Oil and Gas Upstream Activities in Indonesian Waters and Jurisdiction] (Indonesia).

Although numerous domestic laws contain penal provisions relevant to the protection of offshore oil and gas installations, there remain several weaknesses. First, there is no single specific regulation concerning the security of offshore platforms and pipelines. Moreover, Indonesia also not a contracting party to major global conventions on the protection of offshore installations namely the SUA Protocol 1988 and the SUA Protocol 2005.¹³⁹ As a result it is difficult to find a detailed legal framework on the matter. The presence of such a framework would be significant to address particular criminal actions which not are included within the KUHP and other existing laws. As explained earlier, specific security threats to offshore facilities are piracy and terrorism against maritime structures, internal sabotage, civil protests and vandalism of offshore oil and gas installations.

Second, there are certain complications within the applicable laws that need to be resolved. Instances of these complications include their ambiguous applicability of many laws to offshore oil and gas platforms as the focus of most laws is to regulate vessels. It can be seen in the discussion above of the second chapter of the Penal Code and the Shipping Law that those laws do not explicitly include oil and gas platforms and pipelines within their scope. Revision of the above-mentioned laws, to include offshore installations within their scope, or the promulgation of the new legal framework devoted to protecting oil and gas platforms would appear to be the most appropriate means to address existing maritime security threats.

4.2.3. Decommissioning Offshore Installations

4.2.3.1. Significance of Offshore Installation Decommissioning

Many of the offshore oil and gas platforms operating in Indonesian waters were installed in 1970s. Consequently, they are reaching the end of their productive

¹³⁹ 1988 Protocol for the Supression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf, adopted 10 March 1988, 1678 UNTS 304 (entered into force 1 March 1992) art 6; 2005 Protocol for the Supression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf, adopted 14 October 2005, (entered into force 28 July 2010) art 9.

economic life and are predicted to be required to decommission during the period 2010-2020.¹⁴⁰

There are at least three considerations in the decommissioning of offshore platforms in Indonesia. First, it is necessary to secure the lawful use of the sea such as for shipping, research and natural resources production. Second, removal of abandoned or disused offshore installations would reduce potential problems for the marine environment. Third, decommissioning activity is an obligation under the 2011 Decommissioning Regulation. Indonesia also has ratified the LOSC which requires states to discharge abandoned or disused offshore installations.¹⁴¹

While it is obvious that abandoned or disused offshore structures could impose maritime hassles for navigation of ships, they also may cause environmental problems. Each of the offshore oil and gas development stages such as exploration, production and decommissioning, is associated with potential environmental problems. Environmental impacts of disused or abandoned offshore platforms manifest in the form of physical, chemical and biological disturbances in the water column and on the seabed. Although in the shallow waters such impacts may rapidly disappear, in the deeper waters, tidal currents could accumulate waste products around the platforms from which they have been discharged. These accumulations, known as 'cuttings piles', may contain as much as 40,000 tons of contaminated sediment.¹⁴² These piles of contaminated sediment can remain toxic to marine life up for 20 or more years after discharge. There is no proven technology that can remove large amounts of heterogeneous sediments from deep water. In previous years, drilling muds were based on diesel oil which has a relatively high content of toxic aromatic compounds. Adverse effects of these cuttings discharges on the ecology of the adjacent sea bed may extend out to more than 5 km from the point of discharge.¹⁴³ Therefore,

¹⁴⁰ R. Desrina, Chairil Anwar and Tri Muji Susantoro, 'Environmental Impacts of the Oil and Gas Platform Decommissioning' (2013) 36 *Scientific Contributions Oil & Gas* 98.

¹⁴¹ LOSC art 60.

¹⁴² Desrina, above n 139, 100.

¹⁴³ *Ibid.*

with an abundance of offshore oil and gas platforms that will become disused, special regulations are required to control the situation and ensure safety in the region.

There is very limited information on the decommissioning of offshore oil and gas platforms in Indonesian waters, including legal and environmental studies on decommissioning. The following discussion highlights the domestic legal framework for decommissioning of offshore platforms including alternative decommissioning options. Technological aspects of structural decommissioning are excluded from the scope of this work.

4.2.3.2. Options for Offshore Oil and Gas Platform Removal

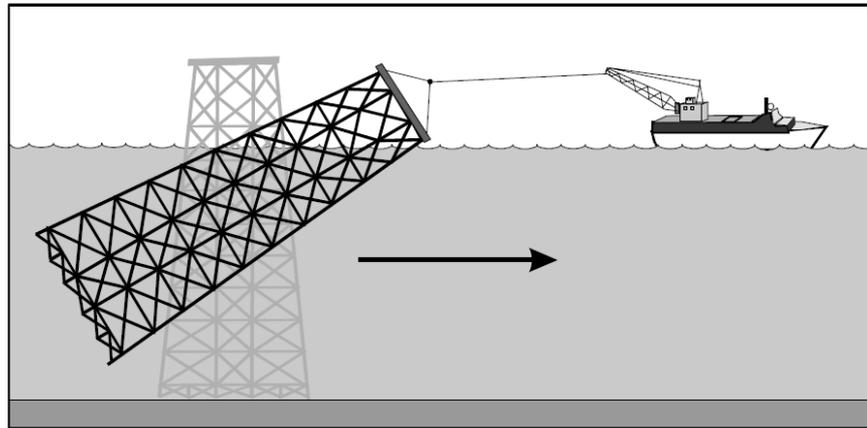
There are various methods of offshore platform decommissioning. Variable factors include construction type, size, location (distance from shore), weather, cost, available technology and human resources. In general there are three decommissioning options that are typically conducted: total removal, partial removal and leave in place. Total removal implies that abandoned or disused installations or structures should be removed entirely. This method is likely to apply for all abandoned or disused installations or structures standing in shallow water (less than 75 metre). The method of total removal of offshore platforms can be seen in Figure 1 below. According to the *IMO Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the EEZ (IMO Code) 1989*, partial removal is more likely to be used for abandoned or disused installations or structures standing in the water deeper than 75 metre and weighing more than 4,000 tonnes in air, excluding the deck and superstructure.¹⁴⁴ Alternatively, abandoned or disused installations or structures may be left or toppled in place. This option should be based, in particular, on a case-by-case evaluation, by the coastal state with jurisdiction over the installation or structure, of among other matters: any potential effect

¹⁴⁴ *1989 Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone*, IMO Resolution A. 672 (16) (19 October 1989).

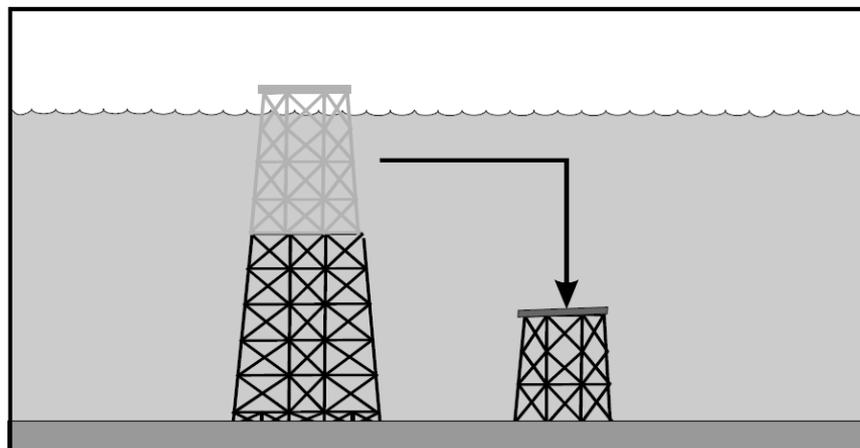
on safety navigation or other uses of the sea; potential effects on the marine environment, including living resources; and the cost.¹⁴⁵

Figure 1: Types of decommissioning

Total removal: Tow-and-place platform¹⁴⁶



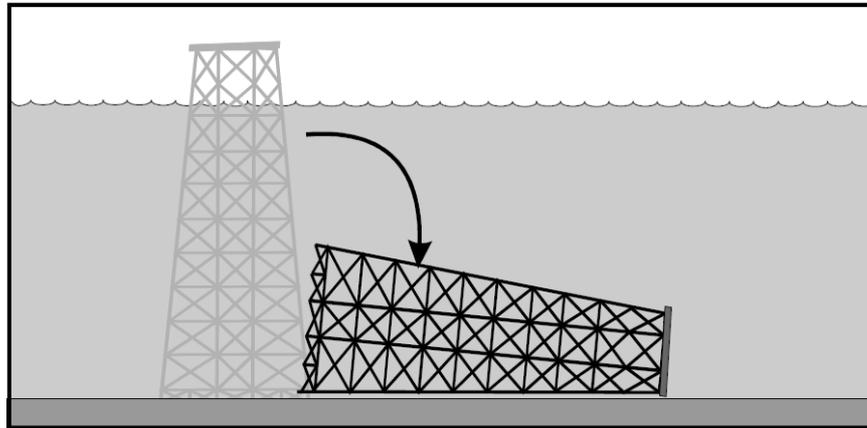
Partial removal of offshore platform



¹⁴⁵ Ibid.

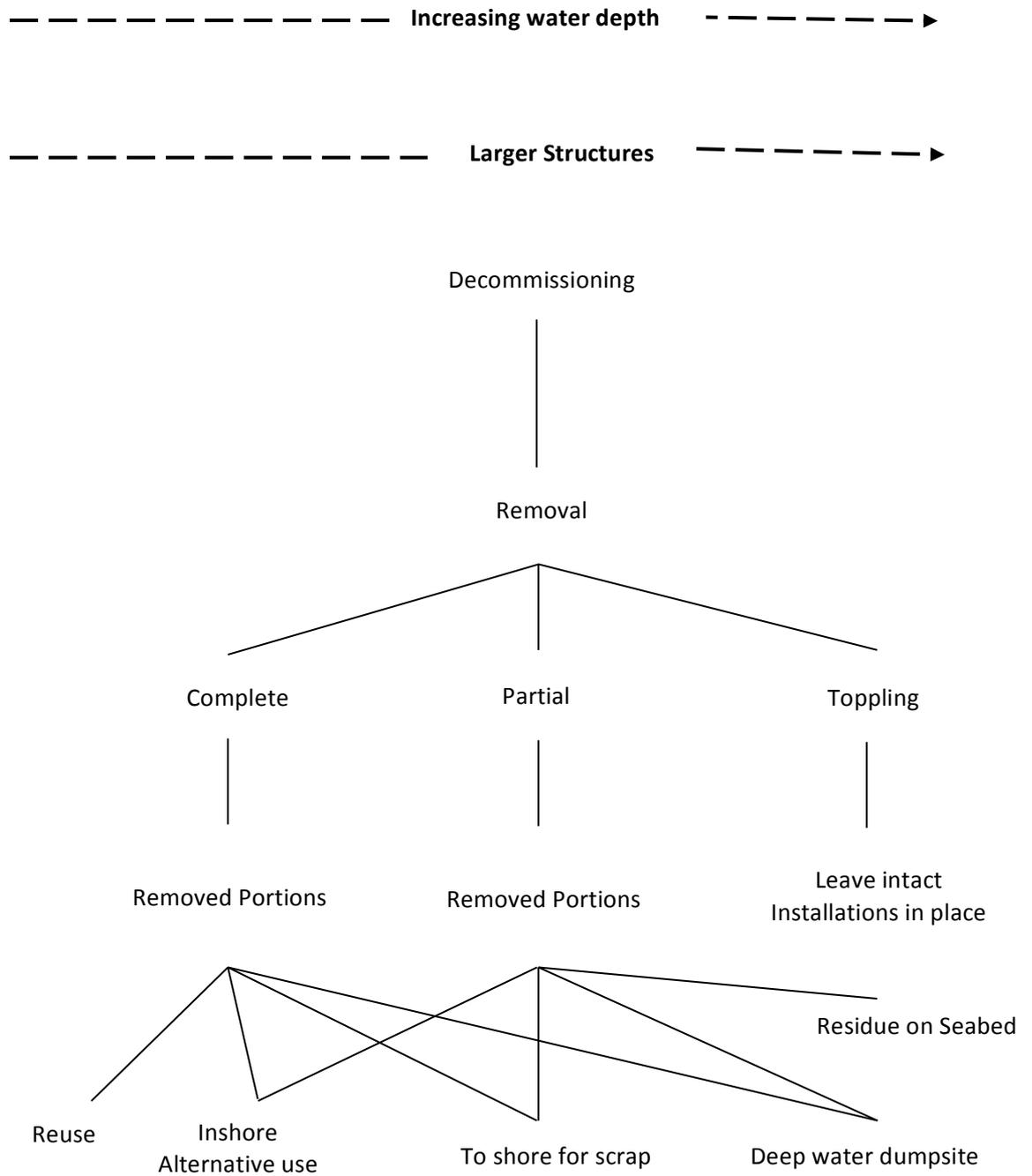
¹⁴⁶ Les Dauterive, *Rigs-to-Reefs, Progress and Perspectives* (U.S. Department of the Interior Minerals Management Service Gulf of Mexico OCS Region, 2000).

Topple in place offshore platform



Other options for dismantling and abandonment of offshore installations are depicted in Figure 2. The choice between these options is based on technical and economic perspectives, where for larger and deeper structures it is more appropriate to leave them totally or partially intact. According to the diagram, the fragments can be taken to the shore, buried or reused for some other purpose.

Figure 2: Dismantling and abandonment options for offshore installations¹⁴⁷



Despite Indonesia's prominence and long history in the Asia Pacific offshore oil and gas business, little oil rig decommissioning has taken place in the region.¹⁴⁸

¹⁴⁷ The European Commission DG XI and DG XVII, *Technical Review of the Possible Methods of Decommissioning and Disposing of Offshore Oil and Gas Installations*, 1996, Contract No. B4-3040/96/000259/MAR/D1 as cited in Desrina, Anwar and Susantoro, above n 139, 99.

The main reasons for the lack of decommissioning may include the lack of clear regulation in place, which leads to a lack of technical instruction, and budgetary constraints.¹⁴⁹

4.2.3.3. Regulating Decommissioning of Abandoned or Disused Offshore Installations

The key regulatory framework for offshore oil rig decommissioning in Indonesia is the 2011 Decommissioning Regulation. According to this Regulation, decommissioning is defined as cutting work over the whole or part of offshore installations/platforms, with sections that have been cut off to be removed or transported to a designated location.¹⁵⁰ The Regulation obliges that every decommissioning shall be carried out with reference to national, regional or international standards of technology; compliance to engineering principles; meeting with safety requirements, and protection of marine environment.¹⁵¹

There are three main stages to the process of offshore oil rigs decommissioning provided in the Regulation: planning, decommissioning, and monitoring. At the planning stage the contractor shall deliver its decommissioning application to the Director General via the Executing Board in order to obtain decommissioning approval.¹⁵² The application shall include the following planning documents:

- a. List of equipment of the offshore platforms to be decommissioned
- b. Latest map of offshore platforms' location
- c. Environmental documents
- d. Statement letter that describes the cutting of all facilities related to the offshore platforms
- e. Original design or requalification analysis and modifications occurred
- f. Record of operations including the result of annual and special inspections
- g. Decommissioning technology alternatives that have been considered
- h. Plug and abandonment procedures

¹⁴⁸ Heidi Vella, *Decommissioning Indonesia's Oil Rigs: A Vast but Challenging Market* (19 February 2015) <<http://www.offshore-technology.com/features/featuredecommissioning-indonesias-oil-rigs-a-vast-but-challenging-market-4470226/>>.

¹⁴⁹ Ibid.

¹⁵⁰ Ibid art 1 (3).

¹⁵¹ Ibid art 4.

¹⁵² Ibid art 6.

- i. Decommissioning, removal, and/or transporting procedures
- j. Risk analysis on the decommissioning, removal and transporting activities
- k. Safety and health procedures, including the safety of decommissioning, removal and transporting activities
- l. Time schedule
- m. Emergency plan
- n. Security plan for abandoned facilities, and
- o. Removal and/or storing site for offshore decommissioned installations

Subsequently, the Director General evaluates the decommissioning document at least 30 days after the submission of document. If the decommissioning application is approved, the Director General will issue an approval for a three years decommissioning period.¹⁵³

In decommissioning an offshore oil platform, there are certain techniques that the contractor shall comply with, such as:

- a. Cutting the conductors five metre below the mud line or, in the case of the distance between mud line and seabed less than five metres, parallel with seabed
- b. Cutting the conductors into segments of 12 metre maximum length each
- c. Dismantling the top side facility by cutting welded connections between piling and deck foot
- d. Cutting the piling and its holder five metre below the mud line or, in the case of the distance between mud line and seabed less than five metre, parallel with the seabed
- e. Cutting the transporting pipes above the riser band point and at the three metre range of the installation's bottom leg
- f. Clogging the abandoned transporting pipes and burying or covering its tip with protective material, and
- g. Cutting the transporting pipes into small fragments (9-12 metre length).

¹⁵³ Ibid art 7.

The contractor has a duty to ensure that the seabed is clean enough from any waste within the safety zone of 500 metres. At the same time, the Director General will carry out monitoring throughout the decommissioning process in order to ensure compliance with the existing rules and standards. Following the decommissioning, the contractor shall convey the decommissioning report to the Director General via its Implementing Body by the fourteenth day after the last day of decommissioning.¹⁵⁴ In this respect, there are generally at least four authorities involved in decommissioning activities. These authorities are the Ministry of Energy and Mineral Resources (cq. Directorate General of Oil and Gas), the Ministry of Transportation (cq. Directorate General of Sea Transportation), the Ministry of Environment, and the Ministry of Ocean and Fishery.

In addition to the Decommissioning Regulation, there are other legal frameworks that are related to the removal of abandoned or disused offshore installations including the 2001 Oil and Gas Law, the Shipping Law, the 2009 Environment Protection and Management Law 2009, the 2009 Amended Fishery Law 2009, and the 1974 Supervision of Offshore Oil and Gas Exploration and Exploitation Regulation. These laws and regulations govern ocean resources and shipping activities within Indonesian waters. Indonesia's maritime zones including sovereignty and sovereign rights, are governed by the Indonesian Waters Law, the EEZ Law, the Continental Shelf Law and Indonesian Law of the Sea. The key implementing regulation for the dismantling and removal of disused or abandoned offshore installations remains the Decommissioning Regulation, as outlined above.

Some observations on the relationship between Indonesian laws on decommissioning and international conventions and standards are presented in the following paragraphs. The domestic law on decommissioning, essentially represented by the 2011 Regulation, is principally part of the implementation of the LOSC in Indonesia. This can be demonstrated in two ways: first, the

¹⁵⁴ Ibid art 14.

substance of Article 60(3) of the LOSC, which was already adopted by Indonesia through the *Law No. 17 of 1985 on the Ratification of LOSC*, and second, one of the legal references of the 2011 Regulation that refer to the LOSC, namely the Shipping Law.¹⁵⁵ As provided by Article 60(3) of the LOSC, any offshore installation that is abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organization. The Decommissioning Regulation spells out the obligation to remove abandoned or disused offshore installations, and provides technical requirements in conducting the removal or decommissioning. However, it does not make a complete reference to international standards established by the competent international organization as found in the Article 60(3) of the LOSC. There is no clear explanation for or information about this discrepancy. Article 4 of the Regulation simply specifies that the removal or dismantling of offshore installations shall be carried out with appropriate technology, in conformity with national, regional or international standards, including on safety, occupational health, and protection of the environment.

The *1989 IMO Guidelines and Standards* are other international legislative instruments that have links to Indonesian laws. The emphasis of the Guidelines and Standards is to set out requirements for dismantling or removal of offshore installations, as well as non-removal options. It must be noted that the legal status of the *1989 IMO Guidelines and Standards* is different from that of an international treaty or convention such as the LOSC. Nevertheless, the Guidelines and Standards are closely linked to Article 60(3) of the LOSC, as previously highlighted. In contrast to the options set out in *1989 IMO Guidelines and Standards*, the Indonesian 2011 Regulation only contains the option to dismantle or remove offshore installations. Hence, it is suggested that Indonesia could adopt the *1989 IMO Guidelines and Standards* into its regulations in order to anticipate the new wave of offshore oil and gas installation abandonment.

¹⁵⁵ Ibid consideration para 2.

The third international instrument to be reviewed is the London Convention, including its 1996 Protocol.¹⁵⁶ Although the London Convention and its Protocol do not directly regulate decommissioning of offshore installations, and Indonesia is not a party to these instruments yet, the London Convention is significant as it categorises the disposal of platforms or other man-made structure at sea as dumping, and sets out requirements for the disposal at sea of platforms or other man-made structures. The London Convention encourages the total removal of offshore installations or structures in order to protect the environment, unless the abandoned or disused installation meets certain conditions provided in the Convention. In this regard, Indonesian domestic law on decommissioning is perfectly in line with the London Convention. Article 2 of the 2011 Regulation explains that offshore installations must be removed if they are abandoned or disused, or if they are intended to be reused. The major difference between the London Convention and the Decommissioning Regulation is the option in the London Convention to leave installations intact in situ or dispose of them at sea. Whilst the London Convention provides the option of disposal at sea and sets out requirements for so doing, the 2011 Regulation does not include this option. Given the increased numbers of disused or abandoned offshore installations in Indonesia, it is important for the government to consider adopting the London Convention provisions into its domestic legislation. Key elements of the London Convention that could be incorporated are the requirements for a special permit, including the permit's mechanism and circumstances, for the disposal of offshore installations or structures at sea.¹⁵⁷

¹⁵⁶ *Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter* 1972, adopted 29 December 1972, 11 ILM 1294, (entered into force 30 August 1975); *Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter*, adopted 7 November 1996, 36 ILM 1, (entered into force 24 March 2006).

¹⁵⁷ Youna Lyons, 'The New Offshore Oil and Gas Installation Abandonment Wave and the International Rules on Removal and Dumping' (2014) 29 *the International Journal of Marine and Coastal Law* 498.

4.3. Transportation of Hydrocarbon Resources by Tankers in Indonesian Waters

4.3.1. Legal and Navigational Aspects

4.3.1.1. *Indonesian Shipping Routes for Offshore Oil and Gas Carriers*

Few commodities are as vital as hydrocarbon resources. As a commodity of strategic importance, oil and gas has long been the object of global maritime transportation. Hydrocarbon resources, which typically comprise crude oil, gas and petroleum products, made up 32% of seaborne trade in 2014. This was equivalent to about 2,826 million tons loaded.¹⁵⁸ Oil tankers' share of the global fleet reached 28% or 489,388 thousand dwt in 2015, and gas carriers' share reached 2.8% or 49,675 dwt.

Maritime transportation is the dominant purveyor of international freight distribution throughout the global maritime space.¹⁵⁹ This space has its own advantages and constraints. Maritime transport connects lands and continents and has extensive reach, yet requires more attention to safety and security than land transport.¹⁶⁰ The maritime distribution of hydrocarbon resources follows a set of maritime routes between the regions where it was extracted and the regions where it was refined and consumed. More than half of the oil and gas commodities shipped is loaded in the Middle East and then shipped to Japan, the United States and Europe.¹⁶¹ Tankers bound for Japan use the Straits of Malacca while tankers bound for Europe and the United States will either use the Suez Canal or the Cape of Good Hope, depending on the tanker's size and its specific destination.¹⁶²

In Indonesia, there are six major and strategic chokepoints, comprising the Straits of Malacca, the Singapore Strait, the Sunda Strait, the Lombok Strait, the

¹⁵⁸ United Nations Conference on Trade and Development (UNCTAD), 'Review of Maritime Transport 2015, (The UNCTAD Secretariat, 14 October 2015).

¹⁵⁹ Jean-Paul Rodrigue and Theo Notteboom, *Strategic Maritime Passages the Geography of Transport Systems* <<https://people.hofstra.edu/geotrans/eng/ch1en/appl1en/ch1a2en.html>>.

¹⁶⁰ Ibid.

¹⁶¹ Jean-Paul Rodrigue, *International Oil Transportation the Geography of Transport Systems* <<https://people.hofstra.edu/geotrans/eng/ch8en/appl8en/ch8a1en.html>>.

¹⁶² Ibid.

Ombai Strait and the Wetar Strait. All of these Straits are used for international navigation, with the Straits of Malacca as the busiest maritime passage. Together with the Singapore Strait, the Straits of Malacca supports the bulk of the maritime trade between Europe and Asia Pacific, which accounts for 70,000 ships per year. About 30% of the world's trade and 80% of Japan's, South Korea's and Taiwan's imports of petroleum transits through the Strait, approximately 15.2 million barrel per day in 2013. The Straits of Malacca and Singapore is the shortest shipping channel between the Indian Ocean and the Pacific Ocean. However, the Straits are not deep enough to accommodate some of the largest oil tankers. It measures about 800 km in length, has a width between 50 and 320 km (2.5 km at its narrowest point) and a minimal channel depth of 23 metres (about 70 feet).¹⁶³

The Sunda Strait is the closest alternative to the Straits of Malacca and Singapore. The fleet would incur 1.5 days delay compared to transiting through the Straits of Malacca and Singapore. It is an important shipping route for fleet proceeding from Africa, Middle East to Australia and *vice versa*. The Strait is located between Java and Sumatera, connecting the Java Sea to the Indian Ocean. It is also one of the busiest intra insular ferries. According to Directorate General of Maritime Transportation, there are more than 23,500 means of transportation crossing Java-Sumatera per year or 65 sailing activities connecting those islands. The depth of the Sunda Strait is very shallow, less than 20 metre, in parts of the eastern end and most container ships could not pass through the shallow and dangerous Straits.¹⁶⁴

The Lombok Strait is a strait connecting the Java Sea and the Indian Ocean, located between the islands of Bali and Lombok in Indonesia. It would require approximately 3.5 extra days to traverse the additional distance through the Strait, assuming an average speed of 15 knots. The Strait is an important shipping route for vessels from the Indian Ocean to the South China Sea and *vice versa*.

¹⁶³ Rodrigue and Notteboom, above n 157.

¹⁶⁴ Mohd Hazmi bin Moh Rusli, *Maritime Highways of Southeast Asia: Alternative Straits?* (10 February 2012) S. Rajaratnam School of International Studies (RSIS) Commentaries <<https://www.rsis.edu.sg/wp-content/uploads/2014/07/CO12024.pdf>>.

Most of the vessels using this Strait leave from Australia to China, South Korea and Japan. It is deep enough, more than 100 metres, for the passage of large vessels.¹⁶⁵ The Ombai Strait and the Wetar Strait are alternative shipping routes situated within Indonesian archipelagic waters. The Ombai Strait is located between Alor Island and Timor, while the Wetar Strait is located between the northern coast of Timor and the southern coast of Wetar. The Straits are extremely deep and are used generally by local shipping including vessels proceeding between Australia and the Java Sea.¹⁶⁶

Figure 3: Indonesian Map



Indonesian waters have become the focus of strategic attention by user states due to a number of factors, including economic, military and oil or energy concerns. These factors are interrelated and have distinct dynamic impacts and outcomes for all concerned states. Therefore, Indonesia must take necessary steps to ensure that interests in commerce, safety, the marine environment and the security of seaborne trade within the region can be managed smoothly.

¹⁶⁵ Xiaobo Qu and Qiang Meng, *the Economic Importance of the Straits of Malacca and Singapore: An Extreme Scenario Analysis*

<http://www98.griffith.edu.au/dspace/bitstream/handle/10072/47702/77135_1.pdf>.

¹⁶⁶ Ibid.

4.3.1.2. Legal Frameworks for the Safety of Tankers

The legal frameworks for safe operation of tankers in Indonesia involve many laws, which can be categorised into four major areas: general maritime undertakings, prevention of marine pollution, tanker specialization, and navigational features. Examples of these laws and regulations are: on general maritime undertakings - the 2008 Shipping Law, The 2014 Indonesian Law of the Sea, and the 1996 Indonesian Waters Law; on prevention of marine pollution - *Law No. 32 of 2009 on the Management of Environment, Government Regulation No. 19 of 1999 on Marine Pollution Control* (Marine Pollution Control Regulation), and *Presidential Regulation No. 109 of 2006 on Offshore Oil Spill Prevention* (Oil Spill Prevention Regulation); on tanker specialization - *Minister of Transportation Regulation No. 2 of 2010 on the Dangerous Goods Management in the National Shipping Activities* [updated/revised edition] (Dangerous Goods Management Regulation) and *Indonesian Classification Board [BKI] Regulations*; and on navigational features – *The 2010 Navigation Regulation* and *Minister of Transportation Regulation No. 25 of 2011 on Navigational Aids Facilities* (Navigation Aids Facilities Regulation).¹⁶⁷

Of the above-mentioned laws and regulations, the most important legal frameworks for the operation of tankers are the Shipping Law, the BKI Regulations, the Navigation Regulation, and the Navigational Aids Facilities Regulation. These represent all the major areas related to oil and gas transportation activities except the protection of the marine environment, which will be considered in Chapter 5.

The Shipping Law was passed in April 2008 and was designed to replace *Law No. 21 of 1992 on Shipping*,¹⁶⁸ which was widely regarded as out of date. Comprising some 355 articles, the law covers a broad range of maritime-related issues such as shipping, navigation, environmental protection, crew welfare, maritime

¹⁶⁷ *Peraturan Pemerintah Nomor 5 Tahun 2010 Tentang Navigasi* [Government Regulation No. 5 of 2010 on Navigation] (Indonesia) ('Navigation Regulation'); *Peraturan Menteri Perhubungan Nomor 25 Tahun 2011 Tentang Alat Bantu Navigasi* [Minister of Transportation Regulation No. 25 of 2011 on Navigational Aids Facilities].

¹⁶⁸ *Undang-Undang Nomor 21 Tahun 1992 tentang Pelayaran* [Law No. 21 of 1992 on Shipping] (Indonesia).

accidents, human resource development, ports, public involvement, the establishment of a coast guard, and many others. The subject matter of these articles can be categorized into four major areas: water transport (seaworthiness); ports; marine safety and security; and protection of the marine environment. According to the Shipping Law, safety and security of shipping is a precondition to safety and security of water-based transport, ports and the marine environment. Under the Law, a 'seaworthy ship' is a ship that prevents the pollution of waters by the vessel, ensures the safety of the ship's crew as well as the welfare of the crew and passengers, complies with requirements for line unloading and loading, and meets all requirements for safety and security management.¹⁶⁹ Safety protocols of the ship shall comply with requirements for materials, construction, buildings, machinery and electricity, stability, and radios, as evidenced by certificates after examination and testing.¹⁷⁰

The Shipping Law obliges every ship operating in Indonesia to satisfy the requirements of pollution prevention through inspection and examination. These inspections and examinations are further regulated by the Minister Regulation.¹⁷¹ On one of the elements of ship seaworthiness, ship manning, Articles 135-146 set out a number of criteria for the ship's captain and crew which include national and international competency, qualification standards, duties and responsibilities of the ship's captain, procedure in piloting certain types of ship, and the captain's rights on board.

A number of regulations specifically apply to tankers. These include Articles 44 - 49 regarding transportation of special and dangerous goods. These articles outline that transportation of special and dangerous goods by vessel shall be carried out in accordance with the applicable laws.¹⁷² Among the special and

¹⁶⁹ Shipping Law art 117.

¹⁷⁰ Ibid art 126. According to this provision, there are three types of certificates namely: certificate on passenger safety, certificate on goods safety, and certificate on sea and manning worthiness for fishing ship. Furthermore, article 127 states certain matters that cause the certificate becomes null such as: the certificate has expired, the ship did not following the endorsement, the ship had severely damage, change of the ship's name, and change of the ship's nationality.

¹⁷¹ Ibid art 134.

¹⁷² Ibid art 44.

dangerous goods are compressed gases, gases that are liquefied or dissolved under pressure, flammable liquids, and flammable solids. Hence, these goods may be in the form of liquid, solid and gas.¹⁷³

The second key regulation is the Navigation Regulation. This Regulation addresses numerous matters in relation to navigation such as navigational aid facilities, hydrography and meteorology, routes and sailing lanes, offshore installations, pilotage, emergency services, and salvage. As not all of these matters are particular to tankers only some of them will be examined below. According to the Regulation, the Minister of Transportation, in coordination with other authorities, is responsible to determine sailing lanes, routes systems, sea traffic regulation and ship anchor areas.¹⁷⁴ In the interests of safety and expeditious sailing in certain locations, the Minister determines routes systems, which consist of the following elements:¹⁷⁵

- a. Traffic Separation Scheme (TSS)
- b. Two way routes
- c. Recommended course
- d. Deep waters routes
- e. Areas to be avoided
- f. Inshore traffic zone
- g. Precaution areas

Article 16 stipulates that the Government determines the location of the Indonesian Archipelagic Sea Lane and makes arrangements for the continuous, direct, and expeditious passage of foreign vessels through Indonesian waters. For that purpose, the Government shall take into account certain aspects as follow:

- a. National security
- b. Safety of shipping
- c. Exploration and exploitation of natural resources

¹⁷³ Ibid art 45.

¹⁷⁴ Ibid art 9.

¹⁷⁵ Navigation Regulation art 13.

- d. Network of submarine cable and pipelines
- e. Conservation of natural resources and environment
- f. Common routes for international voyage
- g. Marine spatial requirements
- h. Recommendations from relevant international organizations.

Navigational aid facilities are comprised of visual, electronic and audible facilities.¹⁷⁶ According to the Regulation, visual facilities include beacons, buoys, and light signs. Electronic facilities are Global Positioning System (GPS), Differential Global Position System (DGPS), beacon radar, beacon radio, surveillance radar, and medium wave radio beacon. Audible facilities shall be placed in foggy or limited vision areas.¹⁷⁷ These facilities allow ships to determine position and/or course, be informed if there is any obstruction to sailing, and be guided on the borders of safe sailing lanes. Audible facilities also signal TSS lines and indicate special areas and/or activity on the sea, and the maritime boundaries of certain countries.

Chapter Nine of the Regulation addresses the criteria, requirements and classification of pilotage. Pilotage is one of the pivotal aspects of navigation and is relevant to tankers. With reference to Article 108, the obligatory pilotage area and pilotage area must meet criteria concerning (i) external factors related to shipping safety, and (ii) vessel factors related to shipping safety. External factors include the length of the water course, width of water course, navigational hazards in the course, current speed, and wind speed. Vessel factors include the frequency of shipping traffic, the vessel's size, type of vessel, and type of cargo ship.¹⁷⁸ Salvage is also included in the 2010 Navigation Regulation. Salvage activity is conducted over a shipwreck and/or ship incident particularly with respect to cargo ships. Salvage activity shall fulfil specified requirements of

¹⁷⁶ Ibid art 21.

¹⁷⁷ Ibid arts 22, 23 and 24.

¹⁷⁸ Ibid art 108.

working method, complete equipment and labour. Salvage activity can only be carried out with authorization from the relevant Minister.¹⁷⁹

The Ministry of Transportation promulgated the Sea Shipping-Lane Regulation of 2011 as an implementing/technical regulation.¹⁸⁰ Salient features of the Sea Sailing-Lane Regulation include:

- a. Routes system. The provisions on the routes system emphasise the authority of the Minister in determining the system route as contained in the 2010 Navigational Regulation. The Sea Sailing-Lane Regulation provides details of route systems, which consist of TSS, two way routes, recommended tracks, deep water routes, areas to be avoided, inshore traffic zone, and precaution areas. Determination of routes systems shall take into account, among other matters, the existence of fishing areas, development of offshore seabed and subsoil exploration and exploitation, and the reliability of navigational aid facilities, hydrographic surveys, and sea maps. Governing elements of the routes system such as TSS and two way tracks shall also consider the risk to shipping, special characteristics of shipping, ship dimensions and certain lanes.
- b. Traffic Procedure in Sea Sailing-Lane. According to Article 26, traffic procedures include arrangements on certain matters namely:
 - Safety speed
 - Necessary manoeuvres to avoid collision
 - Narrow sailing-lane
 - TSS
 - Sailing boats
 - Overtaking
 - Face-to-face situations
 - Intersection situations
 - Ship evasion manoeuvres

¹⁷⁹ Ibid art 126.

¹⁸⁰ *Peraturan Menteri Perhubungan No. 68 Tahun 2011 Tentang Alur-Pelayaran di Laut* (Indonesia) [Minister of Transportation Regulation No. 68 of 2011 on the Shipping Lane] ('Shipping-Lane Regulation').

- Responsibilities among ships
- Ship movements in limited visibility

Circumstances of sailing lanes that shall be considered are: traffic density, state of the ship, ship dimension and draught, high and low tide, water current, and weather. Further, details of each element can be found in Articles 26-37.

- Prohibited activities for foreign vessels traversing Indonesian archipelagic sea-lanes. These activities include military exercises, anchoring except in force majeure circumstances, hydrographic research and surveys, and passenger and cargo loading except in force majeure circumstances.

The Indonesian Classification Board (BKI) Rules are another important framework regulating tankers in Indonesia. The BKI was established on July 1, 1964 and is the sole national classification bureau appointed by the Indonesian government to provide the class of Indonesian-flagged vessels. The BKI conducts inspection, supervision, testing of ships and offshore installations, as well as issues ship registration class certificates, provides a consulting service and formulates national standards according to international regulations.¹⁸¹ Some of these national standards regulate ships carrying oil and gas. There are a large number of technical rules that will not be elaborated on in this chapter. Below is the list of essential BKI Rules that are relevant to oil and gas carriers:¹⁸²

- Rules for Machinery Installations, 2016
- Rules for Electrical Installations, 2016
- Rules for Materials Installations, 2014
- Rules for Welding, 2015
- Rules for Automation, 2014
- Rules for Hulls, 2014
- Rules for Classification and Surveys, 2016

¹⁸¹ PT. Biro Klasifikasi Indonesia (BKI), *Company Profile*, (2014).

¹⁸² BKI, *Rules, Regulations and Guidelines* <<http://armada.bki.co.id/featapp/pagedetail-26-rules-regulations-and-guidelines-lang-en.html>>.

Maritime Safety Authorities in Indonesia

The implementation of the above-mentioned laws and regulations on marine safety is jointly the responsibility of several national government institutions. Two major authorities are the Ministry of Transportation, and the Indonesian Maritime Security Board (Bakamla). One Directorate General of Marine Transportation of the Ministry of Transportation has the function to promote the expansion of shipping to serve as many regions as possible within the Indonesian archipelago and to improve the standard of marine safety. Within the explanatory note of the 2008 Shipping Law, the Minister of Transport is tasked to operationalise the substance of the Law, which includes formulating and implementing policy on ships' seaworthiness, vessel tonnage measurement, ship registration, nautical, technical and radio regulations, pollution prevention, safety management and seafarer welfare.¹⁸³ *Presidential Regulation No. 178 of 2014 on the Indonesian Maritime Security Board* explains that the Bakamla are responsible for formulating national policy on security and safety, managing early security and safety warning systems, conducting sea patrols, safeguarding, and conducting law enforcement, including inspecting vessels in order to support safety and security measures in Indonesia's national waters and jurisdiction.¹⁸⁴

There are other national government agencies involved in the marine safety arena, including the Ministry of Marine and Fisheries, National Search and Rescue Board (Basarnas), National Committee for Safety Transportation, Maritime Court, the Indonesian Police, the Indonesian Armed Force (Navy), the Ministry of Law and Human Rights, and the Ministry of Environment. These institutions' responsibilities variously include the enforcement of maritime law, accident and pollution prevention, safety socialization, search and rescue, and supporting other agencies' tasks (Indonesian Police and Navy), fact finding, accident investigation and convey public report (KNKT) and judicial process or proceeding (Maritime Court). Additionally, in an effort to streamline and

¹⁸³ Explanatory Note of Shipping Law para 14.

¹⁸⁴ *Peraturan Presiden No. 178 Tahun 2014 Tentang Badan Keamanan Laut* [Presidential Regulation No. 178 of 2014 on the Indonesian Security Board] (Indonesia) arts 2-4 ('Bakamla Regulation').

coordinate surveillance and enforcement actions of those agencies the Coordinating Ministry of Maritime Affairs was set up in 2015.¹⁸⁵

Relationship with international law

With respect to international conventions and standards on marine safety, Indonesia has ratified various global maritime instruments, including on marine environment protection. Indeed, with so much to gain from better safety at sea, Indonesia has ratified more IMO conventions than any other country in Southeast Asia. In recent years, there have been promising signs of a more vigorous application of marine safety regulations. These regulations set up rights and responsibilities as provided in numerous provisions of domestic laws and regulations, which have incorporated international conventions and standards.

Certain provisions of the Shipping Law link to SOLAS, including Articles 117, 124, 169 and 170 of Section VIII which are related to provisions in Chapters II-1, V and XI-2 of SOLAS. These sections govern matters such as ship seaworthiness, navigational matters, and management of ship safety and security.¹⁸⁶ Although the Shipping Law provisions do not correspond exactly to SOLAS provisions, they reflect the same principles, particularly in regard to the requirements for carrying oil and gas as dangerous goods. Several relevant areas of SOLAS that are not yet regulated under the 2008 Shipping Law could be incorporated in future legislation, such as structural maintenance of ships, crew training systems and measures to enhance maritime safety and security.

Government Regulation No. 51 of 2002 on Shipping (Shipping Regulation) also contains similar content to SOLAS, including on safety of ships,¹⁸⁷ ship classifications,¹⁸⁸ construction and stability,¹⁸⁹ machinery and electrical

¹⁸⁵ *Peraturan Presiden No. 10 Tahun 2015 Tentang Kementerian Koordinator Bidang Kemaritiman* (Indonesia) [Presidential Regulation No. 10 of 2015 on the Coordinating Ministry of Maritime Affairs] ('Coordinating Ministry Regulation').

¹⁸⁶ See for instances arts 126, 169, 170, 172 of Shipping Law.

¹⁸⁷ *Peraturan Pemerintah No. 51 Tahun 2002 Tentang Perkapalan* [Government Regulation No. 51 of 2002 on Ship] (Indonesia) arts 49-52 ('Shipping Regulation').

¹⁸⁸ *Ibid* art 59.

¹⁸⁹ *Ibid* art 60.

installations,¹⁹⁰ fire protection,¹⁹¹ emergency appliances and arrangements,¹⁹² and radio equipment.¹⁹³ SOLAS regulates these matters through Chapter II-1 on the general requirements for ship construction (structure, stability, machinery and electrical installations of ships), Chapter II-2 on fire, Chapter III on life-saving appliances and arrangements, Chapter IV on radio communication; Chapter VII on the carriage of dangerous goods, and Chapter IX on the management of ships' safety operations.¹⁹⁴

Minister of Transportation Regulation No. 45 of 2012 on Ship Safety Management refers to *Presidential Decision No. 65/1980* on the ratification of SOLAS within its consideration section.¹⁹⁵ This Regulation incorporates legal principles within SOLAS, specifically Chapter IX on management for the safe operation of ships. The Regulation contains technical provisions in relation to management of ships' safety operations. These provisions are: safety management requirements and pollution prevention; procedures for certificate issuance and audit, and information systems for safety management.¹⁹⁶

Under Article 4 (3) of the Regulation, it is stipulated that ships (including petroleum tanker) must hold a Safety Management Certificate (SMC), and that shipping companies must possess a Document of Compliance (DOD).¹⁹⁷ These requirements are in line with Regulation 3 of Chapter IX of SOLAS. Article 8 further stipulates that safety management systems shall guarantee fulfilment of (i) mandatory regulations and arrangements, and (ii) recommended IMO or other organizations' codes, guidelines and standards. In this respect, SOLAS specifies

¹⁹⁰ Ibid art 62.

¹⁹¹ Ibid arts 68 and 69.

¹⁹² Ibid art 70.

¹⁹³ Ibid art 73.

¹⁹⁴ Furthermore, instance of specific matter that governed both by the SOLAS and Regulation on Ship are requirement to obtain certificate with respect to safety management. Ibid art 92.

¹⁹⁵ *Peraturan Menteri Perhubungan No. 45 Tahun 2012 Tentang Manajemen Keselamatan Kapal* [Minister of Transportation Regulation No. 45 of 2012 on Ship Safety Management] (Indonesia) intro ('Safety Management Regulation').

¹⁹⁶ Ketut Buda Artana et al, *Some Considerations in Enhancing Ship Safety Operation and Management of Indonesia* <http://resits.its.ac.id/index.php/conference/1-40707/Some_Considerations_in_Enhancing_Ship_Safety_Operation_and_Management_of_Indonesia>.

¹⁹⁷ Safety Management Regulation art 4(3).

that the safety management system shall be maintained in accordance with the provisions of the International Safety Management (ISM) Code.¹⁹⁸

Part III of the Regulation provides procedures for audit which are related to the ISM Code and Guidelines on the Implementation of the ISM Code.¹⁹⁹ Points 3.6-3.11 of the Schedule outline safety management audits, application for audit, preparing the audit, executing the audit, and audit report. Although there are different priorities placed on aspects regulated within the Regulation and SOLAS, including ISM Code, many provisions of the Regulation incorporates salient features of SOLAS particularly Part IX. Additionally, the Regulation also includes a numbers of model forms/certificates that refer to the ISM Code.²⁰⁰

Indonesia's national frameworks for shipping also take into account regional frameworks, and particularly the ASEAN Strategic Transport Plan 2016. This plan consists of key goals and actions in three areas of transportation: air, land and maritime. According to the 2016 plan, member States are expected to implement certain actions in transportation in order to attain strategic goals. Instance of such actions, in the field of maritime transportation, include enhancement of navigation systems and security measures in line with international standards. As part of ASEAN, Indonesia has committed to taking the actions outlined in the Transport Plan within its domestic frameworks.

¹⁹⁸ See the 1974 International Convention for the Safety of Life at Sea (SOLAS) opened for signature 1 November 1974, 1184 UNTS 2 (entered into force 25 May 1980) chapter IX regulation 3. As for the International Safety Management (ISM) Code (entered into force 1998), it principally aim to address concerns over poor management standards and practices in shipping. To address these concerns, the ISM code objective is to provide an international standard for the safe management and operation of ships and for pollution prevention. The ISM Code evolved through the development of the Guidelines on management for the safe operation of ships and for pollution prevention (resolution A.647 (16)). The Code, in its current form, was adopted by the Organization in 1993 and amended in 2000, 2004, 2005, 2008 and 2013. The latest version of the ISM Code was released on June 23, 2014 by the IMO. It replaces its 2010 version and consolidates the amendments from resolutions [MSC.104\(73\)](#), [MSC.179\(79\)](#), [MSC.195\(80\)](#), [MSC.273\(85\)](#) which entered into force on 1 July 2002, on 1 July 2006, on 1 January 2009, and on 1 July 2010, respectively, and resolution [MSC.353\(92\)](#) which enters into force on January 1st, 2015; < [http://www.imo.org/OurWork/HumanElement/SafetyManagement/Pages/ISM Code.aspx](http://www.imo.org/OurWork/HumanElement/SafetyManagement/Pages/ISM%20Code.aspx)>.

¹⁹⁹ See the ISM Code s 1.4 and 12.1, and the Guidelines on the Implementation of the ISM Code by Administrations schedule 2.

²⁰⁰ The ISM Code s 13 e.g. the Document of Compliance and Safety Management Certificate.

In the future, Indonesia may well refer to other existing international or regional frameworks that are relevant and may potentially improve its domestic law for offshore oil and gas activities. An example worth mentioning is the International Code for Ships Operating in Polar Waters (Polar Code).²⁰¹ The Polar Code provides provisions concerning the prevention of pollution by oil. Even though it focuses on ships operating in Arctic waters, certain requirements could be modified for tankers elsewhere. These requirements include the separation between all oil fuel tanks and the outer shell of not less than 0.76 m; the obligation to protect the entire cargo tank with double bottom tanks and wing tanks; and the separation of all oil residue tanks from the outer shell of not less than 0.76 m.²⁰² These requirements aim to further enhance the safety of oil transportation by tankers.

4.3.2. Security Risk Assessments

4.3.2.1. *The Current State and Types of Maritime Security Threats*

Maritime security threats to shipping activities in Indonesian waters are not a new phenomenon. In fact, menaces particularly in the forms of piracy and armed robbery have occurred for hundred years especially within areas of the Straits of Malacca, southern part of the South China Sea and Singapore Straits.²⁰³ The Riau Archipelago to the south of Singapore, including Batam Island, continues to rate as a regional hot spot.²⁰⁴ The IMB currently identifies three piracy prone areas in Indonesian waters around Bintan Island, between Tanjung Priok and Jakarta, and off Karimun Island and Belawan anchorage including surrounding waters.²⁰⁵ Significant security attention has been paid to the areas of Sulu and Sulawesi

²⁰¹ *International Code for Ships Operating in Polar Waters (The Polar Code)* adopted 15 May 2015.

²⁰² Polar Code part II-A, chapter 1 para 1.2, <<http://www.imo.org/en/MediaCentre/HotTopics/polar/Documents/POLAR%20CODE%20TEXT%20AS%20ADOPTED.pdf>>.

²⁰³ J. Ashley Roach, 'Enhancing Maritime Security in the Straits of Malacca and Singapore' (2005) 59 *Journal of International Affairs* 1, 98-102.

²⁰⁴ Sam Batemen, 'Piracy and Armed Robbery Against Ships in Indonesian Waters' in Robert Cribb and Michele Ford (eds), *Indonesia Beyond the Water's Edge* (Institute of Southeast Asian Studies Singapore, 2009) 126-127; Rosemary Collins and Daud Hassan, 'Applications and Shortcomings of the Law of the Sea in Combating Piracy: A South East Asian Perspective' (2009) *Journal of Maritime Law & Commerce* 40(1) 89-93.

²⁰⁵ International Chamber of Commerce-International Maritime Bureau (ICC-IMB), *Piracy and Armed Robbery against Ships* (October 2015) International Chamber of Commerce <<http://www.iccspain.org/wp-content/uploads/2015/11/2015-Q3-IMB-Piracy-Report.pdf>>.

seas in the eastern part of Indonesia due to the terrorist and separatist movement history in the area. Another cause of insecurity is the absence of agreed maritime boundaries particularly in the Sulawesi Sea.²⁰⁶ Indonesia and the Philippines have concluded an agreement on EEZ boundaries in the Sulu Sea (2013) and hope that this agreement will minimize violations in the area by providing clearer responsibility for maritime security.²⁰⁷

Maritime security threats may arise against various types of vessels navigating through Indonesian waters, including offshore oil and gas carriers or tankers. In 2014, 100 incidents of piracy and armed robbery against different types of ships were reported to have occurred in Indonesian waters.²⁰⁸ Moreover, in the second quarter report of 2015 (January-June), 54 actual and attempted attacks occurred in the same area.²⁰⁹ Those attacked included two Malaysia flagged product tankers: MT Singa Berlian (in south of Pulau Repong) and MT Dongfang Glory (in north of Pulau Uwi) on 9 March and 1 April 2015 respectively.²¹⁰

The Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) 2015 report stated that a total of 17 incidents in various categories and one attempted incident occurred against various types of vessels at ports and anchorages in Indonesia.²¹¹ The ReCAAP report highlighted the category 1 (CAT 1) incident that involved Indonesian-registered chemical tanker *Rehobot* in the vicinity of Lembah Island, North Sulawesi on 28 January 2015. *Rehobot* was boarded by eight masked perpetrators who threw the 14 crew overboard into the ship's life rafts. Subsequently, the crew was rescued and

²⁰⁶ Victor Prescott and Clive Schofield, *The Maritime Political Boundaries of the World*, (The Netherlands: Martinus Nijhoff Publishers, 2nd ed, 2005).

²⁰⁷ Arif Havas Oegroseno, *How Indonesia and the Philippines Solved Their Maritime Dispute* (June 14, 2014) *The Diplomat* <<http://thediplomat.com/2014/06/how-indonesia-and-the-philippines-solved-their-maritime-dispute/>>.

²⁰⁸ International Chamber of Commerce-International Maritime Bureau (ICC-IMB), *Piracy and Armed Robbery against Ships* (1 January-31 December 2014).

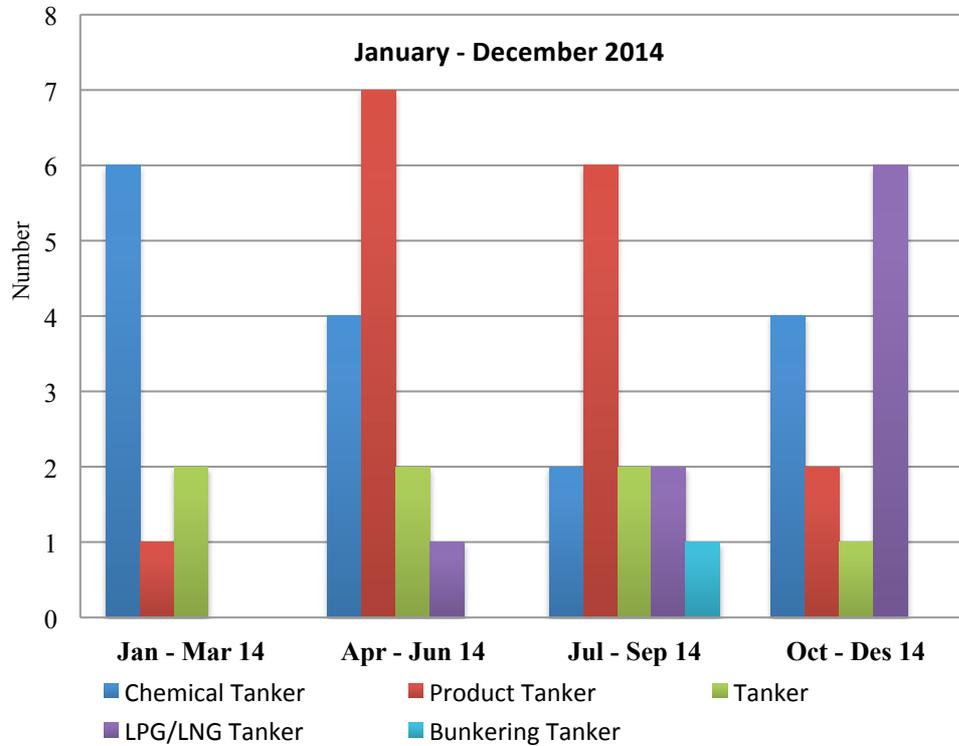
²⁰⁹ ICC-IMB, above n 205.

²¹⁰ *Ibid.*

²¹¹ The Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP), *Report for January-September 2015-Piracy and Armed Robbery against Ships in Asia* <<http://www.recaap.org/AlertsReports/IncidentReports.aspx?EntryId=366>>.

the tanker was found grounded in Barangay Cabuaya, Davao Oriental, Philippines.²¹²

Figure 4: Type of tankers attacked in Indonesian waters²¹³



The IMB has published a detailed narration for both of actual and attempted attacks against tankers in Indonesian waters during 2014 (See figure 4, above). Table 6 summarizes these attacks. Of 49 attacks in total, 41 were boarding incidents, 5 were hijacking incidents and 3 were attempts. Boarding incidents occur on board ships while anchored or steaming involving perpetrators who are armed with guns and knives in some incidents. Hijacking results in the seizure of the vessel for a significant length of time, perhaps for several days, while the oil or gas cargo is unloaded at a port selected by the pirates or transferred to another vessel.²¹⁴ An attempt may be seen as conduct of one or more

²¹² Ibid.

²¹³ ICC-IMB, above n 205.

²¹⁴ Anthony Davis, "Piracy in the Waters of Southeast Asia Shows Signs of Increased Organization," *Jane's Intelligence Review* (June 2004) 2.

perpetrators trying to board the ship while anchored or using another boat in order to commit robbery or other crimes.²¹⁵

26.5% of the incidents reported during January-December 2014 involved perpetrators who were armed with knives, 6.1% of perpetrators were armed with guns, and there is no information on whether the rest (67.4%) were armed. In dealing responding to this threat, organisations like ReCAAP and ISC urges ships' masters and crew to avoid physical confrontation with perpetrators who are armed. In terms of the status of the tankers when they were attacked, 12 attacks occurred on board ships while underway, 2 occurred on board ships while berthing, and 35 (32 actual and 3 attempted) occurred while at ports and anchorages.

Table 6: Type of attacks to tankers in Indonesian waters, January - December 2014²¹⁶

| | | |
|-----------------|----|---|
| | | |
| Boarded | 41 | 3 |
| Hijacked | 5 | |
| | | |
| Knives | 13 | 3 |
| Guns | 3 | |
| Unknown | 30 | |
| | | |
| Anchored | 32 | 3 |
| Steaming | 12 | |
| Berthed | 2 | |

The Indonesian Maritime Security Board (Bakamla) categorizes maritime crimes into the categories of piracy, drug smuggling, robbery (at ports and anchorages), people smuggling, and oil smuggling. Bakamla's general report on security and

²¹⁵ Ibid.

²¹⁶ ICC-IMB, above n 205.

legal enforcement from 1 January-31 July 2015²¹⁷ showed that during the period there were 163 incidents of maritime security threats and criminal offences, from people smuggling, illegal fishing to oil smuggling. There were 35 illegal fishing incidents, and 9 incidents of oil smuggling.²¹⁸ There is no further information whether the oil smuggling incidents or other incidents involved tankers.

In conclusion, tankers operating in Indonesian waters face maritime risks from various security threats. The presence of pirates or other threats in Indonesian waters operating seemingly unchecked emphasises how serious the maritime security challenges are.²¹⁹ In responding to these challenges, a number of approaches can be used, including a legal approach. In the following section, the Indonesian legal framework relating to maritime security and its development will be explored as tools for securing oil and gas tanker operations in Indonesian waters.

4.3.2.2. Legal Measures against Maritime Security Threats

There are several major national laws in the arena of maritime security, namely *Indonesian Penal Code*, *Shipping Law*, the *2002 Indonesian Police Law*, and the *2004 Indonesian Armed Force Law*.²²⁰ These instruments mainly govern either maritime-related undertakings or criminal matters as their core element.

The Indonesian penal code contains a number of provisions on various forms of maritime crimes, found under Articles 438-479.²²¹ The Code specifies types of maritime crimes including piracy, unlawfully seizing a ship, insertion of false

²¹⁷ Administrator, *Data Rekap Keselamatan, Keamanan dan Pengeakan Hukum di Laut (Recapitulation Information on Safety, Security and Law Enforcement at Sea)* Badan Keamanan Laut Republik Indonesia (Bakamla) <http://bakamla.go.id/home/rekap_bulanan>.

²¹⁸ Ibid.

²¹⁹ Sam Batemen, Joshua Jo and Mathew Mathai, 'Shipping Patterns in the Malacca and Singapore Straits: An Assessment of the Risks to Different Types of Vessel' (2007) 29 *Contemporary Southeast Asia* 317-321.

²²⁰ *Undang-Undang Nomor 1 Tahun 1946 Tentang Hukum Pidana* [Law No. 1 of 1946 on Criminal Law] (Indonesia) (Indonesian Penal Code'); *Undang-Undang Nomor 17 Tahun 2008 Tentang Pelayaran* [Law No. 17 of 2008 on Shipping] (Indonesia) ('Indonesian Shipping Law'); *Undang-Undang Nomor 2 Tahun 2002 Tentang Kepolisian Republik Indonesia* [Law No. 2 of 2002 on the Indonesian Police] (Indonesia); *Undang-Undang Nomor 34 Tahun 2004 Tentang Tentara Nasional Indonesia* [Law No. 34 of 2004 on the Indonesian Armed Force] (Indonesia).

²²¹ Indonesian Penal Code or KUHP, book II chapter XXIX entitled crimes relating to navigation.

statement in the record of evidence, crew or passenger attacks (insubordination), destruction of ship facilities, and skipper's omission leading to the escape of a convict. Pursuant to Article 438, the Code defines piracy as the act of a person using a vessel to commit acts of violence in the open sea against other vessels or persons or property on board, without thereto being authorized by a belligerent state or being part of the navy of a recognized state.

The Code divides piracy into several types including beach or coast-piracy and river-piracy.²²² The difference between those two types of piracy are the place of the violation, as while coast piracy occurs near the beach or the mouth of rivers, river piracy take place on a river.²²³ Articles 438-442 apply a maximum imprisonment of fifteen years for any piracy perpetrators. As for other types of maritime crimes, the Code provides various punishments as provided in Table 7.

Table 7:

Sentences for crimes relating to navigation under Indonesian penal code

| Provision | Criminal Act | Sentence |
|-------------------------|---|---|
| Article 448 | Unlawfully seizing a ship | Maximum imprisonment of seven years |
| Article 452 | Insertion of false statement in the record evidence/ship certificate | Maximum imprisonment of eight years |
| Article 459 | Violence or threat of violence by person on board or crew member against a superior in rank (insubordination) | Maximum imprisonment of four years (physical injury result of violence) Maximum imprisonment of eight years and six months (serious physical injury of violence), or Maximum imprisonment of twelve years (death result of violence). |
| Articles 460-465 | Further actions of insubordination e.g. two or more offenders | Various imprisonments from nine months to fifteen years. |
| Article 472 | Destruction of ship facilities or cargo | Maximum imprisonment of two years and eight months. |
| Article 477 | Omission of Indonesian ship skipper on escape of convict | Maximum imprisonment of four years. |

²²² Ibid arts 438-441.

²²³ Ibid.

In addition to the list of crimes and penalties in Table 7, crimes relating to navigation are governed by another chapter on 'Crimes whereby the general security of persons or property is endangered'. Within this chapter, Article 196 makes it an offence to destroy, damage and removal in unlawful way any safety of navigation signal. Article 198 makes it an offence for any person who with deliberate intent unlawfully causes a vessel to sink or strand, or destroys, renders useless or damages a vessel.

Although the Indonesian Penal Code's provisions concern general types of maritime crimes applicable to any type of vessel,²²⁴ these provisions are essential in establishing basic rules and crimes relating to navigation. The Code's provisions provide back-up in case there are loop holes on maritime criminal matters within other laws or regulation such as the Indonesian Law of the Sea or the Navigation Regulation.

The application of the Penal Code, particularly on matters related to navigation, is not without challenges. A major challenges faced by the Code is its lack of contemporaneity, as it was formulated many decades ago. Consequently, the quantum of the fines imposed is too low.²²⁵ Updating the Code, in order to adapt to the rapid development of criminal activity including in the maritime area, is relevant and essential. Currently, the draft of the new Indonesian penal code has been prepared and discussed between the Government and Parliament.²²⁶

Under the new draft of the Code (RUU KUHP), crimes relating to navigation are included in Chapter XXXIII, Articles 703-736, which divides such crimes into eight categories including piracy and unlawful ship seizing; ship and report falsification; insubordination and insurgency at sea; skipper's criminal acts;

²²⁴ This has been in line with the nature and purpose of the KUHP itself as the compilation of the general legal principles on criminal matters in Indonesia.

²²⁵ Suharyono AR, *Pembaruan Pidana Denda di Indonesia (the Renewal of Indonesia's Criminal Fines)* (Doctoral Dissertation, University of Indonesia, 2009) <<http://lib.ui.ac.id/opac/themes/libri2/detail.jsp?id=20278549&lokasi=local>> and Bagus Surya Darma Marwanto, *Perkembangan Pidana Denda dalam Perspektif Pembaharuan Hukum Pidana Indonesia (the Development of Criminal Fines from the Perspective of Indonesia's Criminal Law Renewal)* <<http://download.portalgaruda.org/article.php>>.

²²⁶ See *Program Legislasi Nasional Prioritas 2016 (National Legislative Priority Program 2016)* <<http://dpr.go.id/uu/prolegnas>>.

destruction of cargo or ship-supply; illegal action of steersman; signing of manifest and shipping ticket, and enhancement of and additional punishment.²²⁷ Based on this division, RUU KUHP contains almost no difference in substance to the Code, except for some modifications in respect of signing of false shipping tickets and additional punishments where the RUU KUHP increases such acts' status from misdemeanour to crimes.²²⁸

The Indonesian Law of the Sea has three salient parts that link to measures against maritime security threats: Article 7 on Indonesia's maritime zones and exclusive jurisdiction, Articles 58 and 59 on security and law enforcement, and Articles 60-68 concerning the coast guard. These three parts are essential to Indonesia's maritime security as they provide the legal basis for territorial or jurisdictional, substantial, and institutional approaches to address security threats in Indonesia's oceans. As the Law of the Sea is an umbrella act for other ocean-related legislation, its provisions are treated as a reference point for other laws and implementing regulations. As an umbrella act, this Law only provides general provisions, which is understandable as umbrella acts function to cover their implementing or lower regulations.

Article 7 of the Law defines the Indonesian maritime zones, which comprises internal waters, archipelagic waters, territorial sea, contiguous zone, EEZ and continental shelf. This clarifies previous legislation on the EEZ and the continental shelf that seemed to have no clear link between them, particularly with respect to outdated domestic laws on the Continental Shelf Law (*Law No.1 of 1973*).²²⁹ Through the promulgation of the Indonesian Law of the Sea, there is a single reference for regulation on Indonesian maritime zones in the national legal framework. Article 7 outlines that Indonesia has various types of rights and jurisdiction over different maritime zones as described in Table 8.

²²⁷ *Rancangan Undang Undang Kitab Undang Undang Hukum Pidana 2013* (Indonesia) [Draft of the Indonesian Penal Code 2013] arts 732 and 733 ('RUU KUHP').

²²⁸ Ibid.

²²⁹ See Continental Shelf Law art 1.

**Table 8:
Indonesia's maritime zones, sovereignty and jurisdiction**

| Maritime zones | Sovereignty | Jurisdiction | Special jurisdiction | Sovereign rights |
|---------------------|-------------|--------------|----------------------|------------------|
| Internal waters | v | v | | |
| Archipelagic waters | v | v | | |
| Territorial sea | v | v | | |
| Contiguous zone | | | v | |
| EEZ | | v | | v |
| Continental shelf | | v | | v |

Similar to the Penal Code, which established the legal foundation for rules on crimes relating to navigation, the above provisions of the *Indonesian Law of the Sea* set up the territorial and jurisdictional basis for action countering maritime security threats. Such action cannot be taken without clear justification under a law that provides the territorial and jurisdictional basis for action. The legal regime for innocent passage and archipelagic sea lanes passage in Indonesia's territorial sea and archipelagic waters remain as regulated by the LOSC.²³⁰

Articles 58 and 59 of the Indonesian Law of the Sea regulate defence, security, law enforcement and safety at the sea. With reference to the provisions, the Indonesian marine defence system is established in order to manage and protect Indonesian territory from any maritime threat. The system is organised by governmental agencies responsible for defence and the Indonesian military in accordance with applicable law and regulations.²³¹

Sovereignty and law enforcement in Indonesian waters, seabed and subsoil shall be carried out taking into account domestic regulations and international law.²³²

²³⁰ See LOSC sec 3 and art 53.

²³¹ Indonesian Law of the Sea arts 58 and 59.

²³² *Ibid.*

Domestic and international legal frameworks also apply to the exercise of jurisdiction over ships navigating through Indonesia's territorial sea and archipelagic waters.²³³ There is no further elaboration on which international laws or conventions Indonesia shall consider. In this respect, it is assumed that any domestic regulation relating to maritime security and relevant international conventions that have already been adopted by Indonesia would be appropriate references.

Articles 59(3)-68 establish the legal basis and explain the duties and responsibilities of the Indonesian Maritime Security Board (Bakamla). The Bakamla is the transformation of Indonesian Maritime Security Coordinating Board (Bakorkamla) which was established based on *Law No. 6 of 1996 on Indonesian Waters* and *Presidential Regulation No. 81 of 2005 on Bakorkamla*. By the issuance of the *Indonesian Law of the Sea* and *Presidential Regulation No. 178 of 2014 on the Indonesian Maritime Security Board*, Bakamla has more extensive duties and responsibilities than Bakorkamla. The 2014 Indonesian Law of the Sea outlines duties and responsibilities of the Bakamla, which include formulating national policy on Indonesian maritime safety and security, organising early warning system for maritime safety in Indonesian waters, and conducting sea patrols in order to ensure safety and security of navigation.²³⁴

The Shipping Law sets out shipping security requirements and penal provisions as the consequence for any noncompliance. The Shipping Law defines maritime security and safety as the condition where ship sea-worthiness and navigation requirements are fulfilled.²³⁵ It also regulates the management of ship security, which requires operators of ship to hold an International Ship Security Certificate (ISSC) and Security Management Certificate issued by competent institution.²³⁶

The Law outlines duties and responsibilities of sea and coast guard agency and establishes their legal basis. Their duties and functions include ensuring shipping

²³³ Ibid.

²³⁴ Indonesian Law of the Sea arts 61-62.

²³⁵ Shipping Law art 117.

²³⁶ Ibid art 170.

safety and security, formulating general policy on law enforcement at sea, and conducting sea patrol and hot pursuits.²³⁷ Implementing regulations were released prior to the establishment of the Bakamla through the issuance of the Indonesian Law of the Sea. Besides the requirements and description of the sea and coast guard agency, it applies punishments for any noncompliance with security requirements. One example is that any person who operates a ship without fulfilling the requirements shall be penalized with imprisonment for a maximum two years or a fine of three hundred million rupiah at the most.²³⁸

Two other key laws relating to maritime security threats are the 2002 Indonesian Police Law and the 2004 Indonesian Armed Force Law. Both laws are critical in providing a legal framework for the Indonesian army and police to exercise their power in order to protect offshore activities in Indonesian waters. The Police Law specifies that the main duties of Indonesian police are to maintain public security and order, to conduct law enforcement, and to protect and serve society.²³⁹ According to Article 14 (g), Indonesian police have the responsibility to investigate criminal acts as outlined by the Penal Code and other laws and regulations. This includes crimes relating to navigation.²⁴⁰ Moreover, police have the power to investigate crimes relating to fisheries²⁴¹ and the marine environment.²⁴²

As for the Indonesian Armed Force Law, this legislation regulates the Indonesian armed forces in general, including their duties, responsibilities, and organization. To enable the armed forces to respond to maritime security threats including to tankers, the Law identifies the Indonesian Navy as one of the national defence force elements that should address security challenges at sea.²⁴³ It is highlighted

²³⁷ Ibid art 276.

²³⁸ Ibid 284.

²³⁹ *Undang Undang No. 2 Tahun 2002 Tentang Kepolisian Republik Indonesia* (Indonesia) [Law No. 2 of 2002 on the Indonesian Police] art 13 ('Indonesian Police Law').

²⁴⁰ KUHP chapter XXIX arts 438-479.

²⁴¹ *Undang Undang No. 45 Tahun 2009 Tentang Perubahan atas Undang Undang No. 31 Tahun 2004 Tentang Perikanan* (Indonesia) [Law No. 45 of 2009 on the Amendment of the Law No. 31 of 2004 on the Fisheries] art 73 ('New Fisheries Law').

²⁴² Indonesian Law of the Sea art 50.

²⁴³ Directorate General of Defence Strategy, Indonesian Ministry of Defence, *Penegakan Kedaulatan dan Hukum di Laut oleh TNI AL sebagai Bagian dari Upaya Pembentukan Sebuah*

that among the duties and responsibilities of the Indonesian Navy are to enforce domestic regulations and international law, and to protect offshore activities and natural resources in Indonesian waters.²⁴⁴ This Law provides the foundation for the Indonesian Navy to engage in maritime security efforts against various types of threats. In addition to the Law, Article 340 of the Shipping Law also explains that the Indonesian Navy holds an exclusive power in carrying out legal enforcement in the Indonesian EEZ.

Enforcement of Indonesia's maritime security laws can be seen to be jointly the responsibility of national government institutions such as:

- a. Coordinating Ministry of Politics, Law and Security
- b. Indonesian coast guard
- c. Indonesian police
- d. Indonesian Navy
- e. Attorney General
- f. Indonesian courts
- g. Ministry of Law and Human Rights
- h. Ministry of Transportation

4.3.2.3. Link between International Law and Domestic Legal Frameworks on Maritime Security

This section highlights the relationship between major national laws on maritime security and a number of international conventions relating to maritime security such as the LOSC and the *International Ship and Port Facility Security (ISPS) Code*.²⁴⁵

Indonesia ratified the LOSC on 3 February 1986 and has implemented many of its provisions through various domestic laws and regulations such as the Indonesian

Sistem yang Terpadu (Maritime Law and Sovereignty Enforcement by Indonesian Navy, as part of the new coordinated system establishment) <
http://strahan.kemhan.go.id/web/jdih/myupload/penegakan_hukum_di_laut.pdf>.

²⁴⁴ *Undang Undang No. 34 Tahun 2004 Tentang Tentara Nasional Indonesia* (Indonesia) [Law No. 34 of 2004 on the Indonesian Armed Force] art 9 ('Indonesian Armed Force Law).

²⁴⁵ *Amendments to the Annex to the International Convention for the Safety of Life at Sea*, opened for signature 12 December 2002 [2003] ATNIF 11 (entered into force 1 July 2004), annex (International Code for the Security of Ships and Port Facilities) ('ISPS Code').

law of the Sea, Shipping Law, and Navigation Regulation. In the arena of maritime security, a number of LOSC provisions have been adopted in Indonesian laws and regulations as described in Table 11.

Table 9:

Link between the LOSC and national legislations relating to crimes against offshore activities

| Law of the Sea Convention, 1982 | Indonesian domestic legal frameworks |
|--|--|
| Articles 2-32 on Territorial sea and innocent passage | Indonesian Penal Code Law No. 32 of 2014 on the Sea Law No. 17 of 2008 on Shipping Indonesian Police Coast Guard Government Regulation No. 5 of 2010 on Navigation |
| Articles 46-53 on Archipelagic states | Government Regulations No. 37 and 38 of 2002 on Indonesian basepoints Indonesian Penal Code Law No. 32 of 2014 on Ocean Law No. 17 of 2008 on Shipping Indonesian Police Coast Guard Government Regulation No. 5 of 2010 on Navigation |
| Articles 55-75 on EEZ | Government Regulations No. 37 and 38 of 2002 on Indonesian basepoints Minister of Transportation Regulation No. 68 of 2011 on Indonesian Archipelagic Sea Lanes Indonesian Penal Code Law No. 32 of 2014 on Ocean Law No. 17 of 2008 on Shipping Indonesian Navy Government Regulation No. 5 of 2010 on Navigation |
| Articles 76-85 on Continental shelf Articles 86-120 on High seas and piracy | Government Regulations No. 37 and 38 of 2002 on Indonesian basepoints Law No. 32 of 2014 on Ocean Indonesian Penal Code Law No. 32 of 2014 on the Sea Law No. 17 of 2008 on Shipping Indonesian Navy Government Regulations No. 37 and 38 of 2002 on Indonesian basepoints |

On the issue of piracy, Indonesia has no particular legislation specifically devoted to regulating piracy that refers to the LOSC (Articles 100-110),²⁴⁶ instead the issue of piracy is regulated by the Penal Code.

**Table 10:
Link between the Law of the Sea Convention 1982 and
Indonesian Penal Code**

| Law of the Sea Convention, 1982 | Indonesian penal code/KUHP |
|--|--|
| <p style="text-align: center;">Article 101</p> <p>piracy consists of any of the following acts:</p> <p>a. Any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft, and directed:</p> <p>(i) On the high seas, against another ship or aircraft, or against persons or property on board such ship or aircraft;</p> <p>(ii) Against a ship, aircraft, persons or property in a place outside the jurisdiction of any State;</p> <p>b. Any act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft;</p> <p>c. Any act of inciting or of intentionally facilitating an act described in subparagraph (a) or (b).</p> | <p style="text-align: center;">Article 438</p> <p>(1) Being guilty of piracy shall be punished: 1st, by a maximum imprisonment of fifteen years, the person who enters into service or serves as a shipper on a vessel, knowing that it is destined to be used or is used to commit acts of violence in the open sea against other vessels or against persons or property on board said vessels, without thereto being authorized by a belligerent state or being part of the navy of a recognized state; 70</p> <p>2nd-ly, by a maximum imprisonment of twelve years, any person who, knowing of this destination or this use, enters into service as a member of the crew on board such vessel or voluntarily remains in service after having been acquainted therewith, or who belongs to the crew of such vessel.</p> <p>(2) With absence of authorization shall be identified the transgression of authority as well as being provided with authorities emanating from states waging war against each other.</p> <p>(3) Article 89 shall not be applicable.</p> <p style="text-align: center;">Article 439</p> <p>(1) Being guilty of coast-piracy shall be punished by a maximum imprisonment of fifteen years, any person who with the aid of a vessel within the Indonesian sea-territory commits acts of violence against another vessel or against persons or property on board said vessel.</p> <p>(2) By "Indonesian sea-territory" shall be</p> |

²⁴⁶ See e.g. Nong Hong and Adolf K.Y.Ng., *The International Legal Instruments in Addressing Piracy and Maritime Terrorism: A Critical Review* <<https://www.researchgate.net>>; Md Saiful Karim, 'Flag State Responsibility for Maritime Terrorism' (2013) *School of Advanced International Studies (SAIS) Review* XXXIII(2) 127-134.

Law of the Sea Convention, 1982

Indonesian penal code/KUHP

understood the sea-territory as is described in Article 1 of the "Territorial Sea and Maritime Circles Ordinance 1939"

Article 440

Being guilty of beach-piracy shall be punished by a maximum imprisonment of fifteen years, any person who ashore, on or near the beach or the mouth of rivers, after having gone thereto wholly or partially by sea for that purpose, commits acts of violence against persons or property found at that place.

Article 441

Being guilty of river-piracy shall be punished by a maximum imprisonment of fifteen years, any person who on a river with the aid of a vessel, after having arrived from somewhere on board a vessel for that purpose, commits acts of violence against another vessel or against persons or property on board said vessel

In addition to the LOSC, the SUA Convention is another international instrument that aims to combat maritime security threats particularly relating to offshore oil and gas transportation.²⁴⁷ The SUA Convention is the first international legal instrument on a specific legal regime covering maritime terrorist acts, though it does not specifically mention terrorism. The SUA Convention's provisions penalize any person who committed an offence by unlawfully and intentionally seizing or exercising control over a ship by force or threat thereof; performing an act of violence against a person on board a ship if that act is likely to endanger the safe navigation of that ship; or destroying a ship or causing damage to a ship or to its cargo which was likely to endanger the safe navigation of that ship.²⁴⁸

The SUA Convention's purpose is to ensure state extradite a person who has committed an offence under the Convention, even in the absence of a bilateral

²⁴⁷ 1988 Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, signed 10 March 1988, 1678 UNTS 201 (entered into force 1 March 1992).

²⁴⁸ Ibid art 3.

treaty.²⁴⁹ Unlike the LOSC provisions on piracy that apply only to the high seas and the EEZ, it applies not only to waters beyond national jurisdiction, but also to waters within national jurisdiction.²⁵⁰ Together with its Protocols, the SUA Convention can be regarded as an important tool to combat maritime security threats in all areas of the ocean.

Currently, Indonesia is not a party to the SUA Convention due to several considerations. First, it is feared that adopting the Convention could compromise Indonesia's national sovereignty.²⁵¹ By the application of the SUA Convention, where terrorists, pirates and maritime criminals are treated as international criminals, navies of other states are allowed to pursue international criminals within a state's territorial sea. This could easily lead to serious breaches of sovereignty and cause outside intervention into domestic policy. Second, Indonesia believed that the conclusion of a regional agreement involving littoral countries and other concerned states is the first option that should be pursued. In the Southeast Asian region, Indonesia, through ASEAN, has contributed to a number of agreements to combat maritime security threats. The agreements set out the principles and mechanisms for joint efforts in controlling security in Southeast Asia and for developing joint communications system.²⁵² Indonesia also gives priority to a continuous effort to advance its capability on maritime security. Based on these reasons, Indonesia perceived that the SUA Convention was not urgent to implement in its territory.²⁵³

The *International Ship and Port Facility Security (ISPS) Code, 2002* provides technical regulations to support the protection of offshore activities. The ISPS Code is an amendment to SOLAS with respect to minimum security

²⁴⁹ Ibid art 6.

²⁵⁰ Ibid.

²⁵¹ Hong and Ng., above n 246.

²⁵² Lieutenant John F. Bradford, 'The Growing Prospects for Maritime Security Cooperation in Southeast Asia' (2005) 58 *Naval War College Review* 78-81.

²⁵³ Tammy M. Sittnick, 'State Responsibility and Maritime Terrorism in the Strait of Malacca: Persuading Indonesia and Malaysia to take Additional Steps to Secure the Strait' (2005) 14 *Pacific Rim Law & Policy Journal* 754.

arrangements for ships, ports and government agencies.²⁵⁴ It is divided into two sections: Parts A and B. Part A outlines detailed maritime and port-security related requirements that SOLAS contracting governments, port authorities and shipping companies must adhere to. Part B provides a series of recommendatory guidelines on how to meet the requirements and obligations set out within the Part A. The ISPS Code requires SOLAS contracting governments, port authorities and shipping companies to designate appropriate security officers and personnel, on each ship, port facility and shipping company. These security officers are called Port Facility Officers (PFSOs), Ship Security Officers (SSOs) and Company Security Officers (CSOs). They are charged with the duties to assess, prepare and implement effective security plans that are able to manage any potential security threat.²⁵⁵ Indonesia is a contracting government of SOLAS and the ISPS Code through its *Presidential Decision No. 65 of 1985 concerning the Ratification of SOLAS 1974* and *Minister of Transportation Decision No. KM 33 of 2003 concerning the Implementation of SOLAS 1974 Amendment on the ISPS Code*.²⁵⁶

As a contracting government, Indonesia included the ISPS Code within the Shipping Law, stating 'that the port master shall take into account the international convention in ensuring security and order in port'.²⁵⁷ In its explanatory note, the 2008 Shipping Law specified that the 'international convention' referred to was the ISPS Code.²⁵⁸ Together with *Minister of Transportation Decision No. KM 33 of 2003*, it is safe to state that there is a clear

²⁵⁴ *Amendments to the Annex to the International Convention for the Safety of Life at Sea*, opened for signature 12 December 2002 [2003] ATNIF 11 (entered into force 1 July 2004), annex (International Code for the Security of Ships and Port Facilities) ('ISPS Code'). The ISPS Code was passed as an amendment to the SOLAS Convention, which adopted a new chapter XI-2, entitled 'Special Measures to Enhance Maritime Security'.

²⁵⁵ ISPS Code arts 11, 12 and 17.

²⁵⁶ *Keputusan Menteri Perhubungan Nomor 33 Tahun 2003 Tentang Implementasi the International Ships and Port Security (ISPS) Code* [Decision of Transportation Minister No. 33 of 2003 on the Implementation of the International Ships and Port Security (ISPS) Code] (Indonesia).

²⁵⁷ Shipping Law art 212.

²⁵⁸ *Ibid* explanatory note of art 212 (d); More specifically, it is stipulated that according to the ISPS Code, all ships over 500 gross tonnage and critical facilities within the port's domain are obliged to conduct vulnerability assessments and develop security plans to deter potential terrorist attack e.g. passenger, vehicle and baggage screening procedures, security patrol, the establishment of restricted areas and its execution, procedure for personnel identification, access control, installation of surveillance equipment, etc.

legal basis for implementing the ISPS Code in Indonesia - the Shipping Law. The Directorate General of Maritime Transportation is the implementing agency, from the government side, to apply the Code. The Directorate General should cooperate with other agencies namely Indonesian police, coast guard and navy in order to meet the needs of shipping activities. Unfortunately, it seems that cooperation among relevant agencies is not effective yet there have been several recent maritime security incidents in Indonesian waters.²⁵⁹

In relation to security of port facilities, there are different security treatments for different categories of port. Specific security requirements are needed to protect special ports for oil and gas commodities. International and domestic ports require different security measures. In Indonesia, there is a problem with the categorization of ports. In general, it is difficult to differentiate between international and domestic ports in Indonesia. Most of them are located in the same area and are only separated by different docks. This may cause difficulty for the implementation of the ISPS Code. According to research by the Center for Defence and Maritime Studies, at major ports such as Tanjung Priok port in Jakarta and Tanjung Perak port in Surabaya, there is no distinction between passenger and cargo entrance gates. Some shipping company and expedition offices are located within the port area. These instances are problematic and inconsistent with the provisions of the ISPS Code.²⁶⁰

The Code also requires shipping companies to adhere to the obligations set out in the Code. According to the Code, a ship is required to act upon the security levels set by the contracting government. At security level 1, certain activities shall be executed taking into account the guidance given in part B of the Code, in order to identify and take preventive measures against security incidents.²⁶¹ At security level 2, additional protective measures, specified in the ship security

²⁵⁹ Willy F. Sumakul, 'Pembajakan Kapal di Perairan Laut Sulu dikaitkan dengan ISPS Code' (Piracy in Sulu Sea and its relation to ISPS Code) (2016) 4 *Quarterdeck* 10, 15-16.

²⁶⁰ Ibid.

²⁶¹ ISPS Code, art 7, these activities include 1) ensuring the performance of all ship security duties, 2) controlling access to the ship, 3) controlling the embarkation of persons and their effects, 4) monitoring restricted areas to ensure that only authorized persons have access, 5) monitoring of deck areas and areas surrounding the ship, 6) supervising the handling of cargo and ship's stores, and 7) ensuring that security communication is readily available.

plan, shall be implemented; and at security level 3, further specific protective measures, specified in the ship security plan, shall be implemented for each activity taken at security level 1. In the implementation stage, for instance in Charles I (Tug Boat) case, the requirements detailed above were not applied appropriately.²⁶² There was no security officer from the government or the shipping company on the ship at the time of the incident²⁶³. This breached the requirements of the ISPS Code provision. In this case, the shipping company was the most responsible party to provide security on the ship. As an overall observation, as Indonesian waters are still a risky place for international shipping, it is a must for all Indonesian ships, including oil and gas tankers, that traverse Indonesian waters to be equipped with adequate security in accordance with the ISPS Code.

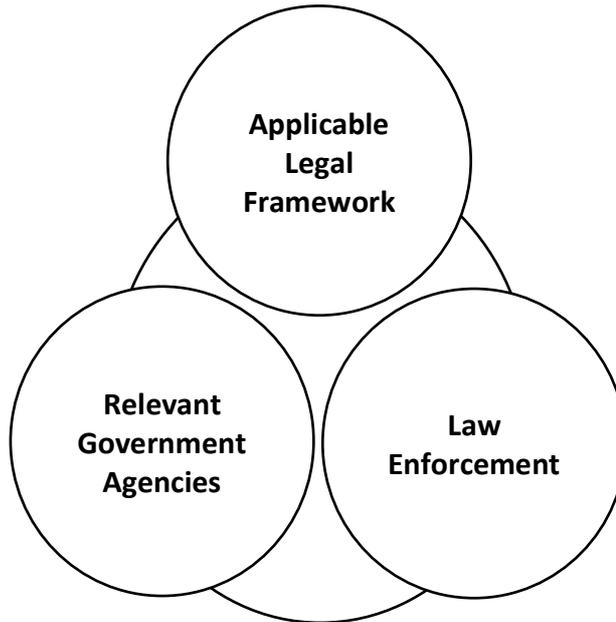
4.3.2.4. Implementation system

Following the explanation on the regulatory system of offshore oil and gas installations operations and tankers activities in Indonesia, it is paramount to have understanding regarding the implementation system of such regulatory regime. The implementation system of Indonesia's offshore installations and tanker laws comprises of three key elements namely applicable legal framework, relevant government agencies, and the enforcement aspect of such regulations by relevant government agencies.²⁶⁴

²⁶² 'Indonesian vessel hijacked, crew held in Philippines', *The Jakarta Post* (online), 29 March 2016 <<http://www.thejakartapost.com/news/2016/03/29/indonesian-vessel-hijacked-crew-held-philippines.html>>; On March 25, Indonesian tugboat carrying coal was hijacked by the Abu Sayyaf Group while en route to the Philippines from Banjarmasin, South Kalimantan. After 36 days hostage by Abu Sayyaf militants in southern Philippines, the 10 Indonesian sailors released and returned to Indonesia, reunited with their families.

²⁶³ Sumakul, above n 257.

²⁶⁴ Oxford Dictionaries defines 'implementation' as 'the process of putting a decision or plan into effect; execution' and 'system' as 'a set of things working together as parts of a mechanism or an interconnecting network'. Therefore, the term 'implementation system' can be explained as 'a set of elements that work interconnecting to process a decision into effect'. See <https://en.oxforddictionaries.com/>.



Implementation system of Indonesia's offshore installations and tanker laws

As explained earlier, in offshore oil and gas platforms activities sector, the principle legislations that currently entry into force are including *Law No. 32 of 2014 on the Sea*, *Law No. 17 of 2008 on Shipping*, *Law No. 1 of 1946 on Criminal Law*, *Government Regulation No. 5 of 2010 on Navigation*, *Government Regulation No. 17 of 1974 on the Supervision of Offshore Oil and Gas Exploration and Exploitation Operations*, and *Minister of Energy and Mineral Resources Regulation No. 1 of 2011 on the Technical Guidance for Offshore Oil and Gas Installation Decommissioning*. It can be specified that the regulations element is highly critical as it contains establishment of government body for relevant activities and clarification concerning the offshore oil and gas procedure or requirements. Accordingly, domestic regulations related to offshore installation and tanker operations also set legal foundation for the above matters mentioned.²⁶⁵

²⁶⁵ See for instance *Law No. 1 of 1946 on Criminal Law* which authorized specific Indonesian legal agencies e.g. Indonesian police, public prosecutor and court to enforce this penal law. Besides, *Law No. 17 of 2008 on Shipping* designated Ministry of Transportation as the focal point to implement various aspects related to maritime transportation in Indonesia. With respect to clarification of procedure or requirements, see for example *GR No. 17 of 1974 on the Supervision of Offshore Oil and Gas Exploration and Exploitation Operations*, and *Minister of Energy and Mineral Resources Regulation No. 1 of 2011 on the Technical Guidance for Offshore Oil and Gas*

In relation to the element of government body, this Chapter has identified a number of main agencies relevant with offshore oil and gas installations and tanker activities in Indonesian waters which described in the following tables. After reviewing certain legislations or regulations, it is found that, there is no significant difference between government bodies which responsible for offshore installations and for tanker. As a matter of fact, both activities are fall under similar area: maritime affairs.

**Table 11:
Responsible agencies for safety and security aspects**

| SAFETY ASPECT | SECURITY ASPECT |
|---|---|
| <ul style="list-style-type: none"> • Coordinating Ministry of Maritime Affairs • The Indonesian Maritime Security Board (Bakamla) • Ministry of Energy and Mineral Resources/ Directorate General of Oil and Gas (Ditjen Migas) • Ministry of Transportation/ Directorate General of Sea Transportation (Hubla) • Ministry of Forest and Environment • National Search and Rescue Agency • National Committee for Safety of Transport • Shipping or General Court | <ul style="list-style-type: none"> • Coordinating Ministry of Politics, Law and Security • Indonesian Navy (TNI AL) • Indonesian Police/Marine Police (Polair) • The Indonesian Maritime Security Board (Bakamla) • Ministry of Energy and Mineral Resources/ Directorate General of Oil and Gas (Ditjen Migas) • Ministry of Transportation/ Directorate General of Sea Transportation (Hubla) • Attorney General Office • Ministry of Law and Human Right Directorate General of Immigration • Ministry of Finance |

Importantly, the implementation system of offshore installations and tanker laws also involves practical element which manifested in the application aspect of relevant regulations or procedure. Unfortunately, this research finds that references with respect to the enforcement of Indonesian laws regulating

Installation Decommissioning which contain relevant procedure/requirements in their respective matter.

offshore installations and tanker operations are very limited. This result into the depiction where such implementation seems worked without significant incidents since the first era of domestic offshore oil and gas installations and tanker in 1970s.²⁶⁶

Despite the difficultness in gathering such data or information, fragmented relevant information on the application of safety and security regulations of offshore oil and gas installations activities, can be gathered from different sources as follow. In 1997, investigations over two safety incidents involving the E-20 UNOCAL platform and the Caltex submarine pipeline were carried out by relevant government agencies. The investigation has took place with reference to the existing rules and procedure, however no clear explanations in relation to the result of such investigation, particularly concerning the causes and exact locations of the two incidents.

Furthermore, Indonesian security authority has explained that not less than 30 perpetrators have been detained in West Java for their criminal acts in cutting and stealing Pertamina's offshore platform facilities on July 23rd 2013.²⁶⁷ Another issue was on September 3rd, 2013 with regard to the presence of 72 abandoned/disused offshore installations located across Indonesian waters (Java Sea, East Kalimantan/Sulawesi Sea, and Natuna Sea in eastern Sumatera) which potentially disrupt safety of navigation and marine environment aspects.²⁶⁸ As a response of this situation, Indonesian maritime security board has requested relevant contractors or stakeholders to conduct offshore installations removal in order to ensure safety of navigation and marine environmental protection in

²⁶⁶ In other words, there are two factors that potentially contribute to the condition where there is no major cases found in Indonesia's offshore installations and tanker operations so far namely rather small numbers of offshore oil and gas platforms activities, and the difficultness in attacking the platforms, and limited information or lack of detail on offshore installations operations in Indonesian waters.

²⁶⁷ See <https://m.tempo.co/read/news/2013/07/23/058498942/31-terduga-pencuri-di-anjungan-pertamina-dibekuk>.

²⁶⁸ See <http://www.tribunnews.com/regional/2013/11/12/anjungan-lepas-pantai-terbengkalai-segera-ditertibkan> dan <http://industri.bisnis.com/read/20130903/44/160559/74-anjungan-migas-bakal-dibongkar-bakorkamla-ini-penyebabnya>

Indonesian waters.²⁶⁹ Regrettably, there is no significant changes happened concerning abandoned or disused offshore installations until present day, safety and security hassles caused by such offshore installations are still exist and possibly interrupting various of marine activities.

As for the implementation of domestic laws that related to tanker operations, it has demonstrated noteworthy improvements. This reflects contrast condition to the offshore installations law where there is lack of detail information on its application. Nevertheless, incidents concerning tankers such as wrecked or stranded tankers, machinery problems, foundered tankers and collisions still occur in Indonesian waters. The latest incident of tanker operations was involved MT Victory Prima and KM Jaya II, which have collided within Belawan waters, off North Sumatera in 9 November 2016.²⁷⁰ According to the Government Agency, the incident was caused by unexpected manoeuvres of KM Jaya II at very close distant to MT Victory Prima. Moreover, it also gave rise to one casualty: crew or fisherman of KM Jaya II. Another incident was occurred near the island of Batam, where two oil tankers (MT Brama Ocean and MT Orca) were reported missing from Malaysian Maritime Agency Centre in Tanjung Penyusop.²⁷¹ In responding this incident, Indonesian navy base has sent several patrol ships to pursuit and arrest such oil tankers. On Sunday, April 23, 2017, the Navy team from Lantamal IV base has successfully arrested both MT Brama Ocean and MT Orca including their crews in the vicinity of Tanjunguma Batam. This security operation was conducted with reference to certain regulatory frameworks as mentioned earlier such as *Law No. 32 of 2014 on the Sea*, *Law No. 17 of 2008 on Shipping*, *Law No. 1 of 1946 on Criminal Law*, and *Law No. 34 of 2004 on the Indonesian Armed Force*. The latter case has provided example of enforcement measure that conducted by one of the Indonesia's maritime security agencies.

²⁶⁹ Ibid.

²⁷⁰ See <http://edition.cnn.com/2016/08/17/asia/oil-tanker-hijacking/index.html> and <http://www.mediaindonesia.com/news/read/102191/tni-al-tangkap-kembali-tanker-yang-dibawa-kabur/2017-04-25>

²⁷¹ Ibid.

4.4. Conclusion

This chapter has reviewed Indonesian legal frameworks for offshore oil and gas installations and tanker operations. Key laws and regulations discussed were the Indonesian Law of the Sea, the Shipping Law, the Indonesian Waters Law, Indonesian Penal Code, Navigation Regulation, Supervision Regulation, and Indonesian Classification Board (BKI) Rules. These frameworks consist of principles and technical rules governing rights to construct and operate,²⁷² construction,²⁷³ safety,²⁷⁴ security,²⁷⁵ and decommissioning²⁷⁶ of offshore installations and tankers.

With its adoption, the Indonesian Law of the Sea succeeded in establishing a national foundation for the jurisdictional framework and general rules of offshore oil and gas production and transportation. What were formerly fragmented pieces of regulation have now been redefined into a single comprehensive regime aimed at clarifying and securing balance in Indonesia's national interests. This is not to say that this Law has been wholly satisfactory. As an umbrella instrument, the Indonesian Law of the Sea outlines the broad principles governing oil and gas activities in Indonesian waters. Nevertheless, it emphasises Indonesia's maritime zones, rights, jurisdiction, and its national policy over maritime security, safety, research, development as well as natural resources.

The Shipping Law contains a wide range of regulations governing maritime affairs particularly in relation to shipping activities. Although this Law provides few provisions on offshore installations, it includes important regulations on navigational matters that are relevant to the operation of offshore oil and gas structures. Such regulations function as rules to maintain the order of various

²⁷² See, eg, the Indonesian Law of the Sea, the Indonesian Waters Law and the EEZ Law.

²⁷³ See, eg, the 1974 Supervision Regulation, the 1977 Offshore Oil and Gas Rigs Construction Worthiness Certificate, the 2010 Navigation Regulation, and the BKI Rules.

²⁷⁴ Ibid.

²⁷⁵ See, eg, the Indonesian Law of the Sea, the Shipping Law, the Indonesian Penal Code and other related laws concerning defence and security authorities including Armed Force, National Police and National Security Board.

²⁷⁶ The 2011 Decommissioning Regulation.

maritime activities.²⁷⁷ The Shipping Law outlines the requirements for general shipping activity. As one of the types of ship covered by this Law, oil and gas tankers operating in Indonesian waters shall take into account the requirements of the Shipping Law.

Instruments such as the Navigation Regulation, the Supervision Regulation, and BKI Rules contribute to setting safe construction and operational standards. There are two methods of promotion of safety of offshore oil and gas installations in Indonesian waters according to these frameworks: prevention and management. Specific requirements of these instruments include construction requirements in the Regulation and BKI Rules, requirements to hold certain documents or certificates, and conducting of regular inspections.²⁷⁸ Article 38 of the Regulation established the legal concept of safety and security zones around installations. In the future, relevant authorities, such as the Indonesian Ministry of Transportation should issue specific regulations concerning emergency response to maritime incidents at offshore installations. This additional instrument should contain a mechanism to address emergency circumstances at these structures. Alternatively, such a mechanism could be inserted as a supplementary provision into the maritime SAR plan.²⁷⁹ The Decommissioning Regulation describes requirements and phases in the decommissioning process of offshore platforms.

The Indonesian Penal Code, the Shipping Law, and the Indonesian Law of the Sea are among the key laws targeting the security of offshore installations and tankers. Whilst the Indonesian Law of the Sea and the Shipping Law contain grand strategy or general policy related to security of offshore activities, the Penal Code comprises rigid regulations concerning maritime crimes. This thesis found two serious challenges within the domestic legal framework to the protection of offshore oil and gas operations. First, there is no clear and

²⁷⁷ See Indonesian Law of the Sea arts 7, 20, 29, 32, 34, 37, 48 and 52.

²⁷⁸ Supervision Regulation art 10; Minister of Mining Regulation No. 05/P/M/PERTAMB/1977 on the Obligation for Possessing the Construction Worthiness Certificate in relation to Offshore Oil and Gas Rigs arts 2, 5 and 9.

²⁷⁹ See Law No. 29 of 2014 on Search and Rescue.

comprehensive instrument that prescribes measures against maritime security threats in Indonesia. Second, provisions of the Indonesian Penal Code require updating. Options to response these challenges are twofold: by issuing new regulations or amending the existing regulations related to maritime undertakings;²⁸⁰ and by finalising the new Indonesian penal code.²⁸¹ To be more precise, this new Code should substantially address maritime security.

Indonesian legal frameworks have adopted different international conventions in specific laws or incorporated their provisions within regulations. Several examples of these laws and regulations considered in this chapter were the 1985 Law on LOSC Ratification, the 1980 Regulation on SOLAS Ratification, and the 2012 Regulation on Ship Safety Management. A number of provisions in domestic frameworks that referred to international conventions were provisions in the Indonesian Law of the Sea and the Indonesian Waters Law which considerably reflect provisions of the LOSC, and Articles 117 and 170 of the Shipping Law. While the first legislation contains references to the LOSC provisions on maritime zones, types of passages rights, marine environment protection and other maritime utilizations, the Shipping Law provisions include SOLAS rules in Chapters II-1, V and XI-2.

The relationship between domestic laws on ocean affairs and shipping, and international frameworks is variable. As indicated above, there is a noteworthy link between several domestic laws and international frameworks such as the LOSC and SOLAS. Nevertheless, certain international legal frameworks have not been as favourably considered in Indonesia, particularly in relation to security. Indonesia has not ratified international instruments on maritime security such as

²⁸⁰ In this regard, it suggests if the Government intends to amend the existing law such as the 2008 Shipping Law or others, the Government should insert provisions on security matter in more detail. References for such provisions therefore may follow the substances of the 1988 SUA Convention and its 1988 and 2005 Protocols.

²⁸¹ Currently, draft of the new Indonesian Penal Code has included in the list of 2015-2019 national legislative program (PROLEGNAS) issued by the House of Representative. Moreover, it also listed as one of the 40 priority legislations to be discussed between the Government and the House in 2016. However, until present day there is no clear sign that both institutions will starts the discussion on the new Code; <<http://www.dpr.go.id/uu/prolegnas-long-list>> and <<http://www.dpr.go.id/uu/prolegnas>>.

the SUA Convention and its Protocol. The Indonesian government favours its own domestic legal framework to anticipate similar issues addressed by the SUA Convention.

This chapter has also discussed several general challenges relating to domestic laws on offshore oil and gas installations and tankers, namely complex regulatory frameworks, including overlapping regulations, and deficiencies such as outdated legislations, between domestic and international laws.²⁸² It is recommended that these challenges can be appropriately addressed by simplifying the framework for offshore oil and gas installations and tankers in two specific yet comprehensive regulations, and by updating all outdated relevant laws, particularly the Indonesian Penal Code provisions on maritime crimes and the Supervision Regulation.

²⁸² As for the outdated regulations, several examples are including the Indonesian Penal Code, the GR No. 17 of 1974 on the Supervision of Offshore Exploration and Exploitation of Oil and Gas, and the Minister Regulation No. 05/P/M/PERTAMB/1977 on the Obligation for Possessing the Construction Worthiness Certificate in relation to Offshore Oil and Gas Rigs.

CHAPTER 5

PROTECTING THE INDONESIAN MARINE ENVIRONMENT FROM POLLUTION CAUSED BY OFFSHORE OIL AND GAS INSTALLATIONS AND TANKER OPERATIONS: A REGULATORY APPROACH

5.1. Introduction

The great potential of offshore oil and gas activities in Indonesian waters faces limitations, one of them being its impact on marine ecosystems and living resources.¹ Indonesia is home to 75 percent of the world's coral species, more than 30 percent of fish species, as well as numerous species of seagrass.² Given the considerable impact offshore activities could have on abundant marine environment resources in Indonesia, a greater level of protection is required. It is critical for Indonesia to have an effective domestic regulatory framework that provides satisfactory environmental protection, and for Indonesia to participate actively in the development of international and regional legal regimes on marine environment protection from pollution caused by offshore oil and gas activities.

This chapter focuses on major legal frameworks relating to the protection of the marine environment from pollution caused by offshore oil and gas installations and tankers. It highlights the relationship between international and domestic regulations in regard to marine pollution from offshore installations and tankers.

¹ As for the potential of oil and gas production in Indonesia in general, one commentator outlined that 'In late 2015, the Ministry of Energy and Mineral Resources through the National Exploration Committee stated that it had identified additional proven resources potential of 2.7 billion barrels of oil and 14 trillion cubic feet (TCF) of gas. The additional oil reserves reach 72 percent of the total proven reserves that Indonesia have right now.' Pri Agung Rakhmanto, 'National Oil and Gas Upstream Renaissance', *Kompas* (Jakarta), 11 May 2016.

² As Indonesia faces a considerable risk of increasing pollution of its marine environment resulting from offshore oil and gas operations, it is therefore for Indonesia to have an clear and comprehensive law to address this important issue; Jensi Sartin, 'The future of our marine environment', *The Jakarta Post* (online), 5 August 2014 <<http://www.thejakartapost.com/news/2014/08/05/the-future-our-marine-environment.html>>.

The two main parts of this chapter focus on international conventions such as the LOSC, SOLAS and MARPOL; and on Indonesian laws pertaining to the protection of marine environment including *Law No. 32 of 2009 on the Protection and Management of Environment* (Environmental Protection and Management Law), the Indonesian Law of the Sea, *Presidential Regulation No. 109 of 2006 on Control of Oil Spill in Emergency Circumstance* (Oil Spill Control Regulation), and *GR No. 19 of 1999 on Management of Marine Pollution* (Marine Pollution Management Regulation).³

5.1.1. Marine Pollution from Offshore Installations

The operations of offshore oil rigs in exploring and exploiting hydrocarbon resources can certainly cause environmental impacts.⁴ These impacts may result from operational or accidental events. During operational activities, marine pollution can occur during geophysical surveying, platform construction, drilling operations, maintenance processes, and rig decommissioning. Marine pollution caused by oil rigs accidents, such as fires, collisions or oil spills may have a much larger detrimental effect on the marine environment.

5.1.1.1 Operational Discharges

Offshore petroleum production activity starts with geophysical surveying, which take places on the continental shelf in order to evaluate the oil and gas resource potential, based on evidence from sources, reservoirs and traps in the geological

³ *Undang-Undang Nomor 32 Tahun 2009 Tentang Perlindungan dan Pengelolaan Lingkungan Hidup* [Law No. 32 of 2009 on the Protection and Management of Environment] (Indonesia) ('The 2009 Environmental Protection and Management Law'); *Peraturan Presiden Nomor 109 Tahun 2006 Tentang Penanggulangan Keadaan Darurat Tumpahan Minyak di Laut* [GR No. 109 of 2006 on Management of Oil Spill in Emergency Circumstance] (Indonesia) ('Oil Spill Management Regulation'); *Peraturan Pemerintah Nomor 19 Tahun 1999 Tentang Pengendalian Pencemaran dan/atau Perusakan Laut* [GR No. 19 of 1999 on Management of Marine Pollution] (Indonesia) ('Marine Pollution Management Regulation').

⁴ A report by the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) in 2007 presented average annual input figure for oil into the marine environment, and makes recommendations for future work. According to the report, petroleum operations through ships and offshore production have contributed a minimum of 477,000 tonnes/year, or 38% of the total oil inputs into the sea (1,245,000 tonnes/year), See GESAMP, *Estimates of Oil Entering the Marine Environment from Sea-Based Activities*, GESAMP Report and Studies No. 75 (2007), 60-61.

strata.⁵ Surveying involves the pulsing of high intensity acoustic signals through the ocean and sedimentary strata.⁶ Although use of explosives in former years resulted in destruction of marine life, current technology is thought to be safe for fish and invertebrates. In any case, long term effects are unlikely.⁷

Once the geophysical data indicates a potential for recoverable oil and gas resources, and leases for drilling rights are obtained, the exploratory drilling phase commences. Exploratory drilling results in the direct discharge of sediment, cuttings and drilling fluids at the seafloor.⁸ The cuttings are usually discharged overboard continuously, while the drilling fluids are reused and disposed of later, again generally overboard at the drilling location.⁹ In addition to drilling discharges, water drainage from the deck of the rig may contain drilling fluids, oil and small quantities of industrial chemicals used aboard the rig.¹⁰

⁵ Craig Freudenrich and Jonathan Strickland, *How Oil Drilling Works* <<http://science.howstuffworks.com/environmental/energy/oil-drilling4.htm/printable>>; D.V. Reddy and A.S.J. Swamidas, *Essentials of Offshore Structures: Framed and Gravity Platforms* (CRC Press, 6 June 2013) 8; Environmental Defender's Office of Western Australia (Inc.), *Petroleum Law: Oil, Gas, Geothermal Energy and Greenhouse Gas Storage* (Fact Sheet 38, June 2011) <<http://www.edowa.org.au/assets/Publications/Factsheets/edo38petroleumlawv4.pdf>>.

⁶ Jerry M. Neff et al, 'Offshore Oil and Gas Development Activities Potentially Causing Long-term Environmental Effects' in Donald F. Boesch and Nancy N. Rabalais (eds), *Long-term Environmental Effects of Offshore Oil and Gas Development* (Elsevier Applied Science, 1987) 152.

⁷ *Ibid*; Nevertheless, there is remain concerns about the effects of seismic surveying on marine mammals, particularly cetaceans which communicate with an elaborate repertoire of acoustic signals.

⁸ *Ibid* 150-153; During the well drilling and offshore petroleum production process, a wide variety of liquid, solid and gaseous wastes are produced on the platform too, some of them are discharged to the ocean. Of liquid and solid wastes that discharged from drilling and production process to the ocean, there are numbers of wastes that may be permitted include cooling water from machinery, deck drainage, domestic sewage, drill cuttings, drilling fluids and produced waters. Moreover, submerged parts of the platform or rig may be protected against biofouling and corrosion with antifouling paints and sacrificial electrodes.

⁹ Stanislav Patin, *Waste discharges during the offshore oil and gas activity* (translation by Elena Cascio) <<http://www.offshore-environment.com/discharges.html>> or Stanislav Patin, *Environmental Impact of the Offshore Oil and Gas Industry* (Ecomonitor Publisher, 1999); Oil & Gas UK, *About the Industry-Chemical Discharges* (November, 2009) <http://www.oilandgasuk.co.uk/knowledgecentre/chemical_discharges.cfm>.

¹⁰ Neff, above n 3, 150; Oil & Gas UK, above n 6. With respect to duration of exploration that influence discharge quantity, due to the probability of discovery of an economically viable resource is low for any given exploratory well, there is typically a brief duration of operational discharges during exploration.

In general, discharges resulted from exploratory and production well drilling include drill cuttings and drilling fluids. As explained by Jeffrey M. Neff, these discharges contain various substances.

Drill cuttings are particles of crushed sedimentary rock produced by the action of the drill bit as it penetrates into the earth.

Cuttings are considered relatively inert; nevertheless, they represent a potential input of trace metals, hydrocarbons and suspended sediments to the receiving waters, and, in addition, may account for continuous losses of small amounts of drill muds which are removed by normal cuttings washing procedures.

Drilling fluids are specially formulated mixtures of natural clays and/or polymers, weighting agents and other materials suspended in water or a petroleum material. Discharge to the ocean of water-based, but not oil-based, drilling fluids may be allowed by NPDES permit.¹¹

The five major ingredients in water-based drilling fluids (barite, clay, lignosulfonate, lignite and caustic) account for over 90% of the total mass of additives used in water-based drilling fluids ... The other major ingredients is fresh water or sea water.

Several metals found in drilling fluids are a major concern if discharged into the environment due to their potential toxicity and/or abundance in drilling fluids, including arsenic, barium, chromium, cadmium, copper, iron, lead, mercury, nickel and zinc. Metals that are most frequently present in drilling fluids at concentrations significantly higher than in natural marine sediments include barium, chromium, lead and zinc.¹²

Produced water is another discharge that is associated with offshore petroleum exploration and production. Produced water is water that has been buried and out of contact with the atmosphere for at least a large part of a geologic period.¹³ This water may accumulate in reservoirs where natural gas and liquid petroleum also accumulate. During the production of oil or gas, some of the

¹¹ Clean Water Act, Section 402: National Pollutant Discharge Elimination System <<http://water.epa.gov/lawsregs/guidance/wetlands/section402.cfm>; The NPDES General Permit for New and Existing Sources and New Discharger in the Offshore Subcategory of the Oil and Gas Extraction Point Source Category for the Western Portion of the Outer Continental Shelf of the Gulf of Mexico <<http://www.epa.gov/region6/water/npdes/genpermit/gmg290000final/gmg290000finalpermit2012.pdf>>.

¹² Neff, above n 6, 152-159; Unfortunately, the usage of oil-based drilling fluids remains dominant in offshore petroleum operations especially in developing world. Therefore, as a consequence of the presence of several metals elements which potentially contain toxic in drilling fluids, it makes the drilling fluids are likely harmful for maritime ecosystem.

¹³ Oil & Gas UK above n 13, *Produced Waters* (November, 2009) <[http://www.oilandgasuk.co.uk/knowledge centre/producedwater.cfm](http://www.oilandgasuk.co.uk/knowledge%20centre/producedwater.cfm)>.

produced water may be pumped up. Several potentially toxic metals may be found at elevated concentrations in produced water. These metals include barium, beryllium, cadmium, chromium, copper, iron, lead, nickel, silver and zinc.¹⁴ Filter processes, such as through an oil/water separator, before discharge to the ocean are applied widely in order to reduce the water's concentration. Operators also transport the water produced from the well to shore by a pipeline to an onshore treatment plant.

5.1.1.2 Oil Spills

Oil spills at a platform typically result from leaks or blowouts during exploration or production events. Regardless of whether they occur accidentally or by design (sabotage), oil spills into the sea can alter normal environmental patterns or contaminate the marine ecosystem, and thereby have immediate and long-term effects. Some studies have looked at the effects of offshore petroleum operations, including oil spill, on marine ecosystems. It has been shown that marine mammals experience irritation and inflammation of eyes and sensitive mucous membranes following contact with oil.¹⁵ Consumed crude oil, particularly the lighter fractions, can be toxic to a wide variety of mammals. Following these in-depth and numerous studies and experiments, no further tests are needed to demonstrate that petroleum significantly affects the marine environment.¹⁶ In addition, offshore oil and gas activities may result in human mortality, alterations to habitat, and losses to human interests such as tourism.

Oil or gas activities are relatively insignificant in contributing to marine pollution especially compared to the total amount of petroleum which is released to and pollutes the sea. One major exception is the occurrence of mass incidents such as a blowout in an offshore facility. In the context of Indonesia, there has only been one incident involving an oil platform blowout in Indonesian waters, the E-

¹⁴ Neff above n 6, 159; See further Patin, above n 9.

¹⁵ Joseph R. Geraci and David J. St. Aubin, 'Effects of Offshore Oil and Gas Development on Marine Mammals and Turtles' in Donald F. Boesch and Nancy N. Rabalais (eds), *Long-term Environmental Effects of Offshore Oil and Gas Development* (Elsevier Applied Science, 1987) 587.

¹⁶ Some effects that may be directly seen from oil pollution contamination towards marine habitat particularly animals are behavioural effects, inhalation, ingestion and reproductive success rate decreasing.

20 UNOCAL platform incident.¹⁷ The Montara case was a blowout that took place in the Australian EEZ but polluted Indonesian waters. As shown in Table 5.1, most marine pollution incidents in Indonesia resulted either from tanker/ship grounding or a collision between tankers/ships.

Table 5.1
List of Oil Spill Incidents in Indonesia

| Year | Location | Incident |
|-------------|------------------------------|--|
| 1975 | Malacca Strait | Grounding of Showa Maru tanker resulted in 1 million ton crude oil spill |
| 1975 | Malacca Strait | Collision between Isugawa Maru tanker and Silver Palace vessel |
| 1979 | Buleleng, Bali | Grounding of Choya Maru tanker spilled 300 tons of petroleum |
| 1979 | Lhokseumawe, NAD | Leak from Golden Win tanker spilled 1,500 kilolitres of kerosene |
| 1984 | Mahakam Channel, East Borneo | Blowout of crude oil from Indonesian Total drilling well |
| 1992 | Malacca Strait | Collision between MT. Ocean Blessing and MT. Nagasaki Spirit spilled 5000 barrels of crude oil |
| 1993 | Malacca Strait | Grounding of Maersk Navigator tanker containing crude oil |
| 1994 | Cilacap, Central Java | Collision between MV. Bandar Ayu tanker and fishing vessel |
| 1996 | Natuna | Sinking of KM. Batamas II containing MFO |
| 1997 | Riau Islands | Collision between Orapin Global tanker and Evoikos spilled 25,000 tons of crude oil |
| 1997 | Makassar Strait | Sinking of Mission Viking tanker |
| 1997 | Makassar Strait | Grounding of E-20 UNOCAL platform |
| 1997 | Madura Strait | Sinking of SETDCO tanker |
| 1998 | Tanjung Priok Port, Jakarta | Grounding of Pertamina Supply No. 27 ship containing petroleum |
| 1999 | Cilacap, Central Java | Rupture of MT. King Fisher tanker spilled 640,000 litres of oil and polluted Cilacap Bay for 38 km |
| 2000 | Cilacap, Central Java | Sinking of KM. HHC which contained 9000 bulk of asphalt |
| 2000 | Batam | Grounding of MT. Natuna Sea spilled 4000 tons of crude oil |
| 2001 | Tegal-Cirebon, Central Java | Sinking of Steadfast tanker containing 1200 tons of petroleum |
| 2002 | Singapore Waters | Collision between Singapore Agate tanker and |

¹⁷ Mukhtasor, *Penanggulangan Pencemaran Laut terhadap Aktivitas Migas di Indonesia [Management of Marine Pollution from Oil and Gas Activities in Indonesia]* <<http://slideplayer.info/slide/3661733/>>; Mukhtasor, 'Ekonomi dan Teknologi Pencemaran Laut' [Economy and Marine Pollution Technology] (Speech delivered at the Inauguration of Dr. Mukhtasor as Professor in Ocean Engineering, Faculty of Ocean Engineering, Institut Teknologi Sepuluh Nopember, Surabaya, 12 October 2010) <<http://digilib.its.ac.id/public/ITS-Pidato-13069-pidato%20pengukuhan-Mukhtasor.pdf>>.

| Year | Location | | Incident |
|------|----------------------|-------|---|
| 2003 | Musi River | | Tian Yu cargo ship polluted Bintan island and 4 districts in Batam Island |
| 2004 | Riau | | Collision of Beras ship owned by PT Toba Pulp Lestari Angiang Shipping and PLTU 1 barge resulted in 200 tons of petroleum spilled |
| 2008 | Indramayu, West Java | | Sinking of Vista Marine tanker spilled 200 tons of crude oil |
| 2008 | Malacca Strait | | Leak from Arendal tanker spilled 150,000 DWT of petroleum |
| 2009 | Tanjung Perak | Port, | Grounding of Aegis Leader tanker spilled 550 tons of crude oil |
| 2009 | Surabaya | | Capsizing of MT. Kharisma Selatan spilled 500 kilolitres of MFO |
| 2009 | Timor Sea | | Blowout of Montara Rig spilled about 500,000 litres of crude oil daily |

5.1.1.3 Dumping

In addition to operational and accidental discharges, dumping from offshore installations may have an impact on the marine environment.¹⁸ Dumping can be defined as ‘any deliberate disposal of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea’ and ‘any deliberate disposal of platforms or other man-made structures at sea.’¹⁹ Referring to the latter classification, the abandonment of offshore installations and toppling of platforms at site for no purpose other than disposal should be considered

¹⁸ S Boehmr-Christiansen, ‘An end to radioactive disposal ‘at sea?’ (1986) 10 *Marine Policy* 119,131.

¹⁹ *The 1982 United Nations Convention on the Law of the Sea*, signed 10 December 1982, 1833 UNTS 3 (entered into force 16 November 1994) (‘LOSC’) art 5(a) (i) and (ii); See further O Schram Stokke, ‘Beyond Dumping The effectiveness of the London Convention’ (1989-90) *Yearbook of International Cooperation and Development* 39, 39; Patricia Birnie, Alan Boyle and Catherine Redgewell, *International Law & the Environment* (Oxford University Press, 3rd ed, 2009); Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (Cambridge University Press, 3rd ed, 2012) 365; 428-429; Hossein Esmaeili and Brendan Grigg, ‘Pollution from Dumping’ in David Joseph Attard et al (eds), *The IMLI Manual on International Maritime Law-Volume III, Marine Environmental Law and Maritime Security Law* (Oxford University Press, 2016) 78-94.

'dumping'.²⁰ Wastes or other materials disposed of incidentally or derived from normal operations are excluded from dumping.²¹

Many different views exist on the benefits and problems of dumping from offshore installations.²² Disposal of a platform portion or fragment may create a good fishing spot.²³ Part of offshore installations, the jacket, over time becomes the habitat for living species, potentially including threatened and endangered species. Offshore installations may become a substantial part of the life cycle of certain species.²⁴ In other words, offshore installations have the potential to protect and conserve endangered or threatened species. On the other hand, dumping from offshore installations is criticized by stakeholders including governments, civil society and non-government organizations, due to its environmental impact on the marine ecosystem, fisheries and recreational activities.²⁵ Dumping may also cause hazards to navigation. Overall, dumping from offshore installations should be considered on a case by case basis depending on the impact on the safety of navigation, marine environment, fisheries and other uses of the sea.

5.1.2. Marine Pollution from Tankers

The operation of modern oil tankers involves numerous complexities, and careful consideration needs to be made for various shipboard operations. Similar to

²⁰ See Maria Gavounelli, *Pollution from Offshore Installations* (Graham & Trotman/Martinus Nijhoff, 1995), 58; Youna Lyons, 'The New Offshore Oil and Gas Installation Abandonment Wave and the International Rules on Removal and Dumping' (2014) 29 *The International Journal of Marine and Coastal Law*, 486-487; Alan Boyle, 'Further Development of the Law of the Sea Convention: Mechanism for Change' (2005) 54 *International and Comparative Law Quarterly*, 563-584.

²¹ *Ibid.*

²² R. Desrina, Chairil Anwar and Tri Muji Susantoro, 'Environmental Impacts of the Oil and Gas Platform Decommissioning' (2013) 36 *Scientific Contributions Oil & Gas* 2, 98.

²³ Lyons, above n 20.

²⁴ *Ibid.*

²⁵ See Geir Ulfstein, 'The Conflict Between Petroleum Production, Navigation and Fisheries in International Law' (1988) 19 *Ocean Development and International Law* 229-262; Hossein Esmaili, *The Legal Regime of Offshore Oil Rigs in International Law* (Ashgate Publishing, 2001) 191-192.

offshore installations, discharges of oil from shipping may be the result of either accidents or 'normal', deliberate operational discharges.²⁶

5.1.2.1 Operational Discharges

Operational discharges mainly result from routine activities of tankers such as:

- Management of inert gas system management
- Oil pollution control and handling procedures
- Loading operations
- Crude Oil Washing (COW) activities
- Oil cargo discharging procedures
- Disposal of spilled oil and prevention of incidents
- Inspection of cargo work equipment and machinery

The major sources for the release of oil into the waters are COW activity, clean ballast tanks procedure, and oil separation and filtering procedures. COW is described as:

(T)he cargo tanks, where tankers carry the oil they transport, are cleaned by means of high-pressure flushing with crude oil ("oil to remove oil") or crude oil plus water. This reduces the quantity of oil remaining on board after discharge. The residues from such tank washing are pumped into slop tanks and left in a reception facility in port.²⁷

Clean ballast tanks (CBT) are described as:

(T)hat specific cargo tanks are dedicated to carry ballast water only. Ballast water is taken on board to maintain stability, such as when a vessel is sailing empty to pick up cargo or after having

²⁶ See 'Oil Transportation by Tankers: An Analysis of Marine Pollution and Safety Measures' (Report, the Office of Technology Assessment, 23 July 1975) 26-37; Peter Burgherr, 'In-depth analysis of accidental oil spills from tankers in the context of global spill trends from all sources', (2007) 140 (1-2) *Journal of Hazardous Materials* 245; GESAMP, above n 1, 13-23; 'Fate of Marine Oil Spills' (Technical Information Paper No 2 The International Tanker Owners Pollution Federation Limited (ITOPF), 2011); 'Oil Tanker Spill Statistics 2015' (ITOPF, February 2016) 8-11 <http://www.itopf.com/fileadmin/data/Documents/Company_Lit/Oil_Spill_Stats_2016.pdf>; Brahim Idelhakkar et al, 'The transportation of petroleum Products by sea and the environmental challenge' (2012) 1 *International Journal of Applied Sciences and Engineering Research* 266-269;

²⁷ Ian Borthwick et al, *Environmental management in oil and gas exploration and production-An overview of issues and management approaches* (1997) International Association of Oil & Gas Producers <<http://www.ogp.org.uk/pubs/254.pdf>>; *Operational discharges of oil*, Global Marine Oil Pollution Information Gateway <<http://oils.gpa.unep.org/facts/operational.htm>>.

unloaded cargo. Ballast water contained in segregated ballast tanks never come into contact with either cargo oil or fuel oil.²⁸

Operational oil separation and filtering procedures include separation of oil and bilge water that is produced when the machinery spaces of a vessel are cleaned. Vessels in operation produce oil-contaminated bilge water to a variable extent. If the oil content exceeds a set limit, the discharge is automatically stopped (bilge alarm). Operational activities are the largest source of oil spills from tankers.²⁹ These operational activities are carried out by all tankers every time they function. These operational oil spills will increase as the number of tankers is forecasted to increase.

5.1.2.2 Accidental Discharges

Accidental discharges (oil spills) occur typically when vessels collide or become distressed at sea due to engine breakdown, fire, and explosion, and break open or run aground close to the shore. Accidental oil spill from tanker may cause major environmental problems. The impact of these accidents may cause severe injury to marine and land ecosystems but also have socio-economic impacts.³⁰ Analysis of trends in oil spills from tankers has found that there are certain key factors that contribute to an incident such as hull type, tanker age, sensitivity of location and bad weather. This chapter will not discuss such factors in detail as it focusses on the legal aspect of oil spills in Indonesian regulatory framework.

Regardless of the cause of an oil spill, whether accidental or operational, the pollution damage threat from tankers to ocean ecosystems and the surrounding environment is substantial. Both short-term and long-term effects of oil pollution have been assessed in numerous studies, with such assessments leading to a general agreement that oil spills must be reduced from their present level.³¹ The environmental deterioration caused by oil spills has been documented in many cases, while specific oil spills have been studied to document significant pollution

²⁸ Ibid.

²⁹ 'Oil Transportation by Tankers: An Analysis of Marine Pollution and Safety Measures' above n 26.

³⁰ Burgherr, above n 26, 245.

³¹ Ibid.

damage. This damage has included fish kills, bird kills,³² other biological losses,³³ and damage to recreational beaches and other coastal areas. In order to provide a clearer illustration of the impact of oil spills on the environment, several tanker accidents, including accompanying oil pollution damage, will be described in the following brief paragraphs. These incidents were selected for illustrative purposes and do not represent either the most severe cases or the most likely results of all cases.

The *Showa Maru* accident

The supertanker *Showa Maru* was owned by the Taiheiyo Shipping company of Tokyo and flew the Japanese flag. The *Showa Maru* was carrying 237,000 tons of crude oil from the Arabian Gulf to Japan when she went aground in the Straits of Malacca near Singapore in the early morning of January 6, 1975. About 4,500 tons of oil cargo was spilled from the three tanks damaged during the accident. The *Showa Maru* was refloated on January 15 after offloading enough cargo to lighten the ship, without significant additional spillage. The accident was one of the first major oil spills in the Singapore area, which experiences a large amount of shipping traffic, particularly in supertankers. Two of the three countries bordering the Malacca Strait (Indonesia and Malaysia) indicated that they are considering a ban on supertanker use of this passage, which is claimed in part as territorial waters by Indonesia, Malaysia and Singapore. Indonesia, in this respect, has suggested that giant tankers use the Lombok Strait, which is wider and less congested.³⁴

The *Nagasaki Spirit* case

³² See George L. Hunt, Jr., 'Offshore Oil Development and Seabirds: The Present Status of Knowledge and Long-Term Research Needs' in Donald F. Boesch and Nancy N. Rabalais (eds), *Long-Term Environmental Effects of Offshore Oil and Gas Development* (ElsevierApplied Science, 1987) 539.

³³ See among others: Judith M. Capuzzo, 'Biological Effects of Petroleum Hydrocarbons: Assesments from Experimental Results' 343, and Jerry M. Neff, 'Biological Effects of Drilling Fluids, Drill Cuttings and Produced Waters in Donald F. Boesch and Nancy N. Rabalais (eds), *Long-Term Environmental Effects of Offshore Oil and Gas Development* (ElsevierApplied Science, 1987) 469.

³⁴ 'Oil Transportation by Tankers: An Analysis of Marine Pollution and Safety Measures' above n 26.

During the night of 19 and 20 September 1992, the Liberian tanker *Nagasaki Spirit* collided with the container vessel *Ocean Blessing* in the Northern Straits of Malacca. The *Nagasaki Spirit* was en route from the Arabian Gulf to Brunei and was carrying 40,000 tonnes of crude oil on board. As the result of the accident, both vessels caught fire and most of the crew members perished. The quantity of oil which escaped from the vessel is estimated at approximately 12,000 tonnes, but most of the oil appears to have burned or dissipated.³⁵

5.2. International and Indonesian Laws Relating to Pollution Resulting from Offshore Installations and Tankers

Attempts to protect the marine environment from offshore oil activities can be found in global and regional treaties and other international legal frameworks, including the rules of customary law and non-binding soft law obligations. Early international efforts to address the discharge of oil can be traced back to the 1926 Preliminary Conference on Oil Pollution of Navigable Waters held in Washington,³⁶ which resulted in a document that was not opened for signature.³⁷

The first treaty to address oil pollution of the sea was the *1954 International Convention for the Prevention of Pollution of the Sea by Oil*,³⁸ based on a draft text from the 1926 Washington conference. The 1954 Oil Pollution Convention was followed by the *1958 Convention on the Continental Shelf*, the *1958 Convention on the High Seas*, and the *1958 High Seas Fishing and Conservation Convention*. Subsequently, in 1959, the IMCO (later transformed into the IMO) Assembly assumed responsibility for the 1954 Oil Pollution Convention and many of the UN's functions in relation to oil pollution. The accidents involving the *Torrey Canyon* in 1967, the *Amoco Cadiz* in 1978, the *Exxon Valdez* in 1989 and

³⁵ The Director of the International Oil Pollution Compensation Fund (IOPC) Note, 32nd Session of Executive Committee Agenda Item 5, 'Nagasaki Spirit Incident' (IOPC,1992).

³⁶ Philippe Sands and Jacqueline Peel, with Adriana Fabra and Ruth MacKenzie, *Principles of International Environmental Law* (Cambridge University Press 3rd ed. 2012) 348.

³⁷ Birnie, Boyle and Redgwell, above n 19, 379-380; R.R Churchill and A.V. Lowe, *the Law of the Sea* (Manchester University Press, 3rd ed. 1999) 328-329.

³⁸ *International Convention for the Prevention of Pollution of the Sea by Oil, 1954*, opened for signature 12 May 1954 (entered into force 26 July 1958) ('1954 Oil Pollution Convention').

the *Prestige* in 2002 have triggered international community to further regulate activities that potentially lead to marine pollution. Conventions adopted by the IMO following such incidents include the 1969 Intervention Convention,³⁹ the 1969 (now 1992) CLC,⁴⁰ the 1971 (now 1992) Oil Pollution Fund Convention,⁴¹ and various amendments to MARPOL 73/78 requiring double hulls on new oil tankers.⁴² In responding to the *Torrey Canyon* accident, the UN General Assembly gave special attention to the protection of the marine environment by adopting two resolutions in 1968 and 1969.⁴³

Marine pollution was a central issue at the Stockholm Conference, and Principle 8 of the 1972 Stockholm Declaration called on states to 'take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea'. In 1971, the United States introduced a draft text of the global *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter* (London Convention), which was adopted by the IMO in 1972.⁴⁴ This was followed by the adoption of several conventions including MARPOL 73/78. In 1976 UNEP established its Regional Seas Programme, which has led to over forty regional treaties. In 1982, the international community finally adopted the LOSC, establishing rules and standards for the global protection of the marine environment.

³⁹ *International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties*, adopted on 29 November 1969 (entered into force 6 May 1975) ('The Intervention Convention').

⁴⁰ *International Convention on Civil Liability for Oil Pollution Damage*, adopted on 29 November 1969 (entered into force 19 June 1975) ('the CLC'), at present, the CLC has been updated by 1992 Protocol.

⁴¹ *International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage*, adopted on 18 December 1971 (entered into force 16 October 1978) ('Fund Convention'), at present, the Fund Convention has been updated by 1992 Protocol.

⁴² See MARPOL, annex I, reg 19.

⁴³ The UN General Assembly passed resolution 2414 (XXIII) on 'International Co-operation in problems related to the oceans' in 1968, inviting member States and organizations to promote the adoption of effective international agreements in the prevention and control of maritime pollution. In 1969, the General Assembly also adopted resolution 2566 (XXIV) on 'Promoting effective measures for the prevention and control of marine pollution'; Shigeru Oda, *The Law of the Sea in our Time - I New Developments 1966-1975* (Sijthoff-Leyden, 1977) 205.

⁴⁴ Stokke, above n 19; Birnie, Boyle and Redgewell, above n 19; Sands and Peel, above n 19; Esmaeili and Grigg, above n 19.

5.2.1. Major Global Conventions Applicable in Indonesia

5.2.1.1. LOSC

The LOSC includes a separate section on the protection of the marine environment entitled 'Protection and Preservation of the Marine Environment'. This section sets up the general framework for the provisions of the LOSC that concern the preservation of the marine environment.⁴⁵ Although it does not specifically mention operational pollution from offshore petroleum operations, the LOSC requires states to take measures to prevent, reduce and control marine pollution from any source using the best practical means at their disposal.⁴⁶ The first fourteen articles of Part XII (Articles 192-206) define the general rights and obligations of states with respect to the marine environment.⁴⁷ Article 192 of the LOSC obliges all states to protect and preserve the marine environment from any source of pollution. This article is an essential component of the comprehensive approach in Part XII to the protection and preservation of the marine environment.⁴⁸ While there are a number of international agreements addressing specific aspects of the obligation to protect and preserve the marine environment,⁴⁹ Article 192 contains the first explicit statement, in a global treaty, of such a general obligation.⁵⁰ Thus, Article 192 is the culmination of a process of adopting broad measures in different types of relevant international instruments. It expresses in treaty language the principles for the preservation of the marine environment adopted by the Intergovernmental Working Group on

⁴⁵ Hossein Esmaeili, *The Legal Regime of Offshore Oil Rigs in International Law* (Ashgate Publishing, 2001) 152.

⁴⁶ LOSC art 194 (1); Zhiguo Gao, *Environmental Regulation of Oil and Gas* (Kluwer Law International, 1998) 99.

⁴⁷ Jonathan I. Cherney, 'The Marine Environment and the 1982 United Nations Convention on the Law of the Sea' (1994) 28 *The International Lawyer* 879, 885.

⁴⁸ Myron H. Nordquist et al (eds), *United Nations Convention on the Law of the Sea 1982 A Commentary* (Martinus Nijhoff Publishers, 1985-1991) vol 4, 36-37.

⁴⁹ International Convention for the Prevention of Pollution of the Sea by Oil (OILPOL), London, 1954; Convention on the Territorial Sea and the Contiguous Zone, Geneva, 1958; Convention on the High Seas, Geneva, 1958; Convention on the Continental Shelf, Geneva, 1958; Convention on the Liability of Operator of Nuclear Ships, Brussels, 1962; International Convention on Civil Liability for Oil Pollution Damage (CLC), Brussels, 1969; International Convention for the Prevention of Pollution from Ships, London, 1973; etc.

⁵⁰ Nordquist, above n 48.

Marine Pollution (IWGMP),⁵¹ and the principles contained in the *Declaration of the United Nations Conference on the Human Environment* (the Stockholm Conference).⁵² The thrust of Article 192 is not limited to the preservation of prospective damage to the marine environment but extends to the ‘preservation of the marine environment.’ Preservation would seem to require active measures to maintain, or improve, the present condition of the marine environment.⁵³

Furthermore, Article 194 contains obligation to take measures to prevent, reduce and control marine pollution from any source using the best practical means at a state’s disposal. This includes pollution from vessels and from seabed activities or offshore installations under the jurisdiction of coastal states.⁵⁴ The theme of ‘prevention’ is partly derived from articles 24 and 25 of the Geneva Convention on the High Seas of 1958.⁵⁵ ‘Conservation’ of the living resources of the high seas is one of the central elements of the *1958 Convention on Fishing and Conservation of the Living Resources of the High Seas*.⁵⁶ Paragraph 3 of Article 194 specifies some of the measures which states may take in order to discharge their obligations, not only under this article but under the whole of Part XII. These measures deal with pollution from land-based sources, from or through the atmosphere, by dumping, and from installations and devices used in the exploration and exploitation of the natural resources of the seabed and subsoil.⁵⁷ It contains several references to the design, construction, equipment

⁵¹ Principle 1 of the IWGMP principles states: ‘Every State has a duty to protect and preserve the marine environment and, in particular, to prevent pollution that may affect areas where an internationally shared resource is located’. This principle is adopted by the IWGMP at its 2nd Session (1971) in Ottawa.

⁵² The Stockholm Declaration, although not dealing exclusively with the marine environment, is relevant to its protection and preservation. In particular, Principle 7 of that Declaration provides: ‘States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.’

⁵³ Nordquist, above n 48, 40; Esmaeili, above n 52.

⁵⁴ Gao, above n 46.

⁵⁵ A/CONF.13/C.2/L.6, L.79, L.96/Rev.1, L.103, L.106, L.107, L.115, L.118, L.119 (1958).

⁵⁶ A/CONF.13/C.3/SR.1-5 (1958).

⁵⁷ See section 5 of Part XII (articles 207-212) for greater details on different types of marine pollution sources.

and manning (DCEM) of vessels. This article must to be read subject to Article 21, in the section on innocent passage of foreign ships in the territorial sea.⁵⁸

In addition to Articles 192 and 194, Articles 208, 211, and 217-220 relate to pollution prevention and control in connection with offshore petroleum operations through rigs, pipelines and ships. Article 208 completes the obligation of states under Article 194(3)(c), to take measures to prevent pollution of the marine environment from the exploration or exploitation of the natural resources of the seabed and subsoil. It corresponds to Article 5 of the 1958 Continental Shelf Convention, and Article 24 of the High Seas Convention.⁵⁹ Article 208 sets out a number of important principles.

First, Article 208 requires states to take measures to prevent pollution from offshore activities and installations within their jurisdiction.⁶⁰ These measures are to include legislative and administrative measures as well as self-regulation by industry.⁶¹ In the Commentary on the ILC's draft articles on the law of the sea,⁶² the requirement of the state to prevent the pollution of the seas due to the discharge of oil can be found in Articles 48 and 71 of the draft articles. The ILC emphasized that all states should enact regulations for ships sailing under their flag in order to prevent oil pollution, and control the observance of the regulations.⁶³ As for Article 71, the ILC Commentary states that 'everything possible should be done to prevent damage by exploitation of the subsoil, seismic exploration in connexion with oil prospecting and leaks from pipelines.'⁶⁴

⁵⁸ According to the Article 21 of LOSC, the coastal State allows to adopt laws and regulations, includes on 'the preservation of the environment of the coastal State and the prevention, reduction and control of pollution,' however, such laws shall take consideration innocent passage through the territorial sea.

⁵⁹ See discussion on part (a) of this sub chapter 4.2.2 on the Geneva Conventions, 1958 above.

⁶⁰ LOSC art 208 (1).

⁶¹ A.L.C. De Mestral, 'The Prevention of Pollution of the Marine Environment Arising from Offshore Mining and Drilling' (1979) 20 *Harvard International Law Journal* 3, 500.

⁶² Article 71 (2), to be more precise: Article 71 of Section III on Continental Shelf, states 'Subject to the provisions of paragraph 1 and 5 of this article, the coastal State is entitled to construct and maintain on the continental shelf installations necessary for the exploration and exploitation of its natural resources, and to establish safety zones at a reasonable distance around such installations and take in those zones measures necessary for their protection.'

⁶³ Report of the ILC above n 48, art 48, 285-286.

⁶⁴ *Ibid* 299.

Second, the measures taken nationally are to be ‘no less effective’ than international rules and standards.⁶⁵ This obligation provided in paragraph 1 of Article 208 is categorical in requiring the coastal state to conduct such measures, and adopt no less effective national laws than international rules and standards.⁶⁶ Articles 207 and 212 require that internationally agreed rules and standards be taken into account in the adoption of national laws and regulations, and so Article 208’s requirement outweighs the provisions of Article 207, since the territorial sovereignty of the coastal state in its territorial sea gives way to the ‘sovereign rights’ over the continental shelf.⁶⁷ A similar provision is contained in Articles 209(2), 210(6), and 211(2). States are also urged to harmonize their policies at the regional level.⁶⁸ This demonstrates a preference for the regional approach in harmonizing pollution prevention and control policies. In the opinion of some writers, this also reflects the general tendency towards regional regulation of pollution abatement in connection with offshore activities, a trend that has been sustained by subsequent state practice.⁶⁹

Third, states commit to endeavour to develop international standards for prevention of pollution from offshore activities.⁷⁰ This effort is to be conducted in competent international organizations, through diplomatic conferences or other appropriate means at the global or regional level. The use of the plural ‘international organizations’ is explained by the fact that there is no particular universal international organization with exclusive competence over offshore activities, unlike the IMO in the field of maritime shipping. The combination of competent international organizations and diplomatic conferences allows the necessary flexibility in the machinery, global or regional, through which states can establish widely acceptable and harmonized rules.⁷¹

⁶⁵ LOSC art 208 (3).

⁶⁶ Nordquist above n 48, 145.

⁶⁷ Ibid; Gao above n 46, 100.

⁶⁸ LOSC art 208 (4).

⁶⁹ Gao above n 46.

⁷⁰ Ibid art 208 (5); Mestral, above n 61.

⁷¹ Mestral above, n 61.

The Convention attempts to create a general duty to regulate vessel-source marine pollution through provisions contained in Article 211. This general duty includes obligations contained in the article and involves a number of jurisdictions namely state, coastal state, flag state, and port state jurisdiction.⁷² Article 211(1) stipulates that states are obliged to establish and promote the adoption international rules and standards to prevent, reduce and control pollution of the marine environment from vessels. This first obligation is addressed to all states in general. This obligation is in conjunction with the obligations established by Articles 192 and 194 to protect and preserve the marine environment and to take all necessary measures to protect, reduce and control pollution.⁷³

Article 211(2) requires states to adopt laws and regulations for vessels flying their flag or its registry. It also requires that such laws and regulations 'shall at least have the same effect as that of generally accepted international rules and standards established through the competent international organization or general diplomatic conference.' The language on the same or minimum effect was perceived to be problematic as vague language was used to refer to 'the international rules and standards' and that they must be 'generally accepted'. This lack of definitiveness leads to multiple interpretations. The prescriptive flag-state vessel-source pollution standard regime established by Article 211(2) deliberately leaves a coastal state ample scope to determine for itself the degree to which it should be bound by international rules and standards.⁷⁴ Nonetheless, Bernhardt remarked that if states execute the vessel-source pollution provisions of this Convention in good faith, flag-state prescription is potentially the single most effective means of ensuring the implementation of Part XII.⁷⁵

⁷² Alan Khee - Jin Tan, *Vessel-Source Marine Pollution*, (Cambridge University Press, 2006) 217-221.

⁷³ A. E. Boyle, 'Marine Pollution under the Law of the Sea Convention' (1985) 79 *American Journal of International Law* 353.

⁷⁴ J. Peter A. Bernhardt, 'A Schematic Analysis of Vessel-Source Pollution: Prescriptive and Enforcement Regimes in the Law of the Sea Conference' (1980) 20 *Virginia Journal of International Law* 2, 275.

⁷⁵ *Ibid*, 275-276.

Paragraph 3 of Article 211 is to be read subject to the basic rules for the innocent passage of foreign ships in the territorial sea.⁷⁶ It is addressed to all states in general and more particularly to coastal states and to flag states.⁷⁷ Nordquist's analysis demonstrated that the first sentence of 211(3) is an application of articles 21(1)(f), 22 and 23, to vessel-source pollution in a case of innocent passage in the territorial sea. The second sentence is a proxy of article 194(1), giving expression to the principles enunciated regarding joint and harmonized measures for the prevention, reduction and control of pollution of the marine environment, in the particular circumstance of a localized (regional) harmonized policy.

Article 211(4) is an extremely important provision of the LOSC, as it provides for the establishment by coastal states of national rules and regulations in the territorial sea. Such rules and regulations shall 'in accordance with section 3 of Part II not hamper innocent passage of foreign vessels.' According to Article 21(1), a coastal state does not hamper innocent passage of foreign vessels with laws and regulations which govern navigational safety, marine traffic or scientific research; protect navigational safety, marine traffic or scientific research; protect navigational aids and facilities, cables or pipelines; conserve living resources of the sea; prevent infringement of its fisheries, customs, fiscal, immigration or sanitary regulations; or preserve the coastal environment. Article 21(2) specifies that such coastal-state regulations 'shall not apply to DCEM of foreign ships unless they are giving effect to generally accepted international rules or standards.' These permissive and prohibitive provisions circumscribe the range of regulation which coastal state can apply within its territorial sea by virtue of Article 211(4).⁷⁸

The coastal state's prescriptive and enforcement power over pollution in the EEZ is the next substantive matter discussed in Article 211. Paragraph 5 specifies that coastal states, for the purpose of enforcement as provided for in section 6, may

⁷⁶ See LOSC arts 18, 19 and 21 to 25.

⁷⁷ Nordquist above n 48, 203.

⁷⁸ Bernhardt, above n 74.

establish laws and regulations conforming to and giving effect to generally accepted international rules and standards. This does not mean that coastal state jurisdiction within the EEZ is unlimited. Coastal state control in the EEZ is substantially restricted due to maritime interests' perception that pollution control was too closely intertwined with shipping to leave it wholly within the coastal states' prerogative.⁷⁹ All coastal state pollution laws prescribed for the EEZ must conform to and give effect to generally accepted international rules and standards,⁸⁰ so a coastal state may not prescribe for their EEZ any national DCEM, discharge or navigation standard which exceeds the international standard, except in 'special' and ice-covered areas.⁸¹

The LOSC provisions for the protection of the marine environment constitute a general framework rather than a detailed code of conduct with which states must abide. The bilateral, regional, and global conventions to which the UNCLOS refers define in great detail the specific steps that a coastal state should take to fulfil its obligation to protect and preserve its marine environment, particularly in the EEZ. The rules of conduct that these other conventions contain only apply within the national territory and EEZ of a state when that state is a party to the relevant convention, or otherwise adopts the rules provided under that convention into its domestic law.⁸²

In the national context, Indonesia agreed with the outcomes of the LOSC and ratified it through the *Law No. 17 of 1985 concerning the Ratification of the United Nations Convention on the Law of the Sea*.⁸³ It deposited this Law an instrument of ratification with the UN Secretary General.⁸⁴ Several Indonesian laws relating to maritime affairs have been published as part of the promotion of

⁷⁹ Tan, above n 72, 212.

⁸⁰ LOSC art 211 (5); David M Dzidzornu and B Martin Tsamenyi, 'Enhancing International Control of Vessel-source Oil Pollution under the Law of the Sea Convention, 1982: A Reassessment' (1991) 10 *University of Tasmania Law Review* 283.

⁸¹ Tan, above n 72; LOSC art 211 (6); Dzidzornu and Tsamenyi, above n 80.

⁸² David M. Dzidzornu, 'Coastal State Obligations and Powers Respecting EEZ Environmental Protection Under Part XII of the UNCLOS: A Descriptive Analysis' (1997) 8 *Colorado Journal of International Law and Policy* 283 12.

⁸³ Hasjim Djalal, *Indonesia and the Law of the Sea* (Centre for Strategic and International Studies, 1995) 208.

⁸⁴ Date of deposit of the instrument of ratification 3 February 1986.

Indonesia's national interests and as a follow up for the LOSC.⁸⁵ Indonesia has also promulgated a number of laws and regulations both on maritime environment protection in general and marine pollution more specifically. These laws and regulations will be reviewed later in this chapter.

5.2.1.2. MARPOL

MARPOL is one of the major international conventions covering the protection of the marine environment from pollution by ships from operational or accidental causes.⁸⁶ The Convention includes regulations aimed at preventing and minimizing pollution from ships.⁸⁷ Although MARPOL mainly deals with ship related matters, it includes 'fixed or floating platforms' within the definition of 'ship'.⁸⁸ The regulations contained in MARPOL that deal with oil pollution in Annex I are very complex and detailed, and not easy to briefly summarize.⁸⁹ In brief, however, Articles 1-6 deal with prescriptive and enforcement jurisdiction. Article 2 of the Convention defines key terms. According to Article 2, 'harmful substance' means any substance which, if introduced into the sea, is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.⁹⁰ 'Discharge' includes any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying. This does not include dumping as defined in the 1972 London Dumping Convention, nor the release of harmful substances directly arising from offshore exploration, exploitation or processing of sea-bed minerals, nor the release of harmful

⁸⁵ Oceans and Law of the Sea United Nations/Division for Ocean Affairs and the Law of the Sea, *Maritime Space: Maritime Zones and Maritime Delimitation - Asian and South Pacific States*, (8 December 2014). <http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/STATEFILES/IDN.htm>.

⁸⁶ *International Convention for the Prevention of Pollution from Ships (MARPOL)*, adopted 2 November 1973 at IMO, London, (entered into force 2 October 1983 (Annexes I and II)). For current texts can be seen at <https://www.amsa.gov.au/environment/legislation-and-prevention/marpol/current-texts/index.asp>.

⁸⁷ Gao, above n 46, 103.

⁸⁸ MARPOL art. 2 (4) 'Ship' means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms'; Deanna Fowler, 'Offshore Oil: A Frontier for International Lawmaking' (2012) 12 *Chicago-Kent Journal of International and Comparative Law* 153, 4.

⁸⁹ Churchill and Lowe, above n 37, 340.

⁹⁰ MARPOL art. 2 (2).

substance for scientific research involving pollution abatement or control.⁹¹ 'Incident' is defined as an event involving the actual or probable discharge into the sea of a harmful substance, or effluents containing such a substance.⁹²

Article 3 provides that the Convention applies to all ships under the flag of a state party, as well as to ships are operating under a state's authority, although not flying their flag.⁹³ The Convention provisions do not apply to warships or other ships on non-commercial service. Each party must ensure, by adopting appropriate measures not impairing the operation of such ships, that they act as far as is reasonable and practicable in accordance with the Convention.⁹⁴ Any violation of the Convention requirements is prohibited and sanctions must be established under the law of the flag state. If notice is given and the evidence sufficient that an alleged violation has occurred, the flag state must bring proceedings.⁹⁵ In addition, any violation of the Convention requirements within the jurisdiction of any party must be prohibited and sanctions established under national law.⁹⁶ The Convention does not use the term 'territorial sea' but 'jurisdiction'.⁹⁷ According to Churchill, a state's jurisdiction for the purposes of MARPOL enforcement includes the territorial sea, and may now include the EEZ.⁹⁸ When a violation occurs, the state must bring proceedings or give to the flag state evidence that a violation has occurred, and the flag state must in turn inform the state and the IMO of action taken.⁹⁹ Penalties must be adequate in severity to discourage violations and shall be equally severe regardless of where the violations occur.¹⁰⁰

⁹¹ Ibid art. 2 (3).

⁹² Ibid art. 2 (6).

⁹³ Douglas Brubaker, *Marine Pollution and International Law, Principles and Practice* (Belhaven Press, 1993) 123; MARPOL art. 3 (1).

⁹⁴ Ibid; Ibid. art 3 (2) (3).

⁹⁵ Brubaker, above n 93, 124; Ibid, art 4 (1).

⁹⁶ Ibid; Churchill and Lowe, above n 37, 344.

⁹⁷ Ibid cf. art. 9 (3) of the MARPOL Convention states that the term 'jurisdiction' shall be construed in the light of international law in force at the time of application or interpretation' of the Convention.

⁹⁸ Churchill and Lowe, above n 37, 351.

⁹⁹ MARPOL art. 4 (3); Brubaker, above n 93, 124.

¹⁰⁰ Ibid art 4 (4).

Article 5 of the Convention requires that all ships hold a certificate of compliance with the Convention standards, both technical and operational.¹⁰¹ A ship is subject to inspection that is limited to verifying that it holds a valid certificate on board, unless there are clear grounds that the ship substantially does not correspond with its certificate. In that case, the ship shall not sail until it can proceed to sea without presenting an unreasonable threat of harm to the marine environment.¹⁰² The Convention requires that states should 'cooperate in the detection of violations and the enforcement of the provisions.'¹⁰³

Articles 7-20 address secondary concerns include undue delay to ships, reports on incidents involving harmful substances, other treaties and their interpretation, settlement of disputes, communication of information, casualties to ships, signature, ratification, entry into force, amendments, promotions of technical cooperation, and languages.

MARPOL contains many technical requirements, set out in the annexes to the Convention.¹⁰⁴ Of the six annexes, Annex I is the one which deals with the prevention of pollution by oil.¹⁰⁵ Therefore, this section will focus its discussion on Annex I only.

¹⁰¹ Ibid art 5 (1); Brubaker, above n 93.

¹⁰² Ibid art 5 (2).

¹⁰³ Ibid art 6 (1).

¹⁰⁴ Currently there are six technical Annexes aimed at preventing and minimizing pollution from ships -both accidental pollution and that from routine operations- from various sources as follow:

- Annex I Regulations for the Prevention of Pollution by Oil (entered into force 2 October 1983);
- Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk (entered into force 2 October 1983);
- Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form (entered into force 1 July 1992);
- Annex IV Prevention of Pollution by Sewage from Ships (entered into force 27 September 2003);
- Annex V Prevention of Pollution by Garbage from Ships (entered into force 31 December 1988), and
- Annex VI Prevention of Air Pollution from Ships (entered into force 19 May 2005).

¹⁰⁵ Resolution MEPC.117(52) on Amendments to the Annex of MARPOL (Revised Annex I of MARPOL 73/78) adopted 15 October 2004; Colin de La Rue and Charles B. Anderson, *Shipping and the Environment, Law and Practice* (Informa Law, 2009) 823-824.

MARPOL Annex I is the main source of international rules and standards to prevent oil pollution from ships.¹⁰⁶ Compliance with the Annex's requirements is mandatory. Operational oil pollution is permitted as long as the tanker is fifty nautical miles from land, and not in a special area.¹⁰⁷ Oil covered by Annex I includes generally crude oil, fuel oil, sludge, oil refuse and refined products, and varieties of asphalt solutions, oils, distillates, gas oil, gasoline blending stocks, gasolines, jet fuels, and naphtha.¹⁰⁸ A special area is defined as an area 'where for (a) recognized technical reason in relation to its oceanographical and ecological condition and to the particular character of its traffic the adoption of special mandatory methods for the prevention of sea pollution by oil is required'.¹⁰⁹ The operational discharge controls of Annex I apply not only to oil tankers, in respect of their cargo tank washing and ballast operations, but to all types of vessel in respect of oily wastes from their machinery spaces.¹¹⁰ They include requirements for ships to be equipped with oil filtering equipment and oil record books.¹¹¹

Annex I contains requirements that apply only to certain types of vessel, or to ships built after a certain date, or when ships are in ports equipped a certain way.¹¹² These requirements can be divided into three major categories: requirements for machinery spaces on all ships,¹¹³ requirements for the cargo area of oil tankers,¹¹⁴ prevention of pollution arising from an oil pollution incident,¹¹⁵ reception facilities,¹¹⁶ and special requirements for fixed or floating

¹⁰⁶ Ibid.

¹⁰⁷ Jeff B. Curtis, 'Vessel-Source Oil Pollution and MARPOL 73/78: An International Success Story?' (1984-1985) 15 *Environmental Law* 679, 694; Brubaker, above n 93, 124-125.

¹⁰⁸ MARPOL, annex I, appendix I.

¹⁰⁹ Ibid annex I, Regulation 1 (10), 10; Curtis above n 114, 695; According to Regulation 10 (1), instances of special areas are including the entire Mediterranean Sea, the Baltic Sea, the Black Sea, the Red Sea, and the Persian Gulf. These areas are geographically restricted and experience heavy tanker traffic.

¹¹⁰ Rue and Anderson, above n 105, 825.

¹¹¹ MARPOL, annex I, regs. 16 and 20.

¹¹² Ibid reg. 2; Rue and Anderson, above n 105, 833.

¹¹³ Ibid annex I, chapter 3, Parts A, B, and C.

¹¹⁴ Ibid chapter 4 Parts A, B, and C.

¹¹⁵ Ibid chapter 5.

¹¹⁶ Ibid chapter 6.

platforms.¹¹⁷ Annex I requirements pertaining to oil and gas tankers will now be discussed in more detail.

MARPOL requires all new tankers over 20,000 dwt to have Segregated Ballast Tanks (SBT).¹¹⁸ The SBT's purpose is pollution prevention, hull stress maintenance, and minimum involvement of the cargo piping and pumping system.¹¹⁹ Although the SBT requirement was initially strongly opposed by states and the oil industry, after the American submission in favour, the oil industry began intensive negotiations to consider its adoption.¹²⁰

MARPOL requires tankers to be constructed with double hulls and bottoms.¹²¹ These requirements were first introduced by domestic legislation in the US, in the *Oil Pollution Act 1990*,¹²² as a response to the *Exxon Valdez* incident. The Marine Environment Protection Committee (MEPC) adopted amendments to MARPOL Annex I in 1992.¹²³ The regulations on double hulls in Annex I were later amended after the *Erika* incident in 1999, and again after the *Prestige* incident in 2002.¹²⁴ Regulation 19 of Annex I obliges oil tankers of 600 tonnes dwt and above delivered on or after 6 July 1996, to comply with detailed technical specification for double hull construction.¹²⁵ Furthermore, every oil tanker of 5,000 tonnes dwt and above must be constructed so that the entire cargo tank length is protected by ballast tanks or spaces other than tanks that carry oil. There are detailed specifications for the construction of the wing tanks or spaces, double bottom tanks or spaces, the turn of the bilge area, the aggregate capacity of ballast tanks suction wells in cargo tanks, and ballast and cargo piping.¹²⁶

¹¹⁷ Ibid chapter 7.

¹¹⁸ Ibid reg. 18

¹¹⁹ Rue and Anderson, above n 105, 829.

¹²⁰ Ronald B. Mitchell, *Intentional Oil Pollution at Sea, Environmental Policy and Treaty Compliance* (The MIT Press, 1994) 96-97.

¹²¹ MARPOL, annex I, reg 19.

¹²² *Oil Pollution Act*, 33 USC §2701 (1990).

¹²³ Rue and Anderson, above n 105.

¹²⁴ Ibid.

¹²⁵ MARPOL, annex I, reg 19 (1).

¹²⁶ Ibid reg 19 (3); Rue and Anderson, above n 105, 830.

MARPOL specifies that every oil tanker of 20,000 tonnes dwt and above delivered after 1 June 1982 shall be fitted with a cargo tank cleaning system using crude oil washing. Crude oil washing installation and associated equipment and arrangements shall comply with the requirements established by the Administration. Such requirements must contain at least all the provisions for the design, operation and control of the crude oil washing system.¹²⁷ Annex I requires oil tankers of 150 gross tonnage and above to be provided with an Oil Record Book Part II (Cargo/Ballast Operations) which must be completed when any specified cargo or ballast operations takes place. This requirement is subject to rules similar to those governing the Oil Record Book Part I (Machinery space operations).¹²⁸

Chapter 5 of MARPOL governs the prevention of pollution arising from an oil pollution incident. According to this chapter, every oil tanker of 150 gross tons and above, and every other ship of 400 gross tons and above shall carry on board a shipboard oil pollution emergency plan approved by the Administration.¹²⁹

Annex I sets out special requirements for fixed or floating platforms including drilling rigs, floating production, storage and offloading facilities (FPSOs), and floating storage units (FSUs) used for the offshore storage of produced oil.¹³⁰ Fixed or floating platforms engaged in the exploration, exploitation and associated offshore processing of sea-bed mineral resources and other platforms must comply with the requirements of Annex I applicable to ships of 400 gross tons and above other than oil tankers, except that they must be equipped with tanks for sludge and oil filtering equipment, they must be keep a record of all operations involving oil or oily mixture discharges, and the discharge into the sea of oil or oily mixture is prohibited except when the oil content of the discharge without dilution does not exceed 15 parts per million.¹³¹

¹²⁷ Ibid reg 33.

¹²⁸ Ibid reg 36; Rue and Anderson, above n 105, 832-833. .

¹²⁹ Ibid reg 37.

¹³⁰ Ibid chapter 7.

¹³¹ Ibid reg 39.

Indonesia ratified MARPOL through *Presidential Decision No. 46 of 1986*, which was followed by formal submission of the instrument of ratification to the IMO Secretary General in 2012.¹³² The Government had promulgated regulations to put the MARPOL provisions into real practice including *Ministerial Decision No. KM 167/HM.207/PHB-86 year 1986 concerning International Certificate on Oil Spill Prevention and International Certificate on Liquid Poisonous Spill*.¹³³ The 1986 Decision aimed to protect the marine environment and at the same time implement MARPOL provisions, as indicated in the consideration part of the Decision:

Considering: That on the basis of marine environment protection through Presidential Decision No. 46 year 1986, on 9th of September 1986, the Government of Indonesia had ratified the International Convention for the Prevention of Pollution from Ships, 1973 and the Protocol of 1978 Relating thereto.¹³⁴

Most of MARPOL's provisions, particularly Annex I can be found in Indonesian domestic regulations such as:

- The 2009 Environmental Protection and Management Law
- The 2008 Shipping Law
- The 1999 Marine Pollution Control Regulation
- The 2006 Oil Spills Control Regulation
- *GR No. 21 of 2010 concerning the Protection of the Maritime Environment (Maritime Environment Regulation)*¹³⁵
- *Minister of Transportation Regulation No. 58 of 2013 concerning the Prevention of Pollution in Waters and Ports (Waters and Ports Pollution Prevention Regulation)*¹³⁶

¹³² IMO, *Indonesia ratifies several IMO instruments* (30 November 2014) <<http://www.imo.org/MediaCentre/PressBriefings/Pages/33-indonesiaratifies.aspx>>.

¹³³ *Keputusan Menteri Perhubungan Nomor KM 167/HM/207 Tahun 1986 Tentang Sertifikasi Internasional Pencegahan Pencemaran oleh Bahan Cair Beracun* [Minister of Transportation Decision No. KM 167/HM.207/PHB-86 year 1986 concerning International Certificate on Oil Spill Prevention and International Certificate on Liquid Poisonous Spill] (Indonesia).

¹³⁴ Ibid.

¹³⁵ *Peraturan Pemerintah Nomor 21 Tahun 2010 Tentang Perlindungan Lingkungan Maritim* [Government Regulation No. 21 year 2010 on Protection of Maritime Environment] (Indonesia).

¹³⁶ *Peraturan Menteri Perhubungan Nomor 58 Tahun 2013 Tentang Pengendalian Pencemaran di Laut dan Pelabuhan* [Minister of Transport Regulation No. 58 year 2013 on Pollution Management in Waters and Port] (Indonesia).

5.2.2. Other Relevant Treaties

In addition to the LOSC and MARPOL, other major multilateral treaties are pertinent to the control of marine pollution from the oil and gas industry. These treaties, including the OPRC Convention, London Convention and its Protocol, and the *International Convention on Civil Liability for Oil Pollution Damage*¹³⁷ have not been ratified yet by Indonesia.¹³⁸

5.2.2.1. OPRC Convention

The OPRC Convention was adopted on 30 November 1990 and came into force on 13 May 1995.¹³⁹ This Convention was an international response to several major marine pollution incidents resulting from tankers and offshore installations in the late 1980s. In particular, the *Exxon Valdez*¹⁴⁰ and *Khark V* incidents in 1989¹⁴¹ had an important impact in stimulating the IMO Assembly to adopt the OPRC Convention.¹⁴²

In its preamble, the OPRC Convention recognizes the serious threat to the marine environment from oil pollution incidents involving ships,¹⁴³ offshore units,¹⁴⁴ sea ports and oil terminals;¹⁴⁵ and that only prompt and effective action can minimize serious environmental damage.¹⁴⁶ The Convention's objectives are

¹³⁷ *International Convention on Civil Liability for Oil Pollution Damage*, opened for signature on 29 November 1969 (entered into force 19 June 1975) ('CLC').

¹³⁸ As of 12 February 2015: *Status of Conventions*, IMO (12 February 2015), 4.

¹³⁹ *Status of Multilateral Conventions and Instruments in respect of which the International Maritime Organization or its Secretary-General performs depository or other functions*, IMO (12 February 2015), 463.

¹⁴⁰ *Oil Spill-Case Histories 1967-1991, Summaries of Significant US and International Spills*, NOAA/Hazardous Materials Response and Assessment Division (September 1992).

¹⁴¹ *Ibid.*

¹⁴² Ronald P. Barston, 'International Dimensions of Coastal Zone Management', *Ocean & Coastal Management* 23 (1994) 103.

¹⁴³ OPRC, art 2 defines 'Ship' as a vessel of any type whatsoever operating in the marine environment and include hydrofoil boats, air-cushion vehicles, submersibles, and floating craft of any type.

¹⁴⁴ *Ibid* art 2, 'Offshore unit' means any fixed or floating offshore installation or structure engaged in gas or oil exploration, exploitation or production activities, or loading or unloading of oil.

¹⁴⁵ *Ibid* art 2, 'Sea ports and oil handling facilities' means those facilities which present a risk of an oil pollution incident and include, *inter alia*, sea ports, oil terminals, pipeline and other oil handling facilities.

¹⁴⁶ Edgar Gold, 'International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 Report, 22 *Journal of Maritime Law and Commerce* 2 (1991) 342.

to facilitate international co-operation and mutual assistance in preparing for and responding to such incidents, and to encourage states to develop and maintain adequate capability to deal credibly with oil pollution emergencies.¹⁴⁷

Article 3 of the OPRC Convention requires parties to the Convention to require ships under their flags to have on board a shipboard oil pollution emergency plan. Operators of offshore units are required to have similar emergency plans.¹⁴⁸ Specific oil pollution reporting procedures for vessels, aircraft, sea ports and oil terminals are outlined.¹⁴⁹ Article 5 sets out the required action on receiving an oil pollution report referred to in Article 4. Article 6 requires the establishment of national and regional systems for preparedness and response by each party to the Convention to address oil pollution incidents. Such systems include the decision-making authority as well as the location of oil spill combating equipment, the training of response teams, and the necessary communication and co-ordination mechanisms.

Article 7 of the Convention establishes mechanisms for international co-operation in pollution response amongst the parties through advisory services, technical support and equipment, and facilitation of the expeditious utilization and/or movement of the necessary equipment required to combat serious spills.¹⁵⁰ The Convention calls upon governments to play an active role in the promotion of research and development relating to the enhancement of the state-of-the-art of oil pollution preparedness and response, including technologies and techniques for surveillance, containment, recovery, dispersion, clean-up and otherwise minimizing or preventing the effects of oil pollution.¹⁵¹

States' responsibilities are reinforced through Article 9 on technical co-operation in which parties to the Convention undertake to provide support for states that require technical assistance in terms of training, technology transfer, equipment

¹⁴⁷ OPRC, the preamble; Gurpreet S. Singhota, 'IMO's Role in Promoting Oil Spill Preparedness' 4 *Spill Science & Technical Bulletin* 4 (1995) 207; Barston above n 142.

¹⁴⁸ Gold, above n 146, 342-343.

¹⁴⁹ OPRC, art 4.

¹⁵⁰ Gold, above n 146, 343.

¹⁵¹ OPRC, art 8; Singhota, above n 147, 209.

and facilities.¹⁵² According to Gold, this was a contentious theme as a number of developed states were concerned about who would manage the funds and keep control of expenses especially for expensive equipment.¹⁵³ Their concerns were assuaged by the inclusion of an Annex to the Convention that outlines procedures reimbursement of states' expenses.¹⁵⁴

In order to achieve the OPRC Convention goals as outlined in its preamble, the IMO created an implementation strategy that encompasses activities for capacity building and institutional strengthening for oil spill preparedness and responses for developing countries and countries seeking assistance in these fields.¹⁵⁵ The main activities through which the IMO's strategy is implemented are the OPRC Working Groups, the IMO Oil Pollution Coordination Centre (OPCC), the OPRC Information System, promotion of research and development in the field, national contingency planning development assistance, regional/subregional cooperation mechanisms and regional strategies, the OPRC Training Strategy, participation in international oil spill conferences and seminars, and through cooperation with industry and technical assistance and resource mobilization.¹⁵⁶

5.2.2.2. *The London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter and the 1996 Protocol*

The London Convention is a global instrument for the protection of the marine environment against pollution due to dumping at sea.¹⁵⁷ It is aimed at 'prevention [of] the pollution of the sea by the dumping of waste and other matter that is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea'.¹⁵⁸

¹⁵² Gold, above n 146, 343.

¹⁵³ Ibid.

¹⁵⁴ OPRC, annex on Reimbursement of costs of assistance.

¹⁵⁵ Singhota, above n 147.

¹⁵⁶ Ibid, 208.

¹⁵⁷ Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972, London, 29 December 1972 (London Convention), in force 30 August 1975; Philippe Sands et al, above n 36, 366.

¹⁵⁸ The London Convention above n 142, arts I and VIII.

The London Protocol, which is a product of a review conference of the London Convention in the early 1990s, supersedes the London Convention between those parties to the Protocol that are also parties to the London Convention.¹⁵⁹ As of September 2014, the London Convention had 87 state parties, and the London Protocol had 45 state parties.¹⁶⁰ However, its influence and legal effect extends much further, as the LOSC, under Article 210, specifies that parties to the LOSC are bound to ‘adopt national laws, regulations and other measures to prevent, reduce and control marine pollution by dumping, which are no less effective than the global rules and standards’.¹⁶¹ These global rules and standards are universally considered to be those adopted under the London Convention.¹⁶² Since Article 210 of the LOSC also requires states to adopt such global rules and standards and to re-examine them from time to time, the adoption of the London Protocol could be considered as a fulfilment of states’ obligations to revise existing global rules under Article 210.¹⁶³ At present, there are 167 parties to the LOSC.¹⁶⁴ Moreover, parties to the London Convention and the London Protocol represent two thirds and one third, respectively, of global merchant shipping tonnage.¹⁶⁵

The London Convention defines dumping as the deliberate disposal of waste from ships and aircraft, excluding the disposal of wastes incidental to the normal operation of ships and aircraft.¹⁶⁶ Dumping can include mixed sources of

¹⁵⁹ Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972, London, 7 November 1996 (London Protocol), in force 24 March 2006; Philippe Sands et al, above n 36, 366.

¹⁶⁰ IMO, *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter* (10 March 2015) <<http://www.imo.org/OurWork/Environment/LCLP/Pages/default.aspx>>.

¹⁶¹ Louise de La Fayette, ‘The London Convention 1972: Preparing for the Future,’ 13 *The International Journal of Marine and Coastal Law* 4 (1998) 516.

¹⁶² Nordquist above n 48, 155-159.

¹⁶³ La Fayette above n 161.

¹⁶⁴ UN Treaty Collection, *Databases, Chapter XXI Law of the Sea* (8 March 2015) <https://treaties.un.org/Pages/ViewDetailsIII.aspx?&src=TREATY&mtdsg_no=XXI~6&chapter=21&Temp=mtdsg3&lang=en>.

¹⁶⁵ IMO, *Climate Change and the London Convention and Protocol* (9 March 2015) 1 <<http://www.imo.org/OurWork/Environment/LCLP/EmergingIssues/Documents/LCLP%20and%20climate%20change.pdf>>.

¹⁶⁶ The London Convention above n 142, art III (1).

pollution as pollutants are accumulated on land but are discharged into the sea from vessels or offshore installations.¹⁶⁷ Most dumping operations are conducted from ships although platforms used as offshore terminals for loading and unloading may dump wastes or other matter.

Wastes are divided into three categories:¹⁶⁸ first, substances listed in Annex I (the black list).¹⁶⁹ The dumping of substances on the black list is prohibited.¹⁷⁰ The second category comprises less noxious substances listed in Annex II (the grey list).¹⁷¹ The dumping of these substances is permitted only if a prior special permit has been obtained.¹⁷² The third category comprises all wastes not on the black or grey lists. These wastes may be dumped only if a prior general permit has been obtained.¹⁷³ 'Special' and 'general' permits are granted by national authorities, for matter intended for dumping which is loaded in its territory, or loaded by a vessel or aircraft registered in its territory, or flying its flag when the loading occurs in the territory of a non-party.¹⁷⁴

The grant of 'special' and 'general' permits must comply with certain criteria, and national authorities must keep detailed records of all matter permitted to be dumped, and monitor the condition of the seas.¹⁷⁵ The London Convention also requires collaboration between parties on training, research and monitoring, methods for disposal and treatment of wastes, the development of procedures to assess liability and settlement of disputes, and the promotion of measures to protect the marine environment against pollution from specific sources, including oil and radioactive pollutants.¹⁷⁶ Through the relevant international

¹⁶⁷ Maria Gavounelli, *Pollution from Offshore Installations* (Graham & Trotman/Martinus Nijhoff, 1995), 58.

¹⁶⁸ The London Convention above n 142, art IV.

¹⁶⁹ Black list substances include organ halogen compounds, mercury, cadmium, oil, plastics, and high-levels radioactive wastes defined by the International Atomic Energy Agency (IAEA).

¹⁷⁰ The London Convention above n 142, art IV (1).

¹⁷¹ Grey list substances include arsenic, lead, copper, zinc, organosilicon compounds, cyanides, and fluorides.

¹⁷² The London Convention above n 142, art IV (1).

¹⁷³ *Ibid.*

¹⁷⁴ The London Convention above n 142, art VI (1) (a) and (b) and (2).

¹⁷⁵ The London Convention above n 142, art VI (3) and Annex III, as amended in 1989.

¹⁷⁶ The London Convention arts. IX, X, XI and XII.

institution, the IMO, the London Convention has been subject to ongoing review and amendment.

As mentioned above, in 1996 the parties to the London Convention adopted a protocol which takes a more restrictive approach to the regulation of dumping. The London Protocol, which is intended to eventually replace the 1972 Convention, represents a major change of approach to the question of how to regulate the use of the sea as a depository for waste materials.

The London Protocol generally prohibits all forms of dumping, except for some listed substances. Compared to the London Convention, the London Protocol sets a broader objective by aiming to 'protect and preserve the marine environment from all sources of pollution'. Importantly, the London Protocol incorporates the 'precautionary approach' and polluter pays principle with respect to environmental protection from dumping of wastes or other matter.¹⁷⁷

The 'precautionary approach' requires that 'appropriate preventative measures are taken when there is reason to believe that wastes or other matter introduced into the marine environment are likely to cause harm even when there is no conclusive evidence to prove a causal relation between inputs and their effects.' It bans the dumping of all substances except five listed in Article 4,¹⁷⁸ prohibits incineration, and bans the export of waste to non-parties for dumping or incineration.¹⁷⁹ The London Protocol also specifies that 'the polluter should, in principle, bear the cost of pollution' and emphasizes that parties should ensure that the Protocol should not simply result in pollution being transferred from one part of the environment to another.¹⁸⁰ The Protocol allows states that were not parties to the original London Convention to phase in compliance with its provisions over five years, and provides for technical assistance to be given to enable them to do so.¹⁸¹

¹⁷⁷ The London Protocol art 3(1); Churchill and Lowe, above n 37, 366.

¹⁷⁸ Ibid art 4.

¹⁷⁹ Ibid arts 5 and 6.

¹⁸⁰ Ibid.

¹⁸¹ Ibid art 8; Churchill and Lowe, above n 37, 366.

The Protocol has a broader geographical scope than the London Convention, regulating storage of wastes in the seabed, as well as offshore installations.¹⁸² Marine pollution from offshore installations had been discussed at the London Protocol negotiations for a number of years, most notably in relation to the acceptability of sub-seabed disposal of radioactive waste under the Convention.¹⁸³

The sea disposal of offshore oil and gas installations proved to be especially controversial, with some countries wanting ban such disposal altogether. A clear majority of delegations did not support the proposal of a moratorium on dumping decommissioned offshore installations proposed by the Danish delegation. The reasons given for this lack of support were that the proposal was not supported by scientific evidence and that countries needed to retain flexibility, especially in different geographical areas.¹⁸⁴

The parties to the London Convention and the London Protocol meet annually and concurrently, as do their Scientific Groups (SG) to implement their vision of 'two instruments-one family'.¹⁸⁵ Their innovative and unique approach to international treaty administration and implementation is designed to achieve the consistent evolution of the London Convention and London Protocol, which address the same issue,¹⁸⁶ and recognizes the fundamental principle that 'the problems of ocean space are closely interrelated and need to be considered as a whole'.¹⁸⁷

5.2.2.3. International Convention on Civil Liability for Oil Pollution Damage, 1969

The CLC¹⁸⁸ was concluded at an international conference convened in the aftermath of the *Torrey Canyon*¹⁸⁹ incident, and sought to ensure that coastal

¹⁸² Ibid art 7(2).

¹⁸³ Alan Sielen, 'The New International Rules on Ocean Dumping: Promise and Performance', (2009) 21 *Georgetown International Environmental Law Review* 295, 9.

¹⁸⁴ Ibid.

¹⁸⁵ P. Verlaan, 'Current Legal Developments London Convention and London Protocol', (2011) 26 *The International Journal of Marine and Coastal Law*, 185.

¹⁸⁶ Ibid, 185-186.

¹⁸⁷ LOSC preamble.

¹⁸⁸ The CLC was adopted on 29 November 1969 and enter into force on 19 June 1975. At present, the CLC has been replaced by 1992 Protocol.

states and their nationals obtain appropriate compensation in the result of pollution from oil tankers.¹⁹⁰ Together with the *International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage of 1971* (Fund Convention),¹⁹¹ the CLC attempted to overcome the difficulties which may be faced by victims of oil pollution.

Compensation under CLC is restricted to claims arising from pollution by persistent oils such as crude oil, fuel oil, heavy diesel oil, lubricating oil and whale oil.¹⁹² Non-persistent oils such as refined oils and distillates were excluded. As for the geographical scope, it was agreed that only damage caused only within a state's territory and territorial sea could be compensated, even if the pollution incident occurred outside these areas.¹⁹³

The CLC only extends to 'ships' which have to be 'actually carrying oil in bulk as cargo'.¹⁹⁴ The CLC excluded any form of pollution from non-oil tankers, dry cargo ships, passenger ships, warships or other state-owned vessels used on government non-commercial service.¹⁹⁵ The CLC requires states to ensure that every ship carrying more than 2,000 tons of oil as cargo using its ports is insured,¹⁹⁶ whether the flag state of the ship is a party to the CLC or not.¹⁹⁷ The ship is to be issued with a certificate by the authorities of the flag state to this effect.¹⁹⁸ This certificate must be carried on board the ship, and the ship shall not be permitted to trade unless it has been issued with a certificate.¹⁹⁹

Liability under CLC was 'channelled' solely to the shipowner (or his insurer) in order to simplify the claimants' task of identifying appropriate defendants to

¹⁸⁹ *Oil Spill-Case Histories* above n 151.

¹⁹⁰ Donald R. Rothwell and Tim Stephens, *The International Law of the Sea* (Hart Publishing 2010), 367.

¹⁹¹ The Fund Convention was adopted on 18 December 1971 and entered into force on 16 October 1978.

¹⁹² The CLC, art I(5).

¹⁹³ *Ibid* art II; Tan, above n 79, 299.

¹⁹⁴ *Ibid* art I(1)

¹⁹⁵ *Ibid* art XI(1).

¹⁹⁶ *Ibid* art VII(1); Churchill, above n 37, 360.

¹⁹⁷ *Ibid* art VII(11).

¹⁹⁸ *Ibid* art VII(2).

¹⁹⁹ *Ibid* art VII (4).

sue.²⁰⁰ The Convention provides that where oil escapes or is discharged from a ship and causes damage on the territory, including the territorial sea, of a contracting state, the shipowner, subject to three exceptions,²⁰¹ is strictly liable for that damage and the cost of remedial measures.²⁰² Where a shipowner is liable their liability is limited to an aggregate amount of 133 Special Drawing Rights (SDRs)²⁰³ per ton of the vessel's tonnage. An overall limit of 14 million SDRs was imposed.²⁰⁴ However, the limitation could be overridden if the incident occurred as a result of the owner's 'actual fault or privity'.²⁰⁵

If the shipowner is liable but is financially incapable of meeting their obligations in full or if the pollution damage exceeds the limits of their liability, compensation will be paid to the victim from the International Oil Pollution Compensation Fund (IOPC), up to a limit of 60 million SDRs. The CLC provides that the victim of oil pollution damage may bring an action for compensation only in the courts of the contracting state in whose territory the damage occurred.²⁰⁶

5.2.2.4. 1992 Protocol to the International Convention on Civil Liability for Oil Pollution Damage

Following the implementation of CLC and the 1971 Fund Convention by states and industries, further developments led to the need of more extensive coverage for states that were not parties to the CLC, and updated compensation mechanisms to respond to maritime incidents. Of the responses to these developments, two protocols were adopted in 1984 to amend the CLC and Fund Convention, but neither ever came into force because the United States refused

²⁰⁰ Tan, above n 79, 296.

²⁰¹ The CLC arts II and III; The three exceptions are where the damage (1) results from war or acts of God, (2) is wholly caused by an act or omission done by third party with intent to cause damage, (3) is wholly caused by the negligence or other wrongful act of any government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function.

²⁰² Churchill, above n 37, 359.

²⁰³ Originally the CLC expressed the limits of liability in terms of Poincaré francs, but under a 1976 Protocol the limits of liability are now expressed in terms of SDRs. As of 11 March 2015 one SDR was worth about US\$1,37. IMF, *SDR Valuation* (11 March 2015) <http://www.imf.org/external/np/fin/data/rms_sdrv.aspx>.

²⁰⁴ The CLC art V; Tan, above n 72, 298.

²⁰⁵ Ibid.

²⁰⁶ Ibid art IX(1).

to ratify them and other states were unwilling to do so without US participation. An urgent diplomatic conference was convened by the IMO in November 1992 to modify amendments to reduce the tonnage and contributing oil thresholds necessary for the entry into force of the CLC, effectively dispensing with US acceptance of the Protocols.²⁰⁷ The conference therefore adopted the 1992 Protocols to the CLC and the Fund Convention.²⁰⁸

Elements of the 1992 Protocols were originally developed in the 1984 Protocol, but new ideas were also introduced, including a new limit on maximum liability and a more extensive coverage zone for oil spill incidents. The main changes made by the 1992 Protocol were that it allows claims for pollution damage caused in the territory, territorial sea, or EEZ,²⁰⁹ to be brought in the courts of a state party to the 1992 Protocol, it increases the maximum limits of liability under the CLC to three million SDRs for ships under 5,000 tons and for larger ships liability increases by 420 SDRs per ton above 5,000 tons to a maximum of 59.7 million SDRs.²¹⁰ The 1992 Protocol slightly alters the definition of 'oil' to exclude whale oil, and together with the Fund Protocol 1992, widens the definition of 'ship' to include a bunker spill from the ballast within the definition of oil, and extends the scope to include a spill from a combination carrier in certain instances.²¹¹

The 1992 Fund Protocol applies when valid claims for compensation due to 'pollution damage' from an oil tanker exceed the amount available under the CLC or there is some impediment to a valid recovery under the CLC such as insolvency or difficulty identifying the tanker owner. This scheme was created after tanker owners complained that oil companies should share the costs incurred from oil spills due to the nature of their ownership over the oil. Tanker

²⁰⁷ Tan, above n 72, 327.

²⁰⁸ Both of the 1992 Protocols to the CLC and the Fund Convention were adopted on 27 November 1992 and entered into force on 30 May 1996.

²⁰⁹ In the case of no EEZ has been claimed, claims for pollution damage can be applied up to 200 nm from the territorial sea baselines.

²¹⁰ The 1992 Protocol to the CLC art 6.

²¹¹ Gotthard M. Gauci, 'Protection of the Marine Environment through the International Ship-Source Oil Pollution Compensation Regimes', (1999) 8 *the Review of European Comparative & International Environmental Law (RECIEL)* 1, 31.

owners contribute to the CLC and oil companies contribute to the Fund Protocol and these two regimes share the costs incurred from oil spills.²¹² A question under discussion at the International Oil Pollution Compensation Fund is whether a spill from Floating Storage Units (FSUs) or Floating Production Storage and Offloading Units (FPSOs) fall within the ambit of the CLC and Fund Convention regimes. No reference can be found in these Conventions or Protocols to a ship or a vessel used as a storage facility, so it would appear that they are not covered.²¹³

Indonesia has ratified the CLC, but not its Protocol and amendment. Given the rapid development of regulatory frameworks on civil liability for oil pollution damage and the potential for maritime incidents to lead to oil spills in the region, Indonesia should either ratify the Protocol and its amendment of 2002, or formulate domestic legislation that covers the same ground.

5.3. Indonesian Laws Relating to Marine Pollution from Offshore Oil and Gas Activities

This sub-chapter investigates the domestic regulatory framework relating to marine pollution resulting from offshore oil and gas operations. It comprises two major parts: (i) Indonesian policy and laws on the protection of marine environment and (ii) key laws relevant to marine pollution from ships or tankers and offshore installations. Key laws to be discussed are the 2009 Protection and Management of Environment Law, the 1999 Marine Pollution Control Regulation, and the 2006 Emergency Response of Oil Spills Regulation.

5.3.1. Indonesian Policy and Law on Marine Pollution

There are three major legal references that the Government must consider in protecting the marine environment from offshore pollution: the 1945 Constitution, Indonesian Law of the Sea, and Environmental Protection and Management Law. Like all policies, policies on the protection of marine

²¹² Jacqueline Allen, 'A Global Oil Stain - Cleaning Up International Conventions for Liability and Compensation for Oil Exploration/Production', (2011) 25 *Australia & New Zealand Maritime Law Journal* 90, 93.

²¹³ Gauci, above n 211.

environment from pollution caused by offshore oil and gas activities must be in line with the 1945 Constitution. The Constitution is the highest legal reference in Indonesian legal system.²¹⁴ The Preamble of the 1945 Constitution stipulates that ‘the Government of Indonesia shall protect the whole of the Indonesian people and their native country’.²¹⁵ This is the principle underlying the responsibility and the obligation of the state to protect Indonesian resources and the environment, including marine resources.²¹⁶

Article 33 (3) of the 1945 Constitution is considered the fundamental guideline and principle for national resources policy and management, and provides that ‘[l]and and water and the natural resources therein shall be controlled by the State and shall be utilised for the greatest benefit of the Indonesian people.’ Under these constitutional provisions, the government plans, executes and controls the utilization of natural resources. The inclusion of resource utilization and environmental matters in the Constitution reflects the high priority and importance attached by the government to the management of Indonesia’s resources and environment.²¹⁷

The Indonesian Law of the Sea²¹⁸ requires the Indonesian government to protect the marine environment in four ways: maritime conservation; control of marine

²¹⁴ Paulus E. Lotulung et al (eds), *Indonesian Legal System* (2005) ASEAN Law Association <<http://www.aseanlawassociation.org/papers/Constitution.pdf>>.

²¹⁵ *Undang-Undang Dasar 1945 Negara Kesatuan Republik Indonesia* [the 1945 Constitution of the Republic of Indonesia] (Indonesia) para 3.

²¹⁶ See Arifin Rudiyanto, *A Critical Appraisal of Marine and Coastal Policy in Indonesia including Comparative Issues and Lesson Learns from Australia* (PhD Thesis, University of Wollongong, 2002) 113 <<http://ro.uow.edu.au/theses/368/>>.

²¹⁷ Rudiyanto, above n 216; Mochtar Kusumaatmadja and Tommy H Purwaka, ‘Legal and Institutional Aspects of Coastal Zone Management in Indonesia’ (1996) 20 *Marine Policy* 1, 69.

²¹⁸ See Chapter 4 of this Thesis for further discussion on the 2014 Law of the Sea. It is rather a comprehensive legal framework for maritime undertakings in Indonesia. Although, this Law is not the first domestic legislation that regulates, for instances, maritime zones, the protection of marine environment, or other matters, however, it has made certain fundamental changes and introduced new matters in order to clarify Indonesia’s rights, responsibility, and position towards relevant international law. Instances of these changes and new matters are including new definition of continental shelf and appointment of central authority for maritime security: Indonesian security board (Bakamla). According to this Law, environmental protection is a systematic and integrated effort that carried out to conserve marine natural resources and prevent maritime pollution and/or destruction which cover sea conservation, control of marine pollution, maritime disaster management, and prevention of marine pollution, destruction and disaster.

pollution; management of maritime disasters; and prevention of and response to marine pollution, destruction and disasters.²¹⁹ This law categorizes maritime disasters caused by marine pollution from five different sources including red tides, oil pollution and nuclear radiation.²²⁰ In responding to marine pollution and maritime disasters, the government should create a marine pollution and maritime disaster response policy that consists of three approaches: development of disaster mitigation systems, development of early warning systems, and establishment of national planning for oil spill emergency responses.²²¹ In addition, the Government should also take into account: (i) cooperation with other countries on the protection of marine environment, (ii) the existing and other relevant legislations, and (iii) the international law of the sea.²²²

The Environmental Protection and Management Law contains general regulations for the protection of the environment in Indonesia in order to promote sustainability, benefits for all people and justice including the participation of civil society.²²³ The 2009 Law aims to:²²⁴

- a. Generate harmony, conformity and balance achievements between humans and the environment
- b. Ensure the interests of current and future generations, by managing the use of natural resource prudently
- c. Protect Indonesian territory from pollution and/or environmental destruction
- d. Conduct sustainable development with an environmental vision

²¹⁹ Indonesian Law of the Sea art 50.

²²⁰ Ibid art 51.

²²¹ Ibid art 54.

²²² Ibid art 56.

²²³ Syamsul Arifin, *Hukum Perlindungan dan Pengelolaan Lingkungan Hidup di Indonesia [Law of the Protection and Management of Living Environment in Indonesia]* (Sofmedia, 2012); Sukanda Husin, *Penegakan Hukum Lingkungan Indonesia [Enforcement of Indonesian Environmental Law]*.

²²⁴ *Naskah Akademis Rancangan Undang-Undang tentang Pengelolaan Lingkungan Hidup [Academic Paper on the Draft of the Law on the Protection and Management of Environment]* 32-33.

The government has a major task to transform these principles and objectives into reality. Table 5.3 outlines the specific and detailed legal frameworks that cover the field of the protection of the marine environment.

Table 5.3
Laws Relating to Marine Pollution Management

| No. | | Laws/Regulations | Subject |
|-----|---|--------------------------------------|--|
| 1. | <i>Maritime zones</i> | Law No. 6/1996 | Indonesian waters |
| 2. | | Law No. 5/1983 | Indonesian EEZ |
| 3. | | Law No. 1/1973 | Indonesian continental shelf |
| 4. | | Law No. 43/2008 | State territory |
| 5. | <i>Management of living environment</i> | Law No. 32/2009 | Protection and management of environment |
| 6. | | Law No. 5/1990 | Conservation of biological resources and their ecosystem |
| | | GR No. 21/2010 | Marine environment protection |
| 7. | | GR No. 19/2009 | Control of marine pollution |
| 8. | | Presidential Regulation No. 109/2006 | Prevention of offshore oil Spill |
| 9. | | GR No. 82/2001 | Management of water quality and pollution |
| | | GR No. 74/2001 | Management of dangerous and hazardous goods |
| | | GR No. 85/1999 | Amendment of GR No. 18/1999 on management of dangerous and hazardous waste |
| 10. | | GR No. 21/2005 | Biological safety of genetically modified |

| No. | | Laws/Regulations | Subject |
|-----|--|---|--|
| | | | products |
| 11. | <i>Maritime undertakings</i> | Law No. 17/2008 | Sailing |
| 12. | | GR No. 51/2002 | Shipping |
| 13. | | GR No. 20/2010 | Water transportation |
| 14. | | GR No. 5/2010 | Navigation |
| 15. | | GR No. 61/2009 | Port |
| 16. | | GR No. 7/2000 | Seamanship |
| 17. | <i>Marine resources management</i> | Law No. 31/2014 | Fisheries |
| 18. | | Law No. 22/2001 | Oil and gas |
| 19. | | Law No. 1/2014 | Amendment of law no. 27/2007 concerning management of coastal area and small islands |
| 20. | | Presidential Decision No. 109 year 2006 | Marine oil spill emergency response |
| 21. | | Presidential Regulation No. 9 year 2013 | Management of oil and gas upstream activities |
| 22. | | GR No. 35/2004 | Upstream business activities |
| 23. | | GR No. 17/1974 | Monitoring for offshore oil and gas exploration and exploitation operations |
| 24. | | GR No. 36 year 2004 | Downstream business activities |
| 25. | <i>Ratification of International conventions</i> | Law No. 17/1985 | Ratification of the UNCLOS |
| 26. | | Law No. 5/1994 | Ratification of UN convention on biological |

| No. | Laws/Regulations | Subject |
|-----|-------------------------------------|--|
| | | diversity |
| 27. | Law No. 19/2009 | Ratification of Stockholm convention on persistent organics pollutants |
| 28. | Law No. 5/1994 | Ratification of the UN Convention on biological diversity |
| 29. | Law No. 21/2004 | Ratification of the Cartagena protocol on biosafety to the convention on biological diversity |
| 30. | Presidential Regulation No. 47/2005 | Ratification of the amendment the Basel Convention on the control of trans-boundary movement of hazardous waste and their disposal |

Table 5.3 covers most of the relevant laws related to the protection of the marine environment from different sources of pollution including navigation, fisheries and petroleum operations.²²⁵ Since not all of these instruments are related directly to offshore installations and tankers, this section focusses only on the relevant laws.²²⁶

5.3.2. Offshore Oil and Gas Installations

Currently, there is no specific domestic law or regulation that deals exclusively with marine pollution from offshore oil installations. The legal framework governing offshore installations can be found in a number of laws:

- a. The 2009 Environmental Protection and Management Law
- b. The 1999 Marine Pollution Control Law

²²⁵ See D. Dirhamsyah, 'Indonesian legislative framework for coastal resources management: A critical review and recommendation' (2006) 49 *Ocean & Coastal Management* 68-92.

²²⁶ Hendra Yusran Siry, 'In search of appropriate approaches to coastal zone management in Indonesia' (2011) 54 *Ocean & Coastal Management* 469-477.

- c. The 2006 Emergency Response of Oil Spills Regulation
- d. The 2010 Maritime Environment Protection Regulation
- e. The 2013 Waters and Port Pollution Prevention Regulation
- f. The 1974 Supervision Regulation
- g. The 2011 Decommissioning Regulation

5.3.2.1. The 2009 Environmental Protection and Management Law

This law is the umbrella legal framework for environmental regulation in Indonesia. It contains general principles, national standards/criteria, and procedures regarding the protection and management of the environment in Indonesia.²²⁷ It defines ‘environment’ as ‘a totality of space with all materials, resources, situations and creatures, including humans and their behaviour that influences nature, the continuation of livelihoods and human welfare as well as other creatures.’²²⁸ The Law defines ‘environmental pollution’ as ‘the incoming or inclusion of creatures, substances, energies and/or other components into the environment by human activities so as to exceed the stipulated environmental quality standards.’²²⁹

Although the Law does not specifically address marine pollution from oil and gas activities, a number of its provisions remain relevant. These provisions can be categorised into three key areas: actions prohibited under the Environmental Protection and Management Law, criminal provisions and law enforcement. Under Article 69, actions related to offshore oil and gas activities that are prohibited are:

- a. committing an action causing environmental pollution and/or damage
- b. importing toxic waste B3 which is forbidden according to legislation into the territory of the Republic of Indonesia
- e. dumping waste into environmental media
- i. formulating environmental impact assesment (Amdal) without holding a competence certificate

²²⁷ Arifin, above n 223.

²²⁸ The 2009 Environmental Protection and Management Law art 1(1).

²²⁹ Ibid art 1 (14).

- j. providing fake or misleading information; causing information to disappear, destroying information or providing untrue information [about environmental matters]

The Law also contains a numbers of penal provisions in Articles 97 to 120.²³⁰

These stipulate:

Anybody intentionally committing an action causing the standard quality of ambient air, water, sea water or standards criteria for environmental damage to be surpassed shall be subject to imprisonment for 3 (three) years at the minimum and 10 (ten) years at the maximum and a fine amounting to Rp 3,000,000,000 (three billion rupiah) at the minimum and Rp 10,000,000,000 (ten billion rupiah) at the maximum.²³¹

Anybody violating the quality standard of waste water, emission or nuisance shall be subject to imprisonment for 3 (three) years at the maximum and a fine amounting to Rp 3,000,000,000 (three billion rupiah) at the maximum.²³²

Anybody running a business and/or activity without an environmental permit as referred to in Article 36 paragraph (1), shall be subject to imprisonment for one year at the minimum and 3 (three) years at the maximum and a fine amounting to Rp 1,000,000,000 (one billion rupiah) at the minimum and Rp 3,000,000,000 (three billion) at the maximum.²³³

Although it does not specifically regulate law enforcement, this Law includes the public's right to complain about environmental destruction and/or pollution. According to the Law, the government has an obligation to carry out monitoring or supervision to ensure implementation of the Environmental Protection and Management Law and activities that could potentially affect the living environment.²³⁴ According to Part XII or Article 71, the Minister, Governor or regent/mayor must supervise compliance of any activity with the environmental requirements as regulated by the Law. The environmental authorities have the right to request information, enter certain places, take photographs, inspect equipment and facilities, and suspend certain activities due to violations of the law,²³⁵ in order to ensure compliance with environmental laws. It Law also outlines the relevant agencies in the context of environmental law enforcement. These agencies are officials or investigators from the Ministry of Environment

²³⁰ For further discussion see Husin, above n 223.

²³¹ Law No. 32 of 2009 on Environmental Protection and Management art 98.

²³² Ibid art 100.

²³³ Ibid art 109 (1).

²³⁴ Ibid art 63.

²³⁵ Ibid art 74.

and Forestry, Indonesian police, the Attorney General's office, prosecutors and courts.

The Law has substantially set up principles and general requirements for any activities that potentially impact the living environment in Indonesia. It establishes the ideal legal basis for the protection and preservation of the living environment by the government, civil society and other stakeholders such as private institutions. In the absence of a specific law or regulation dealing with marine pollution from offshore installations or tankers, this Law may be utilised as an alternative legal framework to encompass all activities that may affect the living environment from offshore installations and tanker operations.

It has several challenges to its implementation. The extensive and complex nature of Indonesian national and regional administration or bureaucracy creates difficulties in the application of environmental law and policy, including the Law. Moreover, there are a number of technical problems such as Indonesia's vast area (land, air and maritime), lack of modern technology, limited infrastructure and financial support, and inadequate number of personnel.²³⁶ In responding to these significant challenges, there are two key approaches that the government should consider: solid and effective cooperation among various agencies including non-governmental actors; and strong political and economic support for the implementation of environment law and policy. In addition, the government should develop a new and specific law on offshore oil and gas activities, with a particular focus on marine environment protection from pollution caused by offshore installations and tanker operations in order to provide a clearer and more thorough domestic legal framework on this matter.²³⁷

²³⁶ Etty R. Agoes, 'Legal and Regulatory Framework to Support Indonesia as a World Maritime Fulcrum: the 1982 UNCLOS Provisions to Support the Pillar of Maritime Diplomacy' (2015) 8 *Indonesian Law Journal* 52; Dirhamsyah, 'Maritime Law Enforcement and Compliance in Indonesia: Problems and Recommendations' (2005) *Maritime Studies* 6-7.

²³⁷ For further discussion on the consideration and proposal for the Indonesian oil and gas law development, see Chapter 6 of this Thesis.

5.3.2.2. The 1999 Marine Pollution Management Regulation

Major areas regulated by this instrument are the protection of sea water quality, the prevention of marine pollution and maritime environment damage, management of marine pollution and recovery of sea water quality, emergency circumstances, and dumping.²³⁸ The Regulation states that '[t]he protection of sea water quality is conducted based on the sea water quality standard, maritime environment damage standard criteria, and status of sea water quality.'²³⁹ The Regulation also stipulates, in relation to marine pollution prevention, that '(e)very person in charge of an activity is prohibited from carrying out any activity that potentially causes marine pollution.'²⁴⁰ If there is an activity that potentially causes marine pollution, the person in charge must prevent marine pollution occurring.²⁴¹ Hence, all liquid and/or solid waste resulting from operational offshore activities shall be managed and discharged at waste management facilities in accordance with applicable laws and regulations.²⁴²

In relation to the recovery of sea water quality, this Regulation requires any person in charge of an activity to conduct recovery of sea water quality as guided by the head of the relevant agency's decision.²⁴³ The Marine Pollution Control Regulation specifies that in emergency circumstances, dumping of offshore activity may be permitted if it is carried out in order to uphold the safety of life at sea due to damage to equipment, as long as there is no other appropriate option and it is the best means to prevent greater loss.²⁴⁴

This regulatory instrument is not without issues, as it does not contain concrete regulations that explain in detail some matters. For instance, it does not clearly

²³⁸ *Peraturan Pemerintah Nomor 19 Tahun 1999 Tentang Pengendalian Pencemaran dan/atau Perusakan Laut* [Government Regulation No. 19 of 1999 concerning Control of Marine Pollution] (Indonesia) introduction of explanatory note.

²³⁹ *Ibid* art 3.

²⁴⁰ *Ibid* art 9.

²⁴¹ *Ibid* art 10.

²⁴² *Ibid* art 12.

²⁴³ *Ibid* art 16.

²⁴⁴ *Ibid* art 17; Moreover, with respect to dumping activity in normal circumstance, article 18 of the Regulation requires any person or responsible party that carry out such activity to obtain permit from the Minister.

specify what sort of activities potentially cause marine pollution or the required actions to prevent maritime environment destruction. It also lacks criminal provisions. The Regulation could be improved by defining these matters, and the government should formulate a more comprehensive and updated legal framework as a reference for the control of marine pollution especially from offshore installations and tanker operations.

5.3.2.3. The 2006 Emergency Response to Oil Spills Regulation

In 2006, the government adopted *Presidential Regulation No. 109 of 2006 concerning the Emergency Response to Offshore Oil Spills* as one of the implementing regulations of the *Law No. 17 of 1985 on the LOSC Ratification*.²⁴⁵ The Regulation governs major aspects and substantial requirements pertaining to the emergency response to offshore oil spills in Indonesian waters. First, it defines key terms ‘oil spill at sea’, ‘sea’, ‘shipping’, ‘oil and gas activities’, and sets up three categories or ‘tiers’ of oil spill emergency response. According to Article 1 of the Regulation,

Oil spill at sea is a direct or indirect discharge of oil from shipping undertaking, offshore oil and gas operations, or other activities into marine environment.

Sea is the Indonesia’s internal waters, archipelagic waters, territorial sea and EEZ.

Shipping is any activity that related to water transportation, port including its safety and security.

Oil and gas activities are upstream and/or downstream activities of oil and gas sector.²⁴⁶

The Emergency Response to Oil Spills Regulation establishes the duties of ship captains, persons in charge of offshore installation activity, and other responsible persons in the case of emergency circumstances caused by oil pollution. These designated people should be able to respond to the emergency circumstance of an oil spill by reporting this oil spill incident to the appropriate authority.²⁴⁷ The Regulation also outlines the structure and organization of the national team for

²⁴⁵ *Peraturan Presiden Nomor 109 Tahun 2006 Tentang Penanggulangan Keadaan Darurat Tumpahan Minyak di Laut* [Presidential Regulation No. 109 year 2006 on Oil Spill Control] (Indonesia) intro para (b); It also included other international legal references including SOLAS and MARPOL.

²⁴⁶ *Ibid* art 1 paras (2), (5), (7) and (8).

²⁴⁷ *Ibid* part 2 art 2.

emergency circumstances and oil pollution response.²⁴⁸ The national team is led by the Minister for Transportation and consists of various high level officials including the Minister for Environment, Minister for Energy and Mineral Resources, Minister for Home Affairs, Minister for Foreign Affairs, Minister for Marine and Fisheries Affairs, Minister for Health Affairs and heads of other ministries, institutions and regions.²⁴⁹

Another salient feature of this Regulation is the procedure for reporting and response to oil pollution at sea. Article 8 describes that:

(A)ny person who has information concerning an oil spill incident at sea shall promptly report it to the National Centre for Offshore Oil Spill Emergency Response Command and Management (PUSKODALNAS), harbour office, responsible directorate for technical and environmental aspects of oil and gas activities at relevant Ministry, regional government, or other nearest governmental agencies.

In responding to this report, the port administrator (ADPEL), head of harbour office (KAKANPEL) or head of PUSKODALNAS shall verify the report and classify it based on three tiers prior to conducting emergency operations to address the oil spill incident.²⁵⁰ The Regulation highlights that any ship owner or operator, head of offshore oil and gas operations, or person in charge of other activities that potentially cause oil pollution is strictly responsible for any cost incurred from:

- a. Offshore oil spill response
- b. Controlling environmental impacts resulting from oil spills
- c. Public loss caused by oil spills
- d. Environmental damage caused by oil spills

²⁴⁸ Ibid art 3.

²⁴⁹ These different ministries, institutions and regions are including Minister for Finance, Minister for Law and Human Rights, Commander of Indonesian Armed Force, Head of Indonesian Police, Head of Oil and Gas Upstream Activity Board, and related Governor/Regent/Mayor.

²⁵⁰ Presidential Regulation No. 109 year 2006 on Oil Spill Control art 8 paras (4), (5), (6) and (7); According to this Regulation there are three categories of tiers. First tier is the categorization of oil spill emergency management that occurred inside or outside the Port Working Area (DLKP) or petroleum offshore production unit or other unit, which can be controlled by facilities, infrastructure and personnel provided on port or such units. Second tier is the categorization of oil spill emergency management that occurred inside or outside the Port Working Area (DLKP) or petroleum offshore production unit or other unit, which cannot be controlled by facilities, infrastructure and personnel provided on port or such units as referred on the first tier. And, third tier is the categorization of oil spill emergency management that occurred inside or outside the Port Working Area (DLKP) or petroleum offshore production unit or other unit, which cannot be controlled by facilities, infrastructure and personnel provided on port or such units within certain area as referred on the second tier, or spread across Indonesia boundary.

It is an essential regulation in the area of the protection of the marine environment especially from offshore installation and tanker activities. It reflects Indonesia's commitment to implementing international legal obligations on the environmental and maritime undertakings as outlined in treaties such as the LOSC and MARPOL. The Regulation also establishes clear practical rules and procedures in responding to the emergency circumstance of an oil spill at sea. In addition, it includes a range of relevant and high ranking governmental officials as part of the national team for an oil spill incident emergency response. The Regulation provides strict regulation on the financial consequences for liability incurred from oil spill incidents at sea.

5.3.2.4. The 2010 Maritime Environment Protection Regulation

This regulation was promulgated by the government as the follow up to Articles 232, 238, 240 and 243 (2) of the 2008 Shipping Law.²⁵¹ These articles emphasise the urgency for the government to formulate regulations on maritime environment protection.

As the focus of this Regulation is to address maritime environment protection in general,²⁵² few provisions governing offshore oil rigs/platforms can be found in the Regulation. However, it remains relevant since it outlines the responsibility of captains of ships or other offshore entities to prevent and manage pollution from ships or offshore activities.²⁵³ The owner, ship operator or captain of offshore installations shall be responsible for compensating any recovery costs and losses from pollution from ships or installations.²⁵⁴ The owner, ship operator or captain must protect their offshore activities by holding insurance. They also

²⁵¹ *Peraturan Pemerintah Nomor 21 Tahun 2010 Tentang Perlindungan Lingkungan Maritim* [Government Regulation No. 21 year 2010 on Protection of Maritime Environment] (Indonesia) intro.

²⁵² *Ibid* art 1. According to this Article, 'Maritime Environment Protection' is defined as every effort aiming at preventing and managing marine pollution caused from activities related to navigation/sailing.

²⁵³ *Ibid* art 24.

²⁵⁴ *Ibid* art 29.

hold third party liabilities for anticipating any loss caused from ships or offshore units' marine pollution.²⁵⁵

This wide-ranging and detailed regulation is equipped with mechanism for dealing with a marine pollution incident, comprising of a) reporting to the closest harbour master and/or government officials, and b) responding to marine pollution using equipment and materials on the ship, offshore unit, port or other elements in accordance with the procedure approved by the Minister.²⁵⁶

Although this regulation contains fresh and progressive provisions, such as those on information systems and administrative sentences, these are not directly related to marine pollution from offshore oil installations. These provisions are more relevant to the operation of ships.

5.3.2.5. The 2013 Waters and Ports Pollution Management Regulation

In order to implement Article 23 of the 2010 Maritime Environment Protection Regulation, the Ministry of Transportation promulgated the *Minister of Transport Regulation No. 58 of 2013 concerning the Prevention of Pollution in Waters and Ports*. According to this Regulation, there are three main sources of pollution of waters and ports: ships, offshore operations, and port activities.²⁵⁷ Article 1 defines offshore operations as offshore oil drilling and storage installations. This Regulation also contains requirements relating to marine pollution prevention for offshore oil drilling installations or other activities, consisting of procedural descriptions, personnel matters, equipment and materials, and exercise requirements.²⁵⁸ There are three types of procedures or tiers for marine pollution prevention regulated by this Regulation.²⁵⁹

²⁵⁵ Ibid art 30.

²⁵⁶ Ibid art 25.

²⁵⁷ *Peraturan Menteri Perhubungan Nomor 58 Tahun 2013 Tentang Pengendalian Pencemaran di Laut dan Pelabuhan* [Minister of Transport Regulation No. 58 year 2013 on Pollution Management in Waters and Port] (Indonesia) ('Waters and Port Pollution Management Regulation') art 2.

²⁵⁸ Ibid art 3.

²⁵⁹ Ibid art 5; First, procedure for marine pollution tier one is carried out at any pollution, occurred in the waters or port which sourced from ship, rig/platform and activities in port, that can be handled by personnel, tools and materials in platform and port. Second, procedure for marine pollution tier two is carried out at rather similar incident with tier one, however in the circumstance that cannot be handled by such personnel, tools and materials. And, third,

Article 7 addresses comprehensive requirements for personnel that shall be provided in every port and platform. It specified a numbers of levels of competence such as operator, supervisor and manager which shall be possessed by personnel, and types of training related to levels of competence. This Regulation obliges every port and platform to have equipment and materials such as oil boom, skimmer, temporary storage, sorbent and dispersant.²⁶⁰ It requires port and platform to have mobilisation facilities and marine pollution control supplies.²⁶¹ Article 16 stipulates that every port and platform shall conducts marine pollution control exercises, which consist of communication and reporting exercises, table top exercises, deployment of equipment exercises, and joint exercises. These requirements are assessed by a mechanism provided in Chapter VII on assessment for pollution management requirements.

The Regulation covers crucial aspects of marine pollution prevention and control in ports and waters. It also outlines important documents including approval of assessment licenses by corporations, approval and disapproval of assessments, and approval and disapproval of marine pollution control licenses.²⁶²

5.3.2.6. The 1974 Supervision Regulation

The principal aim of this regulation is to provide guidelines and procedures for monitoring or inspections carried out by the Directorate General of Oil and Gas over oil and gas exploration and exploitation activities in Indonesian waters.²⁶³ A number of relevant articles pertain to marine pollution from offshore oil and gas activities. Article 10 specifies that an inspector from the Directorate General has a right to enter all sites at the offshore installation in order to inspect the owner and operator's compliance particularly regarding the prevention of marine pollution. This regulation also prohibits any oil and gas exploration and exploitation activities in certain areas such as sea lanes, areas closer than 250

procedure for marine pollution tier three is carried out at any incident that cannot be handled by procedure for tier two, or blowout beyond the Indonesian boundary.

²⁶⁰ Ibid art 9.

²⁶¹ Ibid arts 9-15.

²⁶² See attachment of the Minister of Transport Regulation No. 58 year 2013 on Pollution Management in Waters and Port.

²⁶³ Waters and Port Pollution Management Regulation explanatory note.

metres to a working area, defence zones, offshore installation areas, and conservation areas of coral reefs, pearl, etc.²⁶⁴

It is also stipulated that the owner or operator is prohibited from causing any oil, radioactive or other destructive substance to pollute the maritime environment, river, coast or air.²⁶⁵ If a marine pollution incident occurs, the owner shall be held responsible.²⁶⁶ Another obligation for the owner or operator is to inform the Directorate General of any temporary or permanent abandoned drilling well.²⁶⁷ Article 36 provides that any drilling operation for the purpose of oil and gas production shall take into account the prevention of oil and gas pollution into the marine ecosystem. This includes oil and gas waste release prevention, and prevention of liquid or gas insertion into geological formations.

5.3.2.7. The 2011 Decommissioning Regulation

This regulation contains a number of provisions related to the marine environmental aspects of decommissioning. Several relevant principles ensuring the protection of the marine environment by the regulation are:

- a. The inclusion of marine environment protection as one of the regulation's objectives²⁶⁸
- b. The obligation to use international, regional or national standards of technology, and to meet environment protection requirements²⁶⁹
- c. The obligation to hold environmental documents or records²⁷⁰
- d. The responsibility of the owner or operator to ensuring the protection of the marine environment during decommissioning²⁷¹

Although this regulation contains principles for marine pollution prevention prior to, during and after decommissioning, it lacks technical explanation setting out

²⁶⁴ Ibid art 13.

²⁶⁵ Ibid art 14.

²⁶⁶ Ibid.

²⁶⁷ Ibid art 41.

²⁶⁸ Decommissioning Regulation art 3.

²⁶⁹ Ibid art 4.

²⁷⁰ Ibid art 6.

²⁷¹ Ibid art 13.

how the maritime ecosystem should be protected.²⁷² It recommended that this regulation include practical guidance to the decommissioning of offshore installations so that it does not cause any damage to the marine environment.²⁷³ The Regulation does not contain any administrative or criminal provisions. The inclusion of such provisions would be valuable in order to ensure and enhance the protection of the marine environment from decommissioning.

5.3.3. Tankers and Marine Environmental Protection

A large number of domestic laws and regulations have been created to manage marine pollution from tankers. This chapter will review:

1. The 2009 Protection and Management of Environment Law
2. The 2008 on Shipping
3. The 1999 Marine Pollution Control Regulation
4. The 2006 Emergency Response of Oil Spills Regulation
5. The 2010 Maritime Environment Protection Regulation
6. The 2013 Waters and Ports Pollution Management Regulation²⁷⁴

The 2009 Protection and Management of Environment Law outlines causes, principles, and control of pollution of the air, land and water. There is no specific reference to tankers or vessels as a source of pollution, which is understandable since the aims of the Law are to provide the legal basis for environmental policy and to improve national-level management of environmental problems by replacing the previous 1997 Environmental Law.²⁷⁵ Although the Law does not specifically address vessels or offshore devices, it highlights important matters related to protection of the marine environment such as setting the standard

²⁷² R. Desrina, Chairil Anwar and Tri Muji Susantoro, 'Environmental Impacts of the Oil and gas Platform Decommissioning' (2013) 36 *Scientific Contributions Oil & Gas* 2, 97-103.

²⁷³ Youna Lyons, 'Prospects for Rigs-to-Reef in Southeast Asia: Regional Workshop Findings and Recommendations' (Paper presented at Indonesia Decommissioning Conference 2015, Bandung, 13-14 August 2015).

²⁷⁴ *Peraturan Menteri Perhubungan Nomor 58 Tahun 2013 Tentang Penanggulangan Pencemaran di Perairan dan Pelabuhan* [Minister of Transportation Regulation No. 58 year 2013 on the Management of Pollution in Waters and Port] (Indonesia) ('Waters and Port Pollution Management Regulation').

²⁷⁵ Academic Paper of the Draft of the Law on the Protection and Management of Environment (Indonesia) 1-2.

quality of sea water and outlining consequences if any person breaches the standard.²⁷⁶ In addition, the Law includes the rights and duties of local and central governments to protect and manage the environment, including the ocean.²⁷⁷ In line with their obligations, local and central governments may decide and implement their policies for the protection of the marine environment.

More specific and detailed regulations for vessels are found in the 2008 Shipping Law. The protection of the marine environment is found in Chapter XII. This chapter divides marine protection into two main categories: marine pollution prevention and protection from ship activities, and marine pollution prevention and protection from activities in port. According to the Law, every ship's crew has an obligation to prevent and manage marine pollution from a ship.²⁷⁸ Ship that have particular sizes and measurements shall be equipped with special tools for preventing and protecting the sea from oil spills from the ship. These tools include a ship's standard operating procedures for emergencies.²⁷⁹

The Shipping Law prohibits any unauthorized discharge of waste, ballast water, sewage, dangerous chemical matters, and toxic materials into the ocean.²⁸⁰ While the ship's captain is responsible for marine pollution prevention and protection from their ship, the owner or operator of the ship is responsible overall for any pollution caused by their ship.²⁸¹ The 2008 law, through Article 239, also states that discharge of waste from ships may only be conducted in locations designated by the Minister. Any breach of these articles is penalized administratively through notifications, fines, permit or license freezing, or permit or license annulment.²⁸²

The 1999 Marine Pollution Control Regulation outlines a variety of basic principles including quality standards of sea water, prevention and control of

²⁷⁶ The 2009 Protection and Management of Environment Law art 20.

²⁷⁷ Ibid art 63.

²⁷⁸ *Undang-Undang Nomor 17 Tahun 2008 Tentang Pelayaran* [Law Number 17 year 2008 concerning Shipping] (Indonesia) ('Shipping Law') art 227.

²⁷⁹ Ibid art 228.

²⁸⁰ Ibid art 229.

²⁸¹ Ibid art 230.

²⁸² Ibid art 243.

marine pollution, and monitoring of offshore activities that potentially cause maritime environmental destruction or pollution. The regulation does not specifically mention tankers as a source of marine pollution,²⁸³ although there is a reference to ships in the Explanatory Note, which states: “routine operational activities’ include operational activities from ships, fisheries and any other offshore activities’.²⁸⁴

The 2006 Emergency Response to Oil Spills Regulation outlines important elements of the response to marine pollution (in the form of petroleum discharge) from tankers. These elements include the responsible party in the event of an oil spill, the authorities responsible for preventing and handling marine pollution, oil spill reporting and response mechanisms, and liability for recovery after an oil spill. According to Article 2, every ship’s captain, leader, commanding officer in-charge, owner or operator shall manage an oil spill from their ship and report the spill to the designated officials. The authorities responsible for oil spill control are:²⁸⁵

- a. Minister of Transportation
- b. Minister of Environment
- c. Minister of Energy and Mineral Resources
- d. Minister of Foreign Affairs
- e. Minister of Finance
- f. Minister of Law and Human Rights
- g. Military Commander
- h. Head of National Police
- i. Head of Oil & Gas Upstream Business Board
- j. Head of Fuel Providing and Gas Distribution through Pipeline Administrator Board

²⁸³ See discussion on marine pollution from offshore oil rig below.

²⁸⁴ Explanatory Note of Government Regulation Number 19 Year 1999 on Marine Pollution and/or Destruction Control (Indonesia) art 12.

²⁸⁵ *Peraturan Presiden Nomor 109 Tahun 2006 Tentang Penanggulangan Keadaan Darurat Tumpahan Minyak di Laut* [Presidential Regulation No. 109 year 2006 on the Emergency Response to Offshore Oil Spill] (Indonesia) (‘Emergency Response to Offshore Oil Spill Regulation’) art 3.

k. Governors, Regents/Mayors of coastal areas

These authorities are responsible for oil spill control particularly for third tier incidents.²⁸⁶

The Regulation addresses mechanisms for reporting and responding to oil spill incidents in Chapter IV. Every person who has information about an oil spill shall inform the authorities: the National Centre for Command and Control on Oil Spill Emergency Operation (PUSKODALNAS), Port Office, Directorate of Oil and Gas, and Regional/Local Government, in order for further action to be taken. Article 11 makes a ship owner or operator, or chief of an oil and gas company, where the ship or company caused pollution, strictly liable for any expenses in relation to:

- a. Oil spill response and recovery
- b. Remediation of the environmental impacts caused by the oil spill
- c. Public losses from the oil spill
- d. Environmental damage from the oil spill.

The 2010 Maritime Environment Protection Regulation contains provisions related to operational and accidental marine pollution from ships. Article 7 provides that designated types of ships shall be equipped with oil spill prevention tools and control materials including oily water separation tanks, sludge tanks, standard discharge connections, stripping pumps, slop tanks, sewage management systems, oil booms, oil skimmers, sorbent and dispersant. Article 15 obliges every ship that holds 500 GT or more to reach the anti-rust protective standard on its ballast tank, as required by the Minister. Ship tank washes may be carried out by the ship's crew or a related company, taking into account the applicable and relevant regulations.²⁸⁷

The 2013 Waters and Port Pollution Prevention Regulation comprises provisions regulating:

²⁸⁶ Ibid.

²⁸⁷ Ibid art 16.

- a. Requirements for marine pollution management in waters and ports
- b. Assessment of marine pollution management
- c. Requirements for activities related to marine pollution management.

Article 2 sets out the requirements for marine pollution management in waters and ports, including procedures, personnel, tools and materials, and exercises. There are three tiers of marine pollution management procedures,²⁸⁸ with different personnel responsible for marine pollution management: the operator, supervisor or on scene commander, and manager or administrator.

Article 9 stipulates that every port and other relevant agency shall have oil booms, skimmers, temporary storage, sorbent and dispersant in order to response marine pollution. The exercises required under the Regulation include:

- a. Training on communication and reporting
- b. Table top exercises
- c. Deployment equipment exercises
- d. Joint and integrated training.²⁸⁹

The Regulation outlines that assessment of marine pollution management includes:

- a. Assessment of the possibility of marine pollution to occur in ports or elsewhere
- b. Environmental conditions
- c. Current sea and wind conditions in ports or elsewhere
- d. Oil or other fuel spill movement forecasts²⁹⁰

The assessment is carried out by the port master, port officer, operator of a special terminal, operator of a private terminal, or other official.²⁹¹ It may also be conducted by other parties such as corporations or companies.

²⁸⁸ Waters and Port Prevention Pollution Regulation art 5.

²⁸⁹ Ibid arts 16-21.

²⁹⁰ Ibid art 22.

²⁹¹ Ibid.

Of the Indonesian laws and regulations discussed above, few directly address tankers as a source of marine pollution. Most of the provisions outline basic principles, guidelines, procedures and authorities to prevent and manage environment pollution, including oil spills from ships or offshore facilities. Specific regulation is needed to control oil spills from ships or tankers so that specific measures can be outlined, such as ship standards or required equipment. In the current context, a basis for appropriate responses to marine pollution from tankers or offshore facilities is provided by the Regulations outlined above.

5.4 Conclusion

This chapter reviews international and domestic legal frameworks pertaining to marine pollution from offshore installations and tankers. It discussed treaties containing regulations and standards relating to obligations to prevent marine pollution and protect the maritime living environment; requirements to cooperate in protecting maritime environment from marine pollution; and standards for maritime activities conducted by offshore installations and tankers. Indonesia has not ratified all of the treaties reviewed, such as the OPRC Convention or the London Convention on Dumping.

This chapter outlined the development of a regional legal framework on marine pollution from offshore oil and gas activities. ASEAN member states concluded the 2014 MoU on Oil Spill Preparedness and Response as the result of long and strong cooperation among the member states. According to this agreement, countries in the Southeast Asia region could significantly enhance their cooperation in preparing and responding to oil spill incident.

This chapter reviewed key Indonesian laws and regulations relevant to marine pollution. These laws and regulations principally require all parties to ensure harmony, conformity and balance achievements between humans and environment. Fulfilling that purpose, laws on maritime environment protection from oil spills have been formulated and implemented. The key laws were reviewed in this chapter, including the Environmental Protection and

Management Law, the Marine Pollution Control Regulation, and the Oil Spills Control Regulation.

The review of these laws revealed that there are multiple laws and regulations pertaining to the protection of marine environment from pollution caused by offshore installation and tankers, but these laws and regulations are not necessarily connected. Some laws and regulations were formulated over 30 years ago, while others were adopted very recently. As a result there are some outdated provisions and a lack of common context, objective and approach. Of particular importance, the legal frameworks do not clearly differentiate between offshore installations and ships. Instead, most of the laws discussed focus on matters such as procedures for responding to oil spills, tiers of oil spill incidents from offshore oil and gas activities, and maintenance of marine ecosystem quality. The scope of these laws could be expanded by establishing national compensation regimes and enhanced criminal provisions.

In summary, by creating new laws and regulations on protection of the marine environment from pollution from offshore installations and tankers, the Indonesian government could resolve these challenges and harmonise the legislative framework. This endeavour would also simplify the current complex arrangements.

CHAPTER 6

REGULATORY REFORM OF INTERNATIONAL AND INDONESIA'S OFFSHORE INSTALLATIONS AND TANKER LAWS

6.1. Introduction

At the global level, the current legal framework for offshore installations is fragmented,¹ with a complex array of decentralized multilateral and regional agreements,² and incomplete, with gaps between agreements, spanning from the London Convention and MARPOL in the 1970s to the 2005 Offshore Protocol of the SUA Convention. This situation has led to a number of unresolved issues. One illustration is the regulation of marine environment pollution from seabed activities. Article 208 of the LOSC obliges coastal states to adopt national laws and take measures to prevent, reduce and control marine environment pollution arising from or in connection with seabed activities subject to their jurisdiction. These national laws and measures shall be no less effective than the relevant 'global rules, standards and recommended practices and procedures'.³ The

¹ See Steven Rares, 'An International Convention on Off-shore Hydrocarbon Leaks?' (2012) 26 *Australia & New Zealand Maritime Law Journal* 11-12; Edgar Gold and Christopher Petrie, 'Pollution from Offshore Activities an Overview of the Operational, Legal and Environmental Aspects' in CM de La Rue, *Liability for Damage to the Marine Environment* (Lloyd's of London Press LTD, 1993); Julien Rochette, 'Towards an International Regulation of Offshore Oil Exploitation' (Working Paper No. 15, Institut du Développement Durable et des Relations Internationales (IDDRI), 12 July 2012) 8, and Youna Lyons, 'Transboundary Pollution from Offshore Oil and Gas Activities in the Seas of Southeast Asia' in Robin Warner and Simon Marsden (eds), *Transboundary Environmental Governance-Inland, Coastal and Marine Perspectives* (Ashgate, 2012) 167.

² See extensive discussions in Chapters Two and Three concerning global and regional legal frameworks for offshore installations and tanker operations, and specific international instruments relating to marine pollution resulting from offshore installations and tanker operations. Among global major legal frameworks that have been addressed within those chapters are including the 1958 Geneva Conventions, the LOSC, SOLAS, MARPOL 73/78, COLREGs, Load Lines Convention, OPRC Convention, London (Dumping) Convention and its protocol, and SUA Convention and its protocol. In regional context, there is a number of conventions relevant to offshore installations and tanker activities namely the OSPAR Convention, the Barcelona (Mediterranean) Convention, the Abidjan Convention, the Kuwait Protocol, and the ASEAN Memorandum of Understanding (MoU).

³ LOSC, art 208.

difficulty is that no specific uniform international treaty or legal instrument concerning marine pollution from seabed activities has been concluded. This circumstance creates confusion in determining the global legal framework for offshore installations.⁴

In the Indonesian context, this thesis has argued that Indonesian domestic laws face serious challenges due to out-of-date or incomplete regulations, lack of uniformity, and vagueness.⁵ As discussed previously, several laws and regulations have not been updated in light of the development of offshore installations, including the 1974 Supervision Regulation and certain provisions of the Indonesian Penal Code relevant to maritime crimes. The effectiveness of the implementation and enforcement of these laws is questionable, and it is necessary to replace them with an updated framework.

The international regulatory frameworks related to tanker operations have shown noteworthy improvement.⁶ When considering the total constructive losses and casualties from different types of ships, tankers have a better record than average performance.⁷ Some studies suggest that there has been a significant improvement in the number of marine pollution incidents from

⁴ Youna Lyons above n 1, 178-179; Under IMO, actually there are many conventions and guidelines relating to offshore installations such as the 1972 London Convention and its 1996 Protocol, SUA Convention and its Offshore Protocol, and the IMO Resolution A.671 (16) on Safety Zones and Safety of Navigation around Offshore Installations and Structures, 1989. However, can they be considered as the global rules or standards although it has only been ratified by small numbers of countries? Unfortunately, there is no clear-cut explanation regarding this question. For some discussions on this matter see e.g. Alan Boyle, 'Marine Pollution under the Law of the Sea Convention' (1985) 79 *American Journal of International Law* 347-372; Bernard Oxman, 'The Duty to respect generally accepted rules and standards' (1991) 24 *N.Y.U. Journal of International Law and Politics* 109-159, and Budislav Vukas, 'Generally accepted international rules and standards', in Alfred Soons (ed), *Implementation of the Law of the Sea Convention through International Institutions* (The Law of the Sea Institute, Honolulu, 1990) 405-421.

⁵ See conclusion part of chapters four and five.

⁶ United Nations Conference on Trade and development (UNCTAD), *Review of Maritime Transport* (2015) <http://unctad.org/en/PublicationsLibrary/rmt2015_en.pdf>.

⁷ See Gary E. Horn et al, 'Tanker Safety: Regulatory Change' (2008) 7 *World Maritime University (WМУ) Journal of Maritime Affairs* 317-320.

tankers,⁸ although improper overboard discharges from engine rooms still occur.⁹

Analysis of the Indonesian regulatory framework for tankers is limited as there are few sources explaining specific challenges and developments. By referring to general shipping laws and practices, it can be seen that domestic regulations on ships and tankers are better developed than regulations on offshore installations.¹⁰ A wide range of laws are relevant to tankers such as the 2008 Shipping Law, the 2010 Navigation Regulation, the 2009 Marine Pollution Control Regulation, and the 2006 Emergency Response of Oil Spill Regulation.¹¹

Challenges remain within the legal framework regulating tankers in Indonesia, related to the implementation and enforcement of the law. This has an adverse consequence on safety and security of ship operations in general and tanker activities specifically.¹² For example, with respect to ship safety, from year to year the number of ship accidents in Indonesian waters have remained steady.¹³ The causes of accidents are repeated: overloaded vessels, sub-standard ships

⁸ Horn et al, above n 7; Peter Burgherr, 'In-depth analysis of accidental oil spills from tankers in the context of global oil spill trends from all sources' (2007) 140 *Journal of Hazardous Materials* 250-254.

⁹ INTERTANKO, *Statistics on Publicly Reported Tanker Incidents* (2012) <<https://www.intertanko.com>>.

¹⁰ See Danny Faturachman and Shariman Mustafa, 'Trend Analysis of Ship Accidents in Indonesia' (2012) *World Academy of Science, Engineering and Technology*; Danny Faturachman and Shariman Mustafa, 'Safety & Security Analysis of Sea Transportation in Indonesia' (Paper presented in International Conference on Knowledge Management, Kuala Lumpur, 14-15 February 2013) 527-529; Ketut Buda Artana et al, 'Some Considerations in Enhancing Ship Safety Operations and Management of Indonesia' (Result Paper during the DGHE-JSPS Program in Marine Transportation Engineering, 2006)

¹¹ See discussions on these legislations at chapter Four and Five.

¹² These findings are presented based on analysis over certain key Indonesian legislations relating to shipping activities in general. Among those key legislations are including the 2008 Shipping Law, the 2014 Law of the Sea, the 1996 Indonesian Waters Law, the 2010 Navigation Regulation, and the 2011 Navigational Aids Facilities Regulation. See chapter four on tanker section for further discussions.

¹³ See Danny Faturachman and Shariman Mustafa, 'Trend Analysis of Ship Accidents in Indonesia' (2012) *World Academy of Science, Engineering and Technology*; Danny Faturachman and Shariman Mustafa, 'Safety & Security Analysis of Sea Transportation in Indonesia' (Paper presented in International Conference on Knowledge Management, Kuala Lumpur, 14-15 February 2013) 527-529; Ketut Buda Artana et al, 'Some Considerations in Enhancing Ship Safety Operations and Management of Indonesia' (Result Paper during the DGHE-JSPS Program in Marine Transportation Engineering, 2006).

and bad weathers.¹⁴ According to the national maritime transportation authority, tanker accidents increased from three cases in 2012 to eleven cases in 2013.¹⁵ In responding to these issues in an international and domestic context, this thesis proposed that the IMO should refine its regulations regularly but also expedite the expansion of the implementation of regulations by all IMO member states, particularly developing states.

This chapter proposes strategies that should be considered by the international community and Indonesian government in order to address the findings and gaps highlighted above. First, the chapter argues that a clear and comprehensive legal framework on offshore oil and gas installations is urgently required. It reviews the current challenges to the legal regime relating to offshore installations and discusses the prospects for adopting a new convention. It outlines possible avenues and procedures for developing a new offshore installation legal framework and suggests salient features to be incorporated within the convention or Indonesian domestic laws. It analyses several foreign laws that could be adopted into the Indonesian national legal framework. Second, this chapter suggests the enhancement of the implementation of IMO regulations on tankers and the development of comprehensive Indonesian domestic laws and regulations on tanker activities. Two strategies are proposed in this chapter on the implementation of IMO regulations: (i) the application and expansion of international goal-based standards and (ii) strengthening cooperation among stakeholders. In the Indonesian context, the thesis highlights the importance of sustainable political and economic support, strict implementation of relevant laws and regulations including effective legal enforcement, and improvement of human resources (crew/personnel) capacity.

¹⁴ Dirhamsyah, 'Maritime Law Enforcement and Compliance in Indonesia: Problems and Recommendations' (2005) *Maritime Studies* 4-8; Muhammad Taufan, 'Enhancing RI's Maritime Safety', *The Jakarta Post* (Jakarta), 6 January 2016, 6.

¹⁵ 'Governmental Agency Working Report (LAKIP)' (Directorate General of Maritime Transportation, Ministry of Transportation, 2013) chapter III-18, available at < <http://hubla.dephub.go.id>>.

6.2. Towards an International Convention on Offshore Installations

The importance of the adoption of an international convention on offshore installations should not be underestimated. In order to deal with the weaknesses and gaps in the current global regulatory frameworks, the international legal regime on offshore installations needs to be strengthened.¹⁶ Although a number of regional legal regimes on offshore oil and gas operations are already in place, these regimes do not cover large areas of the ocean. Moreover, there has been considerable reluctance on the part of states to adopt regional conventions or standards, which to date mostly regulate marine pollution from offshore operations.¹⁷ The existing regional legal regimes and mechanisms have different levels of legal instruments, and consequently do not always provide a strong and consistent approach to govern offshore oil and gas operations.¹⁸

The adoption of an international convention on offshore installations would establish a clear and uniform legal framework for offshore installations. In order for the convention to maximise its legal effects, it should encompass a broad range of aspects of offshore installations, not only marine pollution from offshore installations. To that purpose, there are two possible avenues to achieve a new convention: one based on the provisions of the LOSC or one developed through the IMO forum.¹⁹

¹⁶ Michael White, 'Offshore Craft and Structures: A Proposed International Convention' (1999) 18 *Australian Mining & Petroleum Law Journal* 21, 22-23; Hossein Esmaeili, *The Legal Regime of Offshore Oil Rigs in International Law* (Ashgate Publishing, 2001); Julien Rochette, above n 1, 12-13.

¹⁷ Ricardo Pereira, 'Pollution from Seabed Activities' in David Joseph Attard et al (eds), *The IMLI Manual on International Maritime Law-Volume III, Marine Environmental Law and Maritime Security Law* (Oxford University Press, 2016) 119-133; Julien Rochette and Glen Wright, 'Strengthening the International Regulation of Offshore Oil and Gas Activities' (Brief for Global Sustainable Development Report (GSDR) 2015).

¹⁸ See discussion at chapter three on regional legal frameworks relating to offshore oil and gas activities. It was concluded at this chapter that although the regional legal frameworks are very important, an international treaty which containing comprehensive regulation on offshore installations is strongly needed. By the adoption of such treaty, the international community therefore could tackle the gaps within regional conventions.

¹⁹ See Steven Rares, above n 1, 11-12; Mikhail Kashubsky, 'Marine Pollution from the Offshore Oil and Gas Industry: Review of Major Conventions and Russian Law (Part I)' (2006) *Maritime Studies*, 3-6.

6.2.1. Possible Frameworks for the Development of an Offshore Installations Convention

The first possible legal framework to be utilized in developing an international convention on offshore installations is the LOSC. According to Article 194 (1) of the Convention:

States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and they shall endeavour to harmonize their policies in this connection.

Article 194(2) stipulates that:

States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incident or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.

This chapter argues that the development of an offshore installations treaty is consistent with the provisions of the LOSC since the development process, including the treaty, can be comprehended as a joint measure between states in preventing, reducing and controlling marine pollution through a regulatory approach.²⁰ Moreover, such a convention is a 'necessary' measure within the terms of the LOSC, given the history of significant environmental damage from incidents occurring on offshore installations, including the Deep-Water Horizon Macondo oil rig blow out and the Montara offshore platforms blow out.²¹

The LOSC could be used as the foundation for a new convention on offshore installations, by relying on a number of its provisions. Attempts to formulate a legal framework for offshore installations, including regulations on offshore oil

²⁰ Gold and Petrie, above n 1, 224; this explanation could be different with strict interpretation of the term 'measures' within this Article which focusing on the practical measures. However, according to Gold and Petrie in their article, the LOSC provides a significant framework for future development rather an operational/working treaty. Moreover, the absence of international reference or legal standard on offshore installations operations particularly in respect to marine pollution from offshore installations and liability issues may also provide strong basis for the development of convention on offshore installations operations.

²¹ Although there is no indication is given to explain in the negotiation text regarding the meaning of 'necessary' term, therefore it can be broadly interpreted as long as remain in the context of eradicating existing pollution and of preventing further pollution in the future. See A/CONF.62/L.142/Add.1 (1982, mimeo.), at 31-32.

pollution should be perceived as the implementation of Article 194(2). As excerpted above, this article obliges states to take all measures in order to prevent, reduce and control of the marine environment.²² Article 194(3) clearly includes '(offshore) installations and devices used in exploration or exploitation of the natural resources of the sea-bed and subsoil' as one of the sources of marine environment pollution.²³ Article 208 of the convention also regulates pollution from seabed activities subject to national jurisdiction, and stipulates that: 'States, acting especially through competent international organization or diplomatic conference, shall establish global and regional rules, standards and recommended practices and procedures.'²⁴ Article 235 (1) specifies that:

States are responsible for the fulfilment of their international obligations concerning the protection and preservation of the marine environment. They shall be liable in accordance with international law.

Subsequently, paragraph 3 of the Article 235 also states that:

With the objective of assuring prompt and adequate compensation in respect of all damage caused by pollution of the marine environment, States shall cooperate in the implementation of existing international law and the further development of international law relating to responsibility and liability for assessment of and compensation for damage and the settlement of related disputes.

Article 235 deals with states' responsibility and liability for marine environment pollution and other environmental damage caused by activities, including

²² This provision provides specific application of the general rule that a State is under an obligation not to allow its territory, or any territory over which it is exercising jurisdiction or control. Hence, this obligation may also be translated into the formulation of a law or treaty. Nonetheless, like the term 'necessary', this research did not found rigid explanation regarding the term 'all measures' at paragraph 2 of Article 194 of the LOSC.

²³ See Myron Nordquist, *United Nations Convention on the Law of the Sea 1982, A Commentary*, Vol. IV (Martinus Nijhoff Publishers, London, 1991) sections 194.10(m), 67; Ricardo Pereira, above n 17, 102-104; In other words, the general obligations and responsible which refer in Article 194 also extend to exploration and exploitation activities by offshore installations. However, as currently there is no specific legal instrument that regulate various aspects related offshore installations e.g. oil pollution, and liability and compensation issue, it is suggested that States should develop a treaty on the matter.

²⁴ Cooperation on a global and regional basis is encouraged and special emphasises is placed on the protection of the marine environment; See Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (Cambridge University Press, 3rd ed, 2012) 387; Zhiguo Gao (ed.), *Environment Regulation of Oil and Gas* (Kluwer Law International, 1998); Maria Gavounelli, *Pollution from Offshore Installations* (Springer, 1995); R. Barret and R. Howells, 'The Offshore Petroleum Industry and Protection of the Marine Environment', (1990) 2 *Journal of Environmental Law* 53; V.I. Andrinov, 'The Role of the International Maritime Organization in Implementing the 1982 UNCLOS' (1990) *Marine Policy* 120-124.

offshore installations operations, within their jurisdiction or control to areas beyond their jurisdiction. With respect to responsibility and liability in areas beyond national jurisdiction, the Sea-Bed Disputes Chamber of the International Tribunal for the Law of the Sea has shed some light through its advisory opinion on 1 February 2011 in an action brought by the Republic of Nauru.²⁵ This advisory opinion suggests that states and the International Seabed Authority apply the precautionary approach principle in relation to activities in the Area, which must be observed with due diligence.²⁶ The Sea-Bed Disputes Chamber pointed out that 'the precautionary approach is also an integral part of the general obligation of due diligence of sponsoring States'. It also noted that the due diligence obligation of states requires them to take them all appropriate measures to prevent damage that might result from activities.²⁷ Although this chapter will not analyse further the precautionary approach and due diligence, this advisory opinion emphasises the relationship between Article 235 and a possible international legal framework on offshore installations.

Article 235(3) does not in itself establish an existing international liability and compensation legal regime for environmental damage, but requires cooperation among states to implement existing international law and the further

²⁵ *Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area* (Request for Advisory Opinion' submitted to the Disputes Chamber) (2011) Case No. 17 <https://www.itlos.org/fileadmin/itlos/documents/cases/case_no_17/adv_op_010211.pdf>.

²⁶ *Ibid.*

²⁷ *Ibid* para 131; See further Principle 15 of the 1992 Rio Declaration on Environment and Development as for precautionary approach, which stipulates:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Therefore, in relation to 'due diligence', the ICJ has illustrated through its Judgment in the *Pulp Mills on the River Uruguay case* specifically in paragraph 197 as follows:

It is an obligation which entails not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators, such as the monitoring of activities undertaken by such operators..

Additionally, the ITLOS's order in the *Southern Bluefin Tuna Cases (New Zealand v. Japan; Australia v. Japan)* implicitly mentions the link between the precautionary approach and due diligence.

development of relevant international law. This article must be read together with Article 304:

The provisions of this Convention regarding responsibility and liability for damage are without prejudice to the application of existing rules and the development of further rules regarding responsibility and liability under international law.

This article serves as a general safeguard provision to accommodate later developments.²⁸ Although the provision specifically mentions a ‘convention regarding responsibility and liability for damage’, the context is regulations on the safety of offshore installations or structures, and responses to marine pollution incidents.

The IMO is the other possible avenue for developing an international convention on offshore installations.²⁹ The IMO has vast experience in formulating multilateral conventions relating to offshore hydrocarbon pollution from vessels and drilling installations such as the SUA Protocol as amended by the 1988 and 2005 Protocols of SUA Protocol, and the OPRC Convention. These instruments are part of the existing legal framework for offshore installations. While the SUA Protocol focuses on the maritime security of offshore installations,³⁰ the OPRC Convention requires operators of any offshore installations engaged in oil or gas

²⁸ Myron Nordquist, above n 23, section 235.10(f), 414; It is also stated that the ‘further development of international law relating to responsibility and liability for the assessment of and compensation for damage, and the settlement of related disputes’ is belong to various organ and entity which concern with this aspect and other law of the sea matter. In other words, this issue does not fall within the competence of United Nations or its specialized organ exclusively. In fact, regional organization and government also continuously discuss the development of this area. For further review on this matter see chapter two sub chapter recent developments of offshore installations and tanker laws.

²⁹ See Michael White, above n 16, 22; Hossein Esmaeili, above n 16; Rosalie Balkin, ‘Is there a place for the regulation of offshore oil platforms within international maritime law? if not, then where?’ (Paper presented at the Comité Maritime International, Dublin, September 2013); ‘Implications of the United Nations Convention on the Law of the Sea for the International Maritime Organization’ (Study by the Secretariat of the international Maritime Organization (IMO), 19 January 2012) 34-36.

³⁰ See *1988 Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf* adopted 10 March 1988, 1678 UNTS 304, (entered into force 1 March 1992) arts 2 and 3; *2005 Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf* adopted 14 October 2005, (entered into force 28 July 2010) arts 2 and 3.

production to have emergency plans that are connected with a national system.³¹

The IMO has recognised the need for a legal framework for offshore installations by the adoption of *Resolutions A.671(16) on Safety Zones and Safety Navigation around Offshore Installations and Structures* and *A.672(16) on the 1989 Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the EEZ*.³² It has also adopted a *Code for the Construction and Equipment of Mobile Offshore Drilling Units* in 2009.³³ This Code aimed to facilitate the international movement and operation of MODUs, and ensure a level of safety for both the units and their personnel, equivalent to that required by the SOLAS.³⁴ The Code is in fact the breakthrough of the adaptation of established maritime law to another type of offshore structure.³⁵ It may be considered an important part of a more comprehensive offshore legal package that should be developed over time. Subsequent extension of the legal framework to cover floating production systems, pipelines and artificial islands could follow the route initiated by the IMO.³⁶

In the context of IMO Convention itself, this thesis posits that the IMO is the appropriate body to develop a convention on offshore installations, as this is entirely in line with the IMO purpose. Article 1(a) of the *Convention on the International Maritime Organization*, 1948 outlines that a purpose of the Organization is:

³¹ *The 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation*, adopted 30 November 1990, 1891 UNTS 51, (entered into force 13 May 1995) arts 2, 3 and 4; Edgar Gold, *International Convention on Oil Pollution Preparedness, Response and Co-operation*, 1990 Report (1991) 22 *Journal of Maritime Law and Commerce* 342; Esmaeili, above n 16; Kashubsky, above n 19, 4-5.

³² 1989 Recommendation on Safety Zones and Safety of Navigation around Offshore Installations and Structures/IMO Resolution A.671 (16) (adopted by IMO on 19 October 1989); 1989 Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the EEZ/IMO Resolution A.672 (16) (adopted by IMO on 19 October 1989).

³³ *Code for the Construction and Equipment of Mobile Offshore Drilling Units 2009 (2009 MODU Code)* (adopted on 2 December 2009).

³⁴ Balkin, above n 29, 2. In this paper, Balkin also highlights that the 2009 Code however does not contain any provisions on liability and compensation issues.

³⁵ See 'Implications of the United Nations Convention on the Law of the Sea for the International Maritime Organization', above n 29, 36.

³⁶ Rares, above n 1, 14-16.

(a) To provide machinery for co-operation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade; to encourage and facilitate the general adoption of the highest practicable standards in matters concerning the maritime safety, efficiency of navigation and prevention and control of marine pollution from ships, and to deal with administrative and legal matters related to the purposes set out in this Article.

With continuous effort and support from member states, in the near future, the IMO should be able to develop better and stronger legal frameworks on offshore installations.

In spite of the considerations presented above, the IMO, through its Legal Committee, has decided that the issue of liability and compensation issues connected with transboundary pollution did not warrant an international agreement.³⁷ At the 102nd Meeting of the IMO Legal Committee in 2015, the matter was reviewed. It was concluded that there was currently no compelling need to develop an international convention on the matter and the issue of liability and compensation issues connected with transboundary pollution should be approached through collaboration among states and the development of guidance for bilateral and multilateral agreements, as had already been agreed at previous sessions.³⁸

A contrasting argument was submitted by the International Association of Oil and Gas Producers (IOGP). According to the IOGP, coastal states remain responsible for exploration and exploitation of natural resources within their

³⁷ Patrick Griggs, *Report of the International Working Group (IWG) on Offshore Activities* (2014) CMI <<http://comitemaritime.org/Offshore-Activities/>>.

³⁸ 'Report of the Legal Committee on the Work of Its One Hundred and Second Session' (Report, IMO, 2015); See 'Report of the Legal Committee on the Work of Its One Hundred and First Session' (Report, IMO, 2014) and 'Report of the Legal Committee on the Work of Its One Hundredth Session' (Report, IMO, 2013) for conclusions of previous sessions. Rather similar with the conclusion of the 102nd IMO Legal Meeting Session, those two previous sessions, among other matters, reached that there is no pressing need to prepare an international treaty on offshore activities, the aim must be to assist States to reach bilateral or regional agreements by setting up workshops or consulting groups, and member States were invite to send examples of existing bilateral and regional agreements to the Secretariat, at the same time, the delegation of Indonesia was encouraged to continue its work to facilitate further progress within the Committee. In addition, in 2015 session, the Committee also received a document from the observer delegation of the Iberoamerican Institute of Maritime Law (IIDM) which principally highlighted the need for a new international convention. In response, the Committee appreciates the IIDM and viewed that document for information purpose. As for the opposite side or perspective on this matter see comments from the International Association of Oil & Gas Producers (IOGP) at the same session in 2015 below.

own EEZ as set out in the LOSC.³⁹ In the case of oil and gas activities on the high seas, the International Seabed Authority would be the competent authority. The IOGP argued that the development of bilateral and multilateral arrangements represented the most efficient and effective way of addressing the potential impacts of oil and gas activities.⁴⁰

As of 2016, there has been no significant progress within the IMO on a comprehensive approach to offshore installations, including through its Legal Committee.⁴¹ Although the discussion within the IMO has mainly dealt with liability and compensation, it is argued that a more comprehensive legal package for offshore installations remains important.⁴²

6.2.2. Recent Updates in International Discussions: the Guidance Document Proposal and Academic Approaches

In the last few years, international attempts to develop a convention for offshore installations, including a legal framework on liability and compensation from transboundary oil pollution, have made slow progress within the IMO forum. There have been no significant changes to major stakeholders' positions on the need for an international convention on offshore installations.⁴³ This

³⁹ 'Any Other Business: Comments on LEG 102/11-Position document by the Iberoamerican Institute of Maritime Law (IIDM) concerning the need for IMO to promote an international convention to regulate offshore extraction activities, submitted by the IOGP' (Meeting Document-Agenda item 11, IMO Legal Committee 102nd Session, 2015) 1-2.

⁴⁰ Ibid.

⁴¹ The current proposal to develop an international legal framework relating to liability and compensation for oil pollution damage resulting from offshore oil activities was originally made through a general statement of the Indonesian delegation in highlighting the Montara offshore oil accident at the Marine Environment Protection Committee (MEPC) meeting on 22 to 26 March 2010. However, according to the MEPC report in MEPC document 60/22 and consultation with the IMO Legal Affairs Division, it is considered that this subject is within the competence of the Legal Committee. See 'Any other business; Proposal to add a new work programme item to address liability and compensation for oil pollution damage resulting from offshore oil exploration and exploitation, submitted by Indonesia' (Meeting Document-Agenda item 14, IMO Legal Committee 97th Session, 2010).

⁴² Rochette, above n 1, 12-13; Rochette and Wright, above n 17, 1-3; See also Damos Dumoli Agusman, 'Designing new scheme of liability and compensation regime caused by transboundary oil spill resulting from offshore exploration and exploitation activities' (Paper presented at CMI Colloquium, Istanbul, 8-9 June 2015), and conclusion part of chapter two of this thesis.

⁴³ As indicated above, principally, there are two aspirations with respect to this matter, first is a proposal to develop an international convention regulating offshore oil and gas undertakings particularly on liability and compensation aspects from oil exploration and exploitation pollution. Second is the view to focus on the guidelines development for bilateral or regional agreements. The later argument is primarily based on the current necessity which no need for a treaty at this

circumstance primarily occurred due to the different understandings of to (i) Article 1 of the IMO Convention (objective of the organization)⁴⁴ and (ii) the need for change.⁴⁵ In addition, the IOGP has also clearly expressed its opposition to the development of a new international convention. Notwithstanding this situation, there are two key features of recent developments that are worth highlighting: (i) the decision to establish a *Guidance Document for Bilateral/Regional Arrangement or Agreement on Liability and Compensation Issues Connected with Transboundary Oil Pollution Damage Resulting from Offshore Exploration and Exploitation Activities* and (ii) the continuous academic work on this matter through a number of discussions and studies.

Following the result of the 102nd IMO Legal Committee Working Session reflected in the Document LEG102/12, Indonesia and Denmark received a joint task to develop a guidance document on bilateral and regional agreements on liability and compensation issues in relation to transboundary oil pollution from offshore activities.⁴⁶ In 2016, after a series of meetings conducted under the framework

time and this is also supported by Oil and Gas Producers Association (IOGP). See LEG 102/11/7 (6 March 2015) 'Report of the Legal Committee on the Work of Its One Hundredth Session' (Report, IMO, 2013) and *Any other business: Comments on LEG 102/11-Position document by the Iberoamerican Institute of Maritime Law (IIDM) concerning the need for IMO to promote an international convention to regulate offshore extraction activities, Submitted by the International Association of Oil & Gas Producers (IOGP)* (Meeting Document-Agenda item 11, IMO Legal Committee 102nd Session, 2015).

⁴⁴ The first view maintained that the regulation of offshore petroleum activity is not among IMO's objectives, as is made clear in the Article 19a) of the Organization's own founding convention. Article 1(a) of the Convention on the International Maritime Organization provides:

To provide machinery for co-operation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade; to encourage and facilitate the general adoption of the highest practicable standards in matters concerning the maritime safety, efficiency of navigation and prevention and control of marine pollution from ships; and to deal with administrative and legal matters related to the purposes set out in this Article.

On the other hand, there is another perspective that reminded that the IMO Convention dates back to 1948, a time when the offshore activity was still in very early stages, whereas currently there is a significant awareness regarding certain undertakings related to offshore activity such as oil pollution and liability that did not exist when the IMO Convention was adopted.

⁴⁵ 'Report of the Legal Committee on the Work of Its One Hundredth Session', above n 38, 21-23.

⁴⁶ 'Report of the Legal Committee on the Work of Its One Hundred and Second Session' above n 45, 12-14; 'CMI New York Conference; 'Offshore Activities-update on current situation' (Report on Offshore Liabilities-Documentation of 2016 CMI Conference, CMI, 2016); 'Any other business: Guidance for Bilateral/Regional Arrangement or Agreement on Liability and Compensation Issues Connected with Transboundary Oil Pollution Damage Resulting from Offshore Exploration and Exploitation Activities-Submitted by Indonesia and Denmark' (FGD Draft Guidance July 2015-Documentation of 2016 CMI Conference, CMI, 2016).

of the Intersessional Consultative Group (ICG), and a Focus Group Discussion (FGD) held by the Indonesian Government, Indonesia and Denmark have submitted a draft of the Guidance for consideration by the Legal Committee.⁴⁷ This Draft encompasses a number of elements that may be included in bilateral/regional arrangements or agreements namely scope of arrangements or agreements; pollution prevention and emergency planning; reporting and cooperation in emergency situations; settlements of claim; jurisdiction and enforcement; national treatment; polluter pays principles; liability and limitation of liability, and other compensation issues.⁴⁸

Explanations of these elements can be found in the Draft which includes:

- a. Coverage of the polluter pays principle: namely the cost of further incidents, prevention, community loss and environmental recovery;⁴⁹
- b. Considerations in applying liability and liability of limitation, including Article 235(2) of the LOSC, general principles of international environmental law, existing international agreements and other conventions relevant to offshore units or structures.⁵⁰

In addition, with respect to 'other compensation issues', the Draft also mentions matters related to compulsory insurance or other financial security as a condition for operating an offshore facility and requirements that may be imposed on to the insurance.⁵¹

This Draft is primarily prepared to address liability and compensation issues instead of the wider spectrum of offshore installations operations. Consequently, regulations on certain major areas such as the protection of offshore

⁴⁷ Sharpe 'Guidance for Bilateral/Regional Arrangements-Denmark/Indonesia Submission to IMO Legal Committee 2016' (Paper presented at 2016 CMI Conference, New York, 4-6 May 2016) <<http://www.cmi2016newyork.org/session-19>>.

⁴⁸ 'Any other business: Guidance for Bilateral/Regional Arrangement or Agreement on Liability and Compensation Issues Connected with Transboundary Oil Pollution Damage Resulting from Offshore Exploration and Exploitation Activities-Submitted by Indonesia and Denmark', above n 53.

⁴⁹ Ibid 5.

⁵⁰ Ibid.

⁵¹ Ibid.

installations, safety and decommissioning or removal of offshore installations are not the focus. The perspective of this thesis is that the guidance document is not the best option to address the regulation of offshore installations. The guidance may not be strong enough to provide a clear legal reference, especially if it contradicts or alters the many regional conventions already in existence.⁵²

The agreement to develop this bilateral or regional guidance reflects the difficulty of negotiating between the diverse stakeholder groups within the IMO.⁵³ In spite of this slow development, attempts to design an international convention on offshore installations are important.⁵⁴ Institutional and academic contributions to this task can be found in conference documents or academic research.

In 2011 and 2012, the Indonesian government organized conferences to discuss liability and compensation regimes for transboundary oil damage resulting from offshore hydrocarbon exploration and extraction.⁵⁵ The conferences aimed to gain input from participants from diverse backgrounds: government officials, international organizations, academia and oil companies.⁵⁶ Several matters discussed in the most recent conference were offshore oil and gas incidents including the Montara platform and Macondo platform incidents, the impact of offshore operations on the marine environment, and existing legal frameworks on liability and compensation.⁵⁷

⁵² For regional legal frameworks, see e.g. Kashubsky, above n 19, 6-7; Sands and Peel, above n 24, 389; Rochette above n 1, 6-12; Julien Rochette and Raphaël Billé, 'Bridging the Gap between Legal and Institutional Developments within Regional Seas Frameworks' (2013) 28 *The International Journal of Marine and Coastal Law* 436-451; Pereira, above n 17, 119-133; Chapter Three of this Thesis on regional legal framework relating to offshore installations and tanker.

⁵³ See 'Report of the Legal Committee on the Work of Its One Hundredth Session', above n 38, 21-23.

⁵⁴ Rochette, above n 1, 12-13; Rares, above n 1, 11-12; Pereira, above n 17, 135-138.

⁵⁵ Directorate General of Law and Treaty, Ministry of Foreign Affairs of the Republic of Indonesia and Directorate general of Maritime Transport, Ministry of Transport of the Republic of Indonesia, 'The Second International Conference on Liability and Compensation Regime for Transboundary Oil Damage Resulting from Offshore and Exploitation Activities' (Press Release, 21-23 November 2012).

⁵⁶ *Ibid.*

⁵⁷ 'Any other business: (i) Analysis of liability and compensation issues connected with transboundary pollution damage from offshore exploration and exploitation activities, including a re-examination of the proposed revision of Strategic Direction 7.2 - Information on the

Through this forum, the Indonesian government has come to the view that a model agreement or arrangement is required as a legal basis for states in dealing with their liability and compensation cases for trans-boundary oil damage caused by offshore exploration and exploitation operations.⁵⁸ It intends to submit the outcome of this conference to the next session of the Legal Committee of IMO.⁵⁹ Bebeb Djundjuna from Indonesian Ministry of Foreign Affairs explained that the IMO Council at its 106th meeting decided to request the Legal Committee to re-examine liability and compensation issues from offshore activities.⁶⁰

On 30 March 2012, the Institute for Sustainable Development and International Relations (IDDRI) held an experts workshop on the international regulation of offshore oil exploitation.⁶¹ This workshop was attended by participants from various backgrounds who were experts in maritime law, environmental protection, and law of the sea.⁶² Presentations at the workshop noted that the recent series of accidents on offshore oil platforms raised public awareness of the extent to which offshore oil exploitation is moving into increasingly deep waters.⁶³ Participants of the workshop analysed and discussed the international

International Conference on Liability and Compensation Regime for Transboundary Oil Damage Resulting from Offshore and Exploitation Activities, Submitted by Indonesia' (Meeting Document-Agenda item 13(i), IMO Legal Committee 99th Session, 2012).

⁵⁸ Bambang Susantono, (Keynote Speech delivered at the Second International Conference on Liability and Compensation Regime for Transboundary Oil Damage Resulting from Offshore Exploration and Exploitation Activities, Bali, 21-23 November 2012).

⁵⁹ Directorate General of Law and Treaty, Ministry of Foreign Affairs of the Republic of Indonesia and Directorate general of Maritime Transport, Ministry of Transport of the Republic of Indonesia, above n 62; 'Report of the Legal Committee on the Work of Its One Hundredth Session', above n 38, 21-23.

⁶⁰ Bebeb Akn Djundjuna, 'The Concept of Law Model and Mitigation Process for Transboundary Oil Pollution' (Paper presented at the Second International Conference on Liability and Compensation Regime for Transboundary Oil Damage Resulting from Offshore Exploration and Exploitation Activities, Bali, 21-23 November 2012). In the conjunction of this decision, the delegate of Norway, supported by the representative of the International Association of Oil and Gas Producers, has different perspective on this matter. According to them there is no need for an international convention as offshore activities are essentially local and subject to domestic law. Having these diverse perspectives, it is obvious that there are remain substantial differences among the participants of the Conference, and this also, exactly, reflected the similar situation at the IMO.

⁶¹ Rochette, above n 1.

⁶² Ibid, Annex 2 on list of participants. Among other participants attended this event were representations from High Commission of Malaysia; Director of Legal Affairs and External Division, IMO; Abidjan Convention Secretariat; IDDRI; World Ocean Council; Indonesian government; OSPAR Commission, and University of Milano, Italy.

⁶³ Ibid, 5-6.

legal framework on offshore oil exploration and exploitation, arguing that the existing framework is fragmented and incomplete. The workshop highlighted three major approaches that need to be adopted in order to address these challenges. These approaches include the development and strengthening of regional legal frameworks, the development of an international convention, and improving states' capacity particularly to control the safety of offshore activities and marine environment pollution in case of accident.⁶⁴

A research report published by Faculty of Law, Maastricht University in 2013⁶⁵ was a 393 page in-depth and extensive study entitled 'Civil Liability and Financial Security for Offshore Oil and Gas Activities'. This report analysed existing legal regimes and legal developments related to offshore activities including LOSC, MARPOL, OPRC Convention, several regional conventions and on-going discussion at the IMO. In addition, this report also discussed offshore liability legal regimes in various countries including United Kingdom, Norway, Denmark and United States.⁶⁶ In its concluding observations, the report found that there is no international legal framework dealing specifically with liability for offshore related incidents, and several countries that were reviewed in the report do not have legislation covering at damage resulting from offshore activities. The report recommended the EU to take the initiative via a specialised UN agency to develop an international agreement particularly focusing on offshore-related incidents with a transboundary character.⁶⁷

The most recent international developments before finalization of this thesis were the CMI Colloquium in 2015 and the CMI Conference in 2016. Although both events were not specifically devoted to offshore oil and gas operations, several updates concerning the legal framework for offshore installations were presented. The 2015 CMI Colloquium showcased a number of presentations in

⁶⁴ Ibid, 12-13.

⁶⁵ De Smedt Kristel et al, 'Civil Liability and Financial Security for Offshore Oil and Gas Activities' (Final Report, Maastricht European Institute for Transnational Legal Research Faculty of Law, Maastricht University, 2013); Radovich, above n 8, 7-8; 'CMI New York Conference: Offshore Activities-update on current situation' above n 46, 6.

⁶⁶ Kristel et al, above n 65, 69-81.

⁶⁷ Kristel et al, above n 65, 391.

the area of offshore activities. A concise yet detailed report on this Colloquium was produced as an introductory note to the CMI Conference in 2016.⁶⁸ This report summarised the presentations during the Colloquium including a presentation by Dr. Iur. Damos Dumoli Agusman on a new scheme of liability and compensation legal regime caused by transboundary oil spill⁶⁹; one by Prof. Baris Soyer on the Oil Pollution Liability Agreement (OPOL) framework⁷⁰; and one by Fabien Lered on the view from the insurance industry of the availability of insurance capacity to cover the risks involved in spills from offshore activities, and the European Commission on European Union (EU) legal approaches to the issue of liability and compensation caused by transboundary oil spill.

In addition, this report also described the Iberoamerican Institute of Maritime Law submission at the 102nd Session of the IMO Legal Committee, of a document that contained an historical review of the various attempts to regulate offshore activities. The document emphasised the continuing need for an international convention regulating offshore installations.⁷¹ Moreover, the report reminded readers that the CMI had been conducting a survey of existing regional and bilateral agreements on transboundary oil pollution from offshore activities. This work covered the OSPAR Convention, the Barcelona Convention, the Abidjan Convention, and OPOL.⁷² This report is very valuable in providing analysis and

⁶⁸ 'CMI New York Conference: Offshore Activities-update on current situation' above n 46
<<http://www.cmi2016newyork.org/session-19>>.

⁶⁹ In this forum, it is explained by Dr. Iur. Damos Dumoli from Indonesian Ministry of Foreign Affairs, that the occurrences of two offshore incidents in the Gulf of Mexico and in the Montara field have highlighted the need for an international convention. However, following the submission of a paper work by Indonesian Government arguing the importance of an international convention development at the IMO, there was a considerable opposition view to this proposal.

⁷⁰ Prof. Baris Soyer from Swansea University discussed the Oil Pollution Liability Agreement (OPOL) framework. The OPOL covers almost any offshore activity and any type of equipment used for exploration, exploitation or storage. It includes the escape of crude oil but not drilling mud. The limit of liability provided within this framework is \$250m and the agreement also covers the cost of preventive measures as well as compensation for "direct loss or damage". Nonetheless, in the context of development of an international convention, Prof. Soyer doubts that the OPOL might be developed into such international convention.

⁷¹ 'Offshore Activities-update on current situation' above n 53
<<http://www.cmi2016newyork.org/session-19>>.

⁷² Ibid. For further discussions on regional legal frameworks, see Kashubsky, above n 28, 6-7; Sands and Peel, above n 33, 389; Rochette above n 1, 6-12; Rochette and Billé, above n 59; Pereira, above n 26, 119-133; chapter three of this thesis on regional legal framework relating to offshore installations and tanker. In addition, the CMI had also prepared a questionnaire in order

reviews of numerous relevant legal frameworks as contributions to developing an international convention on offshore installations.

During the 42nd International Conference of the CMI in 2016, the latest updates on the issue of liabilities arising from offshore activities were discussed in session 19. This session mainly focused on the Draft of Bilateral/Regional Agreement Guidance. As explained earlier, this Draft was produced by Denmark and Indonesia as the follow up of the Report of the IMO Legal Committee on the work of its 102nd Session.⁷³ It contained examples of elements that may be included in bilateral/regional agreements on liability and compensation issues such as the scope of the agreement, pollution prevention and emergency planning, reporting and cooperation in emergency situations, polluter pays principle, and liability and limitation of liability.⁷⁴ As the next step for the application of this draft, the IMO Legal Committee was invited to review and consider it as it deems necessary.

6.2.3. Proposed Key Features of an International Convention on Offshore Installations

Although there is a lack of enthusiasm among states to develop a treaty regulating offshore exploration and exploitation activities, this chapter suggests that the IMO and states should not entirely disregard this proposal.⁷⁵ It recommends that any new international convention should not only cover

to collecting information about the participations of countries toward the existing regional instruments that have mentioned in the report. Responses to this questionnaire were received from 19 national maritime law associations and made available to the IMO Secretariat and to the Intersessional Correspondence Group (ICG). It also to be found on the CMI website: Patrick Griggs, *Offshore Activities-responses to Questionnaire* (June 2014) CMI <<http://www.comitemaritime.org/Offshore-Activities/0,27137,113732,00.html>>.

⁷³ Sharpe, above n 47; 'Any other business: Guidance for Bilateral/Regional Arrangement or Agreement on Liability and Compensation Issues Connected with Transboundary Oil Pollution Damage Resulting from Offshore Exploration and Exploitation Activities-Submitted by Indonesia and Denmark', above n 53.

⁷⁴ Ibid.

⁷⁵ Pereira, above n 17, 137. As indicated above the adoption of an international convention on offshore installations is remaining relevant and important to deal with the weaknesses and gaps of the current relevant global regulatory frameworks. Therefore international legal regime on offshore installations needs to be strengthened through a convention on the matter. The adoption of this convention would also accommodate the significant interest of the global community to set a clear and uniform legal framework for offshore installations operations. See introductory part of this chapter.

liability and compensation but also address other important aspects surrounding offshore installations such as safety of offshore installations, protection of exploration and exploitation activities, and decommissioning of abandoned offshore installations.

As pointed out above, an international convention on offshore installations could have a number of advantages. A global legal framework could apply consistent regulations such as in marine pollution prevention and liability from oil spills. It could ensure a uniform standard on various activities related to offshore installations. The IMO should consider the elements that could be incorporated in a new international convention in order to improve the legal framework in the offshore sector.⁷⁶

It is proposed that a future international convention on offshore installations covers the registration of offshore installation. This should include the obligation of states to regulate the registration of offshore installations and enable states to exercise and enforce their regulations. It is not desirable for offshore installations to operate without juridical connection to a state.⁷⁷ With increasing exploration and production in the High Seas, it is necessary for there to be international regulations on the registration of offshore installations, including by the International Seabed Authority.

⁷⁶ Since 1970s, deliberations on the international legal framework for offshore exploration and exploitation activities have significantly developed and signed through a number of accomplishments. These are including *the Rio Draft Convention on Offshore Mobile Craft* which was adopted in September 1977 ('Rio Draft'); *the Sydney Draft on Offshore Mobile Craft*, October 1994 ('Sydney Draft'), and *the Canadian Maritime Law Association (CMLA) Draft of Convention on Offshore Units, Artificial Islands and Related Structures used in the Exploration for and Exploitation of Petroleum and Seabed Mineral Resources*, May 2001 ('CMLA Draft'). For texts of those drafts, see *CMI Draft Convention on Offshore Mobile Craft*, adopted in September 1977, IMO Doc LEG/34/6(b), 19 December 1977, (not yet in force); 'Part II-The Work of the CMI, *Draft Convention on Off-shore Mobile Craft (1994) CMI Yearbook 1994*; Comité Maritime International, and 'News from the Canadian Maritime Law Association' (News Letter, No. 1, January/April 2004). In addition to these drafts and for another suggestion see also Michael White, above n 16, 23-26. This section therefore intends to propose key regulations to be incorporated in the international convention based on the observations toward the mentioned-drafts above.

⁷⁷ The objective of this registration requirement is to ensure that an offshore installation is operated under the supervision of a designated maritime administration. Therefore, it would also ease the enforcement of international and domestic regulations.

The safety of offshore installations should be addressed in an international convention on offshore installations. Provisions may include requirements for the coastal states to enact national regulations on safety of offshore installations. Through national regulations, states shall ensure that the owners or operators of offshore installations and other related structures establish and maintain adequate structural and operational systems compatible with generally accepted standards.⁷⁸

It would also be important to set out requirements for the offshore installation flag state, in relation to safety. Instances of these requirements are designation of a person in charge of the offshore installation, safety operating procedures, and communication or emergency equipment.⁷⁹ In addition, other related elements such as occupational health and safety for workers, appropriate standards for offshore support aircraft operations, and emergency and search and rescue plans should be outlined.⁸⁰

A new global convention on offshore installations could span civil and penal jurisdictions. Civil jurisdiction provisions could provide a choice of forum mechanism in the case of a conflict of laws such as between a coastal state and flag state. The claimant could select a forum based on the defendant's place of habitual residence or business, the place of the collision, or a place at which the ship or a sister ship may be arrested.⁸¹ With respect to penal jurisdiction, the international convention should set out penal jurisdiction, definitions and types

⁷⁸ Valuable references on this safety regulation can be found in the 2001 CMLA Draft on Offshore Units, Artificial Islands and Related Structures Convention art VIII, see 'News from the Canadian Maritime Law Association', above n 83, 3. Examples of the requirements in the safety area are including establishment of (i) domestic law or terms of license on occupational health and safety standard, (ii) appropriate standard of certain operations such as offshore support aircraft and firefighting/evacuation, and (iii) construction standard including periodic inspection and maintenance.

⁷⁹ Ibid.

⁸⁰ Further reference particularly in relation to the safety of Mobile Offshore Drilling Units (MODUs') operation can be found in the provisions of SOLAS Convention as briefly discussed in chapter two of this thesis.

⁸¹ See Michael White, above n 16, 24; Sydney Draft arts 2 and 4, and CMLA Draft art VI. As explained by Michael White, while LOSC specifies the general principle for coastal States in regulating their EEZs, Article 56 of the LOSC clearly reminds that rights of exploitation of EEZ areas must be exercised with regard to the rights of other States. Therefore, if a coastal State licences a foreign flag offshore unit to operate within its territorial sea or EEZ there may be a sort of enclave within the State's waters and cause a conflict of laws.

of offences, and a statement regarding the coastal state's jurisdiction over certain offences regulated under the convention.⁸² These elements are critical to providing a regulatory framework for the security of offshore installations.

A new international convention should provide that liability for damage from pollution from offshore installations or related structure shall be attributed to the owner.⁸³ If damage resulted from an act of war, hostilities, insurrection or an extreme natural phenomenon, no liability should be attributed. If damage arises wholly or partially from an act or omission done with intent by the person who suffered the damage or from the negligence of that person, the owner or licensee may be exonerated wholly or partially as long as the owner can prove it.⁸⁴

A new convention should establish limited liability, but should stipulate that a person involved in offshore activities shall not be entitled to limit their liability if it is proved that a loss resulted from a personal act or omission, committed with intent, or recklessly and with the knowledge that a loss would probably result.⁸⁵ It is recommended to limit liability for offshore installations by mass tonnage or

⁸² See *Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms located on the Continental Shelf*, 1988 ('1988 SUA Protocol'); CMLA Draft art VIII, and brief discussion in Chapter Two on SUA Convention 1988 and its Protocols.

⁸³ Currently, there is no global legal regime on liability and compensation in the context of offshore oil and gas activities. The *Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources* ('CLEE 1977') has unsuccessfully received sufficient ratifications numbers to enter into force and the LOSC leaves the establishment of detailed international or regional rules to be adopted in later stage in future agreements. On the other hand, as for tankers, there is a settle mechanism of strict yet limited for oil spills within the *1969 Convention on Civil Liability for Oil Pollution Damage* and the *1971 Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage*. These conventions therefore may be referred to the Convention on Offshore Installations.

⁸⁴ See further Jacqueline Allen, 'A Global Oil Stain-Cleaning Up International Conventions for Liability and Compensation for Oil Exploration/Production' (2011) 25 *Australia & New Zealand Maritime Law Journal* 98-99; Shane Bosma, 'The Regulation of Marine Pollution Arising from Offshore Oil and Gas Facilities - An Evaluation of the Adequacy of Current Regulatory Regimes and the Responsibility of States to Implement a New Liability Regime' (2012) 26 *Australia & New Zealand Maritime Law Journal* 113; Ricardo Pereira, above n 17, 112-117.

⁸⁵ *CMLA Draft art XIII 13(3)*. According to Article XIII of this Draft there are other examples of the limitation of liability that could be considered such as (i) claims in respect to loss of life or personal injury or loss of or damage to property directly resulted from the offshore installations operation; (ii) claims in relation to other loss caused by infringement of rights other than contractual rights directly related to offshore installations operation, and (iii) claims with respect to the removal or abandoned offshore installations.

deadweight tonnage. If there are two or more offshore installations the limitation may be based on their combined tonnage.⁸⁶

A global convention on offshore installations should also address decommissioning or removal of abandoned offshore installations. It is suggested that the treaty requires states to pass national legislation concerning the removal or abandonment process. Through this legislation, it is expected that states ensure that owners of offshore installations have a plan and conduct the whole or partial removal of offshore installations.⁸⁷

6.3. Proposed Strategies to Improve Indonesia's Offshore Installations Laws

This thesis has reviewed a range of domestic laws relevant to offshore installations including marine pollution resulting from oil and gas production.⁸⁸ It revealed that there are several major challenges within this legal framework, from fragmented regulations to outdated provisions. As discussed in Chapter Four, different aspects of offshore installations such as offshore safety requirements and maritime security features are considered in many regulations including the 2014 Indonesian Law of the Sea, the 2008 Shipping Law and the BKI Rules.⁸⁹ Offshore safety requirements are regulated in several provisions of different laws. In addition, laws and regulations relevant to marine pollution from offshore activities in Indonesia face similar challenges as outlined in Chapter Five of this thesis.⁹⁰

⁸⁶ Ibid; Different view on this matter has expressed by Michael White. According to him, tonnage is not an appropriate measure system for Offshore Units. See Michael White, above n 16, 25.

⁸⁷ Offshore installations removal is very important in order to allow safety of navigation, fisheries activities and protection of the marine environment. The obligation to regulate removal of or offshore installations decommissioning has been stated in the *1989 Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone (IMO Resolution A.672(16))*. Therefore it is highly recommended to incorporate this requirement into international convention on offshore installations. For further descriptions on the 1989 Guidelines see chapter two.

⁸⁸ These key legislations relating to offshore installations and tanker operations in Indonesia comprise the 2014 Indonesian Law of the Sea, the 2008 Shipping Law, the National Penal Code, the 2010 Navigation Regulation and the BKI Rules and Standards.

⁸⁹ See chapter four on Indonesian law relating to offshore installations and tanker operation.

⁹⁰ Ibid.

This complex, fragmented context leads to inconsistent approaches and difficulties in the implementation of laws by offshore operators or owners and by the government itself.⁹¹ The legal framework pertaining to offshore installations, particularly the Penal Code and the 1974 Supervision Regulation require updating. In addressing these challenges, this chapter proposes two main strategies: the adoption of a specific law on offshore oil and gas activities; and incorporating references to relevant and valuable regulations from other countries.

6.3.1. Adoption of a New Law on Offshore Oil and Gas Activities

In order to develop a specific domestic law on offshore activities it is necessary to consider the requirements and mechanism for the establishment of a new law in the Indonesian legal system. This system is regulated by *Law No. 12 of 2011 on the Establishment of Law* (the Establishment Law) and *Presidential Regulation No. 87 of 2014 concerning the Implementing Regulation of the 2011 Establishment Law* (the Implementing Regulation of the Establishment Law).⁹² According to the Establishment Law, there are five categories that should be governed by law: implementation of matters established by the Constitution, orders to develop laws from other laws, ratification of treaties, implementation of the Constitutional Court's verdicts, and fulfilment of legal and social necessities.⁹³ It is argued that the development of laws on offshore oil and gas

⁹¹ Interestingly, among various legislations pertaining to offshore installations, the 2001 Oil and Gas Law has very limited coverage on such installations. As indicated earlier, the 2001 Law is more concentrates on the business management of oil and gas resources in Indonesia. Likewise, the Law No. 30 of 2007 on Energy also does not contain specific provision on offshore installations. It focusses on national energy management and organization.

⁹² *Undang-Undang Nomor 12 Tahun 2011 Tentang Pembentukan Peraturan Perundang-Undangan* [Law No 12 of 2011 on the Establishment of Law] (Indonesia) ('The Establishment Law') and *Peraturan Presiden Nomor 87 Tahun 2014 Tentang Peraturan Pelaksanaan Undang-Undang Nomor 12 tahun 2011 Tentang Pembentukan Peraturan Perundang-Undangan* [Presidential Regulation No 87 of 2014 concerning the Implementing Regulation of the 2011 Establishment Law] (Indonesia) ('The Implementing Regulation of the Establishment Law'). See further *Memahami Undang Undang Nomor 12 Tahun 2011 Tentang Pembentukan Peraturan Perundang Undangan (Understanding Law No 12 of 2011 on the Establishment of Law)* (October 2011) National Planning and Developmental Agency <<http://birohukum.bappenas.go.id/>>; Directorate General of Law, Ministry of Law and Human Rights, *Proses Pembentukan Undang-Undang (The Establishment of Law Process)* <http://peraturan.go.id/welcome/index/prolegnas_pengantar.html>; *Data Centre, Law No 12 of 2011 on the Establishment of Law* <<http://www.hukumonline.com/pusatdata/>>.

⁹³ The Establishment Law, above n 92, art 10.

activities fits within the category of legal and social necessities, as currently there is no clear and comprehensive legal framework on offshore installations, and a law would protect social interests, especially in the area of oil and gas production safety, maritime security and the marine environment.⁹⁴

The adoption of a new law should also have a solid academic grounding and follow specific procedures provided by the Implementing Regulation of the Establishment Law.⁹⁵ This section will not discuss the procedural requirements. The academic basis for a law on offshore activities must be presented in accordance with the requirements of Annex I of the Establishment Law.⁹⁶ Among key features that must be discussed are theoretical and practical studies, review and analysis of relevant laws and regulations, philosophical, sociological and juridical basis, and structure of the proposed law.⁹⁷ The following paragraphs will concentrate on philosophical, sociological and juridical basis for the proposed law, as the theoretical and practical aspects and reviews of relevant laws have been extensively discussed in Chapters Four and Five.

The philosophical basis for a law is defined as a rationale that illustrates that the proposed law is in conformity with the five Indonesian national principles or Pancasila and the Constitution, particularly the preamble. In this respect, the development of a law on offshore oil and gas activities would cherish the principal values of just and civilised humanity and social justice for all Indonesians, as established in the first and second principles of Pancasila. The

⁹⁴ See discussions in chapters one, four and introduction part of this chapter.

⁹⁵ The Establishment Law, above n 92, art 44; The Implementing Regulation of the Establishment Law, above n 1, arts 8-10. As for detail requirements in relation to the establishment of a new law procedure, see the Establishment law arts 43-51 and The Implementing Regulation of the Establishment Law arts 2-26. See further *Understanding Law No 12 of 2011 on the Establishment of Law*, above n 92; Directorate General of Law, Ministry of Law and Human Rights, above n 99; *Data Centre*, above n 92.

⁹⁶ See *Teknik Penyusunan Naskah Akademik Rancangan Undang-Undang, Rancangan Peraturan Daerah Provinsi, dan Rancangan Peraturan Daerah Kabupaten/Kota (Technical Guidance for the Adoption of Academic Paper of Law Draft, Provincial Regulation Draft, and Regency/City Regulation Draft)*, Annex I of the Establishment Law. By regulation, academic paper is defined as research outcome or legal study concerning certain issues and its relation with the proposed draft of regulation. This proposed draft should contain solution over such issue and meet with socio-legal needs in Indonesia. The Implementing Regulation of the Establishment Law, above n 1, art 1(13).

⁹⁷ *Ibid.*

proposed law on offshore activities also upholds certain elements of the Constitution's preamble, particularly in relation to the improvement of public welfare and participation in the establishment of world order.⁹⁸

With respect to sociological basis for the proposed law, as already discussed in this thesis, there are significant numbers of offshore oil and gas installations located in Indonesian waters.⁹⁹ In fact, Indonesia is the country with the highest number of offshore installations in Southeast Asia.¹⁰⁰ This circumstance involves risk, both for the installations and the surrounding environment. A clear and comprehensive domestic legal framework on offshore oil and gas activities is required. In a practical context, the proposed law would ensure safety of offshore installations, the protection of oil and gas activities, and preservation of Indonesia's marine environment.¹⁰¹

Regarding the proposed law's juridical basis, the adoption of a law on offshore oil and gas activities would address existing legal loop holes and fragmented regulations. There would be a specific legal regime for offshore installations operating in Indonesian waters that would clarify several outdated yet relevant laws separated in different laws and regulations. As previously discussed, there are a number of fragmented regulations which contain related provisions, such as the Supervision Regulation, the Worthiness Certificate Regulation, certain

⁹⁸ *Undang-Undang Dasar Republik Indonesia Tahun 1945* [The 1945 Constitution of the Republic of Indonesia] (Indonesia) the preamble. It is stated at paragraph two of the preamble of the 1945 Indonesian Constitution that ‘.. to form a government of the state of Indonesia which shall protect all the people of Indonesia and all the independence and the land that has been struggled for, and to improve public welfare,’ and ‘..to participate toward the establishment of a world order based on freedom, perpetual peace and social justice,’.

⁹⁹ As mentioned in chapter one of this thesis, there are approximately 530 units of offshore oil and gas platforms established across Indonesian waters and operated by various contractors. Around 315 of them can be found in the Java Sea, north of Jakarta, while the reminders are located in: East Kalimantan (Celebes Sea), numbering about 138 units; the Java Sea off Surabaya about 15 units, and in Sumatra off the Straits of Malacca approximately 25 units. See Board of Research and Development, Ministry of Energy and Mineral Resources (MoEMR), *Identifikasi Infrastruktur Migas Dasar Laut serta Usulan Pengelolaan Pipa Bawah Laut dan Anjungan Migas Lepas Pantai [Identification of Deep-Sea Oil and Gas Infrastructure, and the Recommendation to Manage Submarine Pipeline and Offshore Platform]* (2010) <<http://www.litbang.esdm.go.id>>.

¹⁰⁰ Brian Twomey, *Study Asses Asia-Pacific Offshore Decommissioning Cost* (15 March 2010) Oil & Gas Journal <<http://www.ogj.com/articles/print/volume-108/issue-10/Technology/study-assesses-asia-pacific-offshore-decommissioning-costs.html>>.

¹⁰¹ See discussion on the proposed key features of international convention on offshore installations above.

provisions in the Navigation Regulation, and the BKI Rules on Offshore Installations Classification and Construction, in the area of safety operations alone.¹⁰² These laws were promulgated and derived in significant different time periods, especially for the Supervision Regulation and the Worthiness Regulation, which may result in legal difficulties in the practical context.¹⁰³

This study therefore suggested that the Indonesian government should develop a comprehensive legal framework on offshore installations. The proposed law would include the necessary implementing regulations issued by different authorities, for instance the Ministry of Energy and Natural Resources and the defence or security agencies such as the Indonesian navy and police. This framework would provide a specific and comprehensive domestic legal framework for offshore installations.¹⁰⁴

The adoption of a new law on offshore installations may also resolve another challenge of Indonesian domestic laws relating to offshore installations: outdated regulations. An example of an outdated regulation is the National Penal Code or Law No. 1 of 1946 *juncto* Law No. 73 of 1958 which contains several provisions relating to maritime crimes. Since the relevant contents of the Penal Code have been explained in Chapter Four of this thesis, this section will not discuss the issue of outdated provisions of the Penal Code in more detail.

The proposed elements to be regulated in a new law include:

- a. Registration of offshore installations or platforms
- b. Promotion of occupational health and safety in offshore activities

¹⁰² Another instance of the fragmented regulations can be seen in the protection of marine environment from offshore activities area as indicated in the early part of this chapter. Moreover, discussion on this issue would not suggest that other relevant regulations in certain areas need to be repealed.

¹⁰³ According Annex I of the Establishment Law, juridical basis is a consideration or argument which explains whereas a law which will be adopted aimed to address existing legal issues or legal vacuum. It is further stipulated that this basis is contain of legal issues or problems related to matters or substances of the proposed law. Example of these problems, as described within this Annex, is including outdated legislation or no existing law at all. In this respect, the above paragraph argue that the proposed law on offshore installations is very crucial to address the outdated legislation and addressing legal vacuum in certain matters at the same time.

¹⁰⁴ Through the adoption of specific law, it is expected that there are clear and uniform legal approaches in various aspects surround offshore oil and gas activities. Coordination

- c. Monitoring and enforcement procedures to ensure compliance with the rules and standards
- d. Mechanism for investigation of incidents
- e. Liability and its limitation with respect to marine pollution resulting from offshore activities
- f. Compensation mechanism
- g. Cooperation mechanism among relevant government agencies or authorities
- h. Requirement of offshore installations removal or decommissioning.¹⁰⁵

As practised by many leading oil and gas producing countries, a comprehensive and effective legal framework should lead to the consistent and efficient regulation of the operations of offshore installations.

6.3.2. References to Laws on Offshore Oil and Gas Activities of Other Countries

In this part, several regulatory frameworks relevant to offshore activities in other countries will be recommended to be adopted in Indonesian law. These frameworks are also enforced in countries with many offshore oil and gas installations, or where catastrophic offshore incidents have occurred. Norway, Denmark and Australia are states with strong interests in offshore oil and gas exploration and exploitation operations. In fact, these three countries are among the important players in global offshore oil and gas activities.¹⁰⁶

The Norwegian legal regime concerning offshore activities has developed since 1969 after the discovery of the Ekofisk oil field.¹⁰⁷ This framework is established through a number of statutes and regulations include the *Petroleum Activities*

¹⁰⁵ These features reflect several key aspects that shall be regulated within the offshore oil and gas law in Indonesia. In addition, certain relevant provisions from the international convention relating to offshore installations draft may also be adopted in the context of domestic legal framework. See discussion on this matter at earlier part of this chapter.

¹⁰⁶ According to the Energy Information Administration (EIA), Norway is the 15th largest oil producer in 2015 and the world's third largest crude oil exporter in 2013. Denmark also produces significant amounts of petroleum. It ranks 39th or equal to 161.6 thousand barrels per day in 2015. Denmark is the world's 7th largest crude oil exporter in 2013. As for Australia, it is the world's 6th largest crude oil in 2013. Australia produces 416.2 thousand barrels per day in 2015. See <<http://www.eia.gov/>>.

¹⁰⁷ Kristel et al, above n 65, 102; *Norway's oil history in 5 minutes* (9 October 2013) <<https://www.regjeringen.no/en/topics/energy/oil-and-gas/norways-oil-history-in-5-minutes/id440538/>>.

Act, which is supplemented by other statutes such as the *Pollution Control Act* and the *Working Environment Act*.¹⁰⁸ The Petroleum Act establishes general principles for offshore exploration and exploitation on the Norwegian continental shelf, including safety requirements and environmental protection standards.¹⁰⁹ The Act also sets up licensing procedures and outlines the factors that shall be taken into consideration in the determination of licences.¹¹⁰ The Act requires licensees to submit a development plan for approval and to maintain efficient emergency responses.¹¹¹ In addition, the Act contains provisions on the establishment of safety zones around offshore installations. These features of the Petroleum Act are entirely relevant and necessary to be adopted in Indonesian laws on offshore activities. Although most of these elements have been covered in domestic regulations as described in previous chapters, it remains appropriate for Indonesian offshore laws to refer to Norway's offshore laws, in order to strengthen the Indonesian offshore legal framework.

The Norwegian legal regime changed significantly after the Alexander Kielland incident in 1980, from an inspection-based approach to a risk-based approach. The latter approach emphasises what must be achieved instead of how it must be achieved.¹¹² This change is of paramount importance as the current legal regime includes a goal-based approach. For example, it not only stipulates offshore safety requirements but also provides safety indicators as a

¹⁰⁸ Kristel et al, above n 65, 101-111; *Regulations* (7 July 2008) Norwegian Petroleum Directorate <<http://www.npd.no/en/Regulations/>>; Patrick Griggs, *Offshore Activities-responses to Questionnaire* (20 June 2014) Comite Maritime International <<http://comitemaritime.org/Uploads/Work>>; Norway Maritime Law Association, *Norwegian Answer to Offshore Activities Questionnaire* <<http://comitemaritime.org/Uploads/Work>>.

¹⁰⁹ *Petroleum Activities Act, Act 29 November 1996 No. 72 last amended by Act 24 June 2011 No. 38* (Norway) < <http://www.npd.no/en/Regulations/Acts/Petroleum-activities-act/>>. Based on the Norway Petroleum Act there are also several secondary legislations worth to mention namely (i) Petroleum Activities Regulation; (ii) Regulations relating to the Petroleum Register; Regulations relating to refunding of expenses in connection with regulatory supervision of safety, working environment and resource management in the petroleum activities; Fisherman Compensation Regulations, and Regulations on compensation to fishermen for lost fishing time at the location, recording and bringing ashore of scrap that is not derived from petroleum activities.

¹¹⁰ *Petroleum Activities Act, Act 29 November 1996 No. 72 last amended by Act 24 June 2011 No. 38* (Norway) section 2-1.

¹¹¹ *Ibid* sections 9-1 to 9-7.

¹¹² Kristel et al, above n 65, 102.

measurement standard.¹¹³ Indonesian laws on offshore oil and gas activities could use this approach.¹¹⁴

With respect to liability for damage from offshore pollution, the Petroleum Act enacted a strict liability basis for the licensee or operator.¹¹⁵ There are exemptions to strict liability in the case of force majeure, act of war or exercise of public authority.¹¹⁶ The Act also contains provisions on attribution or channelling of liability. Section 7-4 of the Petroleum Act provides that '[t]he liability of a licensee for pollution damage may only be claimed pursuant to the rules of this Act'. According to the Act, liability for pollution damage cannot be claimed against:

- a. anyone who by agreement with a licensee or his contractors has performed tasks or work in connection with the petroleum activities
- b. anyone who has manufactured or delivered equipment to be used in the petroleum activities
- c. anyone who undertakes measures to avert or limit pollution damage, or to save life or rescue value
- d. anyone employed by a licensee or by someone mentioned under letters a, b or c.

Other key elements of the Norwegian Petroleum Activities Act are regulations on compensation, health and safety on offshore installations, and the protection of marine environment from offshore activities. The Act provides no financial cap on the amount of compensation in the case of a pollution incident. In other words, the operator has unlimited liability for offshore pollution incidents.¹¹⁷ The Act obliges the licensee to provide financial security as approved by the Ministry

¹¹³ Ibid.

¹¹⁴ For instance section 9-1 of Petroleum Activities Act may be adapted into Indonesian law on offshore activities. This provision reflects concise yet clear indicators or goals that should be achieved in the safety area.

¹¹⁵ *Petroleum Activities Act* section 7-3 and 8-3.

¹¹⁶ Worth highlighting that according to this Act, an exemption does not remove the full responsibility of the licensee. The liability may 'be reduced to the extent it is reasonable, with particular consideration to the scope of the activity, the situation of the party that has sustained damage and the opportunity for taking out insurance on both sides'.

¹¹⁷ *Petroleum Activities Act* section 7-4.

of Petroleum and Energy.¹¹⁸ Regulations relating to health and safety of offshore installations and environmental aspects include the Framework Regulations,¹¹⁹ the Management Regulations,¹²⁰ the Facilities Regulations,¹²¹ the Activities Regulations,¹²² and Technical and Operational Regulations.¹²³

Norwegian laws and regulations should be referred to in formulating Indonesian laws and regulations, particularly regulations on liability and compensation. Currently few Indonesian domestic regulations specifically address liability and compensation from offshore pollution damage. It is recommended that a future Indonesian offshore law should take into account the relevant and valuable provisions of the Norwegian offshore legal regime.

The Indonesian legal framework should also refer to Danish offshore laws and regulations. The main laws and executive orders pertinent to the offshore sector in Denmark include:

- a. The *Offshore Safety Act No. 1424* with underlying regulations, amended by Act No. 107 of February 7, 2007
- b. The *Subsoil Act No. 889 of July 4, 2007* with underlying regulations
- c. The *Continental Shelf Act No. 1101 of November 18, 2005* with underlying regulations
- d. *Executive Orders (EO) No. 686 of June 22, 2006 on Management of Safety and*

¹¹⁸ Ibid chapters 2 and 3. In addition, the Petroleum Activities Regulations provide that the exploration activities should be covered by the insurance requirement. This insurance must at least cover: damage to facilities, pollution damage and other liability towards third parties, wreck removal and clean-up as a result of accidents, and insurance of the licensees of the licensee's own employees who are engaged in the activities."

¹¹⁹ *Regulations relating to health, safety and the environment in the petroleum activities and at certain onshore facilities, last amended 17 June 2016* (Norway) <<http://www.psa.no/framework-hse/category403.html>>.

¹²⁰ *Regulations relating to management and the duty to provide information in the petroleum activities and at certain onshore facilities, last amended 18 December 2015* (Norway) <<http://www.psa.no/management/category401.html>>.

¹²¹ *Regulations relating to Design and outfitting of facilities, etc. In the petroleum activities, last amended 18 December 2015* (Norway) <<http://www.psa.no/facilities/category400.html>>.

¹²² *Regulations relating to conducting petroleum activities, last amended 18 December 2015* (Norway) <<http://www.psa.no/activities/category399.html>>.

¹²³ *Regulations relating to technical and operational matters at onshore facilities in the petroleum activities, 18 December 2015* (Norway) <<http://www.psa.no/technical-and-operational-regulations/category635.html>>.

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- e. *EO No. 688 of June 22, 2006 on Emergency Response*
- f. *EO No. 672 of June 21, 2006 on Design of Equipment on Fixed Offshore Installations*¹²⁴

The Offshore Safety Act and the underlying regulations deal with health and safety aspects of offshore activities on the Danish continental shelf. They also regulate environmental matters. Most of the EU directives on occupational health and safety are implemented through these frameworks.¹²⁵ The Subsoil Act establishes the legal framework for oil and gas exploration and exploitation in Denmark by outlining production and recovery activities in the Danish subsoil and continental shelf.¹²⁶ It states that the raw materials specifically hydrocarbon shall belong to Denmark. The Act provides that the exploration and exploitation of raw materials shall be subject to a license granted by the Danish Minister for Climate and Energy.¹²⁷

Criminal liability in relation to offshore activities is established in the Petroleum Safety Act, which specifies that any party (i) carrying on the activities referred to in sections 1(2) and 17 of the Act without a license issued by the Minister for Climate and Energy (ii) transgressing the provisions of section 26(1) or failing to submit the requirements as obliged by section 34 or (iii) disregarding enforcement notices, shall be punishable by a fine or imprisonment for a term of up to four months.¹²⁸

¹²⁴ 'Regulators' use of standards' (Report No. 426, International Association of Oil & Gas Producers, March 2010) 19; *Oil and Gas E&P* Danish Energy Agency <<http://www.ens.dk/en/info/laws-executive-orders/oil-gas-ep>>.

¹²⁵ See for instance, paragraph 42 of the Offshore Installations Safety Act describes that recognized norms and standards shall be followed. This paragraph reads 'Recognized norms and standards that are important to safety and health shall be followed..' and 'Norms and standards according to subsection (1) may be deviated from in cases where it is convenient for obtaining a higher level of health and safety or to be in keeping with the technical development. It is presumed by the deviation that health and safety risks are reduced as much as reasonably practicable'.

¹²⁶ *Act No. 293 of 10 June 1981 as revised by Consolidated Act No. 960 of 13 September 2011 on the Use of the Danish Subsoil and Act No. 526 of 11 June 2002 on the Use of the Danish Subsoil ('Subsoil Act')(Denmark).*

¹²⁷ Subsoil Act part 1.2; Kristel et al, above n 65, 112.

¹²⁸ 'Regulators' use of standards', above n 124, 19-20.

In the context of the Indonesian legal framework, the Danish provisions could be a concrete contribution to the development of a comprehensive domestic law on offshore oil and gas activities. As some of the topics outlined above have been regulated by Indonesian regulations while others have not, it would be important for the new Indonesian law to comprehensively include all of the areas covered within Danish law.¹²⁹

The Australian legal regime concerning offshore activities has many features that may prove useful for Indonesian lawmakers.¹³⁰ This chapter concentrates on the legal framework regarding occupational health and safety (OHS),¹³¹ and Australia's institutional approach to offshore management.¹³²

Occupational health and safety aspect on offshore installations is regulated under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth) (OPGGSA 2006). The OPGGSA 2006 contains a number of duties pertaining to

¹²⁹ Instances of matters that have been regulated by Indonesian law in this regard are including safety operations of offshore installations and protection of marine environment from pollution caused by offshore oil and gas activities. Among other legislations related to these matters are (i) Government Regulation No. 17 of 1974 on the Supervision of Offshore Exploration and Exploitation of Oil and Gas, (ii) Rules for the Classification and Construction of Offshore Installations, (iii) Government Regulation No. 5 of 2010 on Navigational Matter, (iv) Minister Regulation No. 05/P/M/PERTAMB/1977 on the Obligation for Possessing the Construction Worthiness Certificate in relation to Offshore Oil and Gas Rigs, (v) Law No. 32 of 2009 on the Protection and Management of Environment, (vi) GR No. 19 of 1999 concerning Marine Pollution Control, and (vii) President Regulation No. 109 of 2006 concerning the Emergency Response to Offshore Oil Spill. On the other hand, matters such as criminal acts and liability related to offshore oil and gas activities in Indonesia have not been addressed yet through specific law or regulation. See chapter four and five of this thesis for further discussions.

¹³⁰ See Kristel et al, above n 65, 134-135; Simon Marsden, 'Regulatory Reform of Australia's Offshore Oil and Gas Sector after the Montara Commission of Inquiry: What about Transboundary Environmental Impact Assessment?' (2013) 15 *Flinders Law Journal* 1, 41-53; Bosma, above n 84, 98-100. There is no uniform legal framework concerning offshore oil and gas activities applying to all state jurisdictions in Australia. In fact there are diverse variations between the Commonwealth and state with respect to offshore regulations. The main applicable law is Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGSS or Offshore Petroleum Act 2006). It principally regulates offshore activities from 3 nautical miles limit from the baselines out to the limits of the EEZ and the declared outer continental shelf areas. Moreover, some other relevant Australian laws and regulations are including (i) Petroleum (Submerged Lands) Regulation 2004, (ii) Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009, and (iii) Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration) Regulation 2011, part 5.

¹³¹ 'Regulators' use of standards', above n 124, 4-10; *Health and Safety* <<https://www.nopsema.gov.au/legislation-and-regulations/safety-health/>>

¹³² Bosma, above n 84, 98-100; Michael White, *Australian Offshore Laws* (The Federation Press, 2009); *Upstream Petroleum* Department of Industry, Innovation and Science-Australian Government <<http://industry.gov.au/resource/UpstreamPetroleum/Pages/default.aspx>>.

OHS that shall be conducted by certain parties.¹³³ According to this Act, the operator of offshore activities has a duty to take all reasonable and practicable actions to ensure the facility and its activities are safe and without risk to health.¹³⁴ The regulator's role is to provide independent assurance that health and safety risks are properly controlled by challenging the operator's risk management arrangements and verifying by planned inspection.¹³⁵

The Australian institutional approach to offshore activities is managed through the central agency responsible for regulating numerous matters related to offshore oil and gas operations: the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).¹³⁶ NOPSEMA was established after the Montara incident in 2009, as the implementation of the Montara Commission advice. It has been argued that this policy was created to strengthen Australia's legal framework for responding to marine pollution by combining various authorities in a single national regulator for all offshore activities beyond three nautical miles.¹³⁷

According to OPGGSA 2006, NOPSEMA has a right to give a direction by written notice to the register holder if a significant offshore oil incident has occurred. Among the directions that may be given to the operator are to take any action such as preventing the escape of petroleum and eliminating it, and to take any other action stated in the direction related to the escape of such petroleum.¹³⁸ In addition to NOPSEMA, another key institution dealing with offshore activities is the Australian Maritime Safety Authority (AMSA). The principal role of AMSA is to carry out clean-up operations if there is a petroleum incident in Australian waters.¹³⁹

¹³³ *The Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Australia) ('OPGGSA 2006') schedule 3.

¹³⁴ *Ibid.*

¹³⁵ *Ibid.*

¹³⁶ OPGGSA 2006 schedule 3 part 2; Kristel et al, above n 65, 135.

¹³⁷ This decision was determined following the advice of the Montara Commission as can be found in final Government Response to the Report of the Montara Commission of Inquiry as cited in Kristel et al, above n 65, 135; Bosma, above n 84, 99-100; Marsden, above n 137. 43-48.

¹³⁸ OPGGSA 2006 chapters 6 (parts 6.2, 6.4, 6.5, 6.6, 6.9, and 6.11) and 7.

¹³⁹ *Australian Maritime Safety Authority Act 1990* section 6(1)(a).

Compared to the unified Australian system, there are abundant national institutions dealing with offshore activities in Indonesian waters and a complex task to coordinate among those institutions. These institutions include the Directorate General of Oil and Gas, Ministry of Energy and Mineral Resources; Directorate of Maritime Transportation, Ministry of Transportation; Ministry of Environment and Forestry; Maritime Security Board; and National Search and Rescue Agency. As discussed earlier in this thesis, this could lead to inefficient and ineffective regulation of offshore oil and gas activities. This thesis strongly recommends that a future Indonesian law should refer to Australian laws and regulations.

6.4. Strengthening the Global Legal Framework for Tanker Activities

As indicated earlier, the global legal frameworks for tanker activities have experienced steady development. In Chapter Two, this study outlined a number of major international conventions relating to oil and gas carrier operations. Those conventions included the LOSC, SOLAS, MARPOL, COLREGS, and the Load Lines Convention. Regulatory updates such as adoption of the International Code for Ships operating in Polar Waters and the introduction of goal-based ship construction standards for oil tankers were also reviewed. Although these wide-ranging legal regimes have been adopted and accepted globally, there remain several long-standing challenges to tanker activities, namely over-complicated legal regimes and ineffective implementation by governments, especially developing states.¹⁴⁰ This section addresses those challenges through broad-spectrum strategies. It argues that in order to deal with over-complicated or

¹⁴⁰ See Wayne K. Talley, 'Vessel damage severity of tanker accidents' (1995) 31 *Transportation Research: Logistics and Transportation Review* 3, Faculty of Commerce and Business Administration, University of British Columbia; Emeka Duruigbo, 'Reforming the International Law and Policy on Marine Oil Pollution' (2000) 31 *Journal of Maritime Law and Commerce* 1, 65-88; Thomas Höfer, 'Tanker Safety and Coastal Environment: Prestige, Erika and what else?' (2003) 10 *Environmental Science and Pollution Research* 1, 1-5; Lennox Hinds, 'Oceans governance and the implementation gap' (2003) 27 *Marine Policy* 349-356; Burgherr, above n 8; Horn et al, above n 7; Brahim Idelhakkar et al, 'The transportation of petroleum products by sea and the environmental challenge' (2012) 1 *International Journal of Applied Sciences and Engineering Research* 2, 266-273; Md Saiful Karim, *Prevention of Pollution of the Marine Environment from Vessels-The Potential and Limits of the International Maritime Organization* (Springer, 2015).

excessive regulation of tanker activities and the slow implementation of legal regimes by governments, international organization and states should consider two approaches: the application and expansion of international goal-based standards; and strengthening cooperation among stakeholders.

Goal-based standards are not a new approach in the IMO framework. They were introduced to the IMO at the Eighty-Ninth session of the Council in November 2002 in a joint proposal from the Government of Bahamas and Greece.¹⁴¹ Following in-depth discussions within the Maritime Safety Committee (MSC) and its ad hoc Working Group, the MSC agreed that the IMO goal-based standards are:¹⁴²

- Broad, over-arching safety, environmental and/or security standards that ships are required to meet during their lifecycle
- The required level to be achieved by the requirements applied by class societies and other recognized organizations, Administrations and IMO
- Clear, demonstrable, verifiable, long standing, implementable and achievable, irrespective of ship design and technology
- Specific enough in order not to be open to differing interpretations.

The goal-based standards approach is not intended to set prescriptive requirements or to provide specific solutions. Instead, it is goal and performance oriented. A prescriptive approach contains specific means toward regulatory compliance.¹⁴³ As specified by the IMO, the difference between goal-based and

¹⁴¹ 'Goal-based new ship construction standards' (Meeting Document No 78/6/2, Maritime Safety Committee (MSC), IMO, 5 February 2004). This document was proposed by the Bahamas, Greece and IACS.

¹⁴² 'Report of the Maritime Safety Committee on its Eightieth Session' (Meeting Document No 80/24, MSC-IMO, 24 May 2005).

¹⁴³ See *Generic Guidelines for Developing IMO Goal-based Standards* (14 June 2011) <<http://www.imo.org/en/OurWork/Safety/SafetyTopics/Documents/1394.pdf>>; *Focus on IMO-International Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers* (January 2015) <<http://www.imo.org/en/OurWork/Safety/SafetyTopics/Documents/>>; International Maritime Organization (2016) IMO Goal-based standards <<http://www.imo.org/en/OurWork/Safety/SafetyTopics/Pages/Goal-BasedStandards.aspx>>; Heike Hoppe, 'Goal-based Standards-A New Approach to the International Regulation of Ship Construction (2005) 4 *WMU Journal of Maritime Affairs* 2, 169-180; M Huss, 'Status at IMO: Where are we heading with goal-based standards?' (Paper presented at SAFEDOR-the Mid Term Conference, May 2007).

prescriptive regulations can be seen through this example: 'Goal-based: people shall be prevented from falling over the edge of a cliff. Prescription: you shall install a 1 meter high rail at the edge of the cliff'.¹⁴⁴

Subsequently, the MSC agreed upon a five-tier system with respect to goal-based standards which includes:

- Tier I - Goals (High-level objectives to be met)
- Tier II - Functional requirements (Criteria to be satisfied in order to conform to the goals)
- Tier III - Verification of conformity (Procedures for verifying that the rules and regulations for ship design and construction conform to the goals and functional requirements)
- Tier IV - Rules and regulations for ship design and construction (Detailed requirements developed by IMO, national Administrations and/or recognized organizations and applied by national Administrations and/or recognized organizations acting on their behalf to the design and construction of a ship in order to conform to the goals and functional requirements)
- Tier V - Industry practices and standards (Industry standards, codes of practice and safety and quality systems for shipbuilding, ship operation, maintenance, training, manning, etc., which may be incorporated into, or referenced in, the rules and regulations for the design and construction of a ship.

Currently, tiers I to III of the goal-based standards system are applicable to ship construction or safety, particularly through the SOLAS Convention regulation II-1/3-10. According to this new regulation, there are three tiers of the system in relation to bulk carriers and oil tankers which cover a number of definitions of

¹⁴⁴ *Focus on IMO-International Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers* (January 2015) <[http://www.imo.org/en/ OurWork/Safety/SafetyTopics/Documents/](http://www.imo.org/en/OurWork/Safety/SafetyTopics/Documents/)>; Hoppe, above n 143, 169.

goals, three groups of functional requirements (design, construction and in-service considerations), and verification of conformity rules.¹⁴⁵

This thesis maintains that the application of a goal-based system is important to simplify the existing legal framework relating to tankers and to prevent further regulatory complications in the future. By focussing more on what to be achieved than on how it is to be achieved, a goal-based framework will reduce technical prescriptions and add transparency to the regulatory framework. In addition, it is recommended that the use of a goal-based standard approach should be expanded into other areas such as the protection of the marine environment from oil tanker activities, and maritime security.¹⁴⁶ As described earlier, after a series of discussions on goal-based standards within the MSC and its ad hoc Working Group, in May 2005, the IMO agreed that among the basic principles of goal-based standards are 'broad, over-arching safety, environmental and/or security standards that ships are required to meet during their lifecycle'.¹⁴⁷

As specified in the IMO working paper, these basic principles of goal-based standards were developed to be applicable to all goal-based standards developed by IMO. It is expected that IMO may develop goal-based standards for other areas including environment protection and maritime security.¹⁴⁸ Environmental considerations in the goal-based standards appear to be an integrated part of the original concept, as there are further references to environment protection that can be found in the goal-based standards tiers. Within SOLAS regulation II-1/3-10, the Tier I of goal-based standards states that:

¹⁴⁵ Hoppe, above n 143, 170.

¹⁴⁶ *Focus on IMO-International Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers* (January 2015) <<http://www.imo.org/en/OurWork/Safety/SafetyTopics/Documents/>>.

¹⁴⁷ *Focus on IMO-International Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers*, above n 146; 'Report of the Maritime Safety Committee on its Eightieth Session' (Meeting Document No 80/24, MSC-IMO, 24 May 2005); See first basic principle of the IMO Goal-based standards.

¹⁴⁸ *Focus on IMO-International Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers* above n 146; Huss, above n 143.

Ships shall be designed and constructed for a specified design life to be safe and environmentally friendly, when properly operated and maintained under the specified operating and environmental conditions, in intact and specified damage conditions, throughout their life.¹⁴⁹

One of the fifteen functional requirements listed in Tier II relates to environmental conditions. Although this requirement specifically refers to the North Atlantic region, it is clear that there is an environmental element in this Tier.¹⁵⁰ In the future, this study suggests that the goal-based standards should be applied in more legal frameworks pertaining to tanker activities.

The other suggested area of reform for the international legal framework relating to tankers is the promotion of effective cooperation among stakeholders - states, international or regional organizations and ship-related industry. Cooperation is an important tool and a vital requirement for the effective protection of the world's seas and ocean environment in general.¹⁵¹ It is also the key strategy to successful implementation of various regulations pertaining to tankers. Through international and regional collaboration, states will be able to assist each other and improve their efforts in areas such as maritime security and marine pollution prevention and response.¹⁵²

¹⁴⁹ Further explanation on this matter can be seen in 'Report of the Maritime Safety Committee on its Eightieth Session' (Meeting Document No 80/24, MSC-IMO, 24 May 2005). According to this document,

Safe and environmentally friendly means the ship shall have adequate strength, integrity and stability to minimize the risk of loss of the ship or pollution to the marine environment due to structural failure, including collapse, resulting in flooding or loss of watertight integrity.

Environmentally friendly also includes the ship being constructed of materials for environmentally acceptable dismantling and recycling.

¹⁵⁰ Tier II is consists of fifteen functional requirements, applicable to new oil tankers and bulk carriers. It is categorized into three groups: design, construction and in-service considerations. In relation to environmental conditions (point II.2), it is specified that ships should be designed in accordance with North Atlantic environmental conditions and relevant long-term sea state scatter diagrams.

¹⁵¹ Hans Christian Bugge, 'The principle and duty to cooperate' (Paper presented at International Conference on Transboundary Pollution: Evolving Issues of International and Policy, National University of Singapore, Singapore, 27-28 February 2014); Birnie P. W., 'Impacts on the Development of International Law on Cooperation: The UN Law of the Sea, Straddling Stocks and Biodiversity Conventions' (Paper presented at Conference on Stockholm Declaration and Law of the Marine Environment, Stockholm University, Sweden, 22-25 May 2002) as cited in Daud Hassan, *Protecting the Marine Environment from Land-based Sources of Pollution* (Ashgate, 2006) 180.

¹⁵² Duruigbo, above n 140, 85-88.

The obligation to cooperate in the context of marine environmental protection is reflected in Article 197 of the LOSC.¹⁵³ According to Daud Hassan, customary international law includes the principle of cooperation within certain cases. It dictates that a state has an obligation to protect the environment and that it should consider the interests and rights of other states.¹⁵⁴ International organizations and a number of regional institutions with competence in environmental matters were established on the basis of cooperation.¹⁵⁵ Currently, there are extensive cooperative measures targeting tanker-related problems in the fields of maritime security, safety of navigation and marine pollution prevention and response. These cooperative measures are carried out in various ways, including through state to state arrangements, state to NGOs cooperation, and state to international or regional organization cooperation.¹⁵⁶

In the Southeast Asian region, the ASEAN Political-Security Community and ASEAN Regional Forum cooperates on maritime security, ASEAN Transport Strategic Plan (2016-2025) is a cooperative avenue on safety of navigation, and the 2014 ASEAN MoU on Cooperation Mechanism for Joint Oil Spill Preparedness and Response is a cooperative mechanism in the area of marine environment protection.¹⁵⁷

¹⁵³ Article 197 reads:

States shall cooperate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features.

As explained within the Commentary of United Nations Convention on the Law of the Sea 1982, Section II of Part XII of the LOSC formulates the basic obligations of States to cooperate in the development of environmental law particularly concerning the protection and preservation of the marine environment. It should be implemented in good faith yet does not otherwise affect the freedom of action of individual States in the application of the Part XII provisions. Myron H. Nordquist et al (eds), *United Nations Convention on the Law of the Sea 1982 A Commentary* (Martinus Nijhoff Publishers, 1991) 77-81. .

¹⁵⁴ Daud Hassan, *Protecting the Marine Environment from Land-based Sources of Pollution* (Ashgate, 2006) 180-182.

¹⁵⁵ Hassan, above n 154; For instance, with reference to the establishment of UNEP and related matters see GA Res 2995 and 2997 (15 December 1972) and 3129 (13 December 1973).

¹⁵⁶ Patricia Birnie, Alan Boyle and Catherine Redgewell, *International Law and the Environment* (Oxford University Press, 2009) 423-430.

¹⁵⁷ Lian, Koh Kheng and Nicholas A Robinson, 'Regional Environmental Governance: Examining the Association of Southeast Asian Nations (ASEAN) Model' (2002) *Global Environmental*

This thesis posits that cooperation that should be further developed in order to strengthen the legal regime regulating tankers. As Alan Khee-Jin Tan shows, in order to deal with challenges to the implementation of international regulations, specifically in vessel-source pollution, several prescriptions should be taken into consideration in the areas of improvement of institutional responses and enhancement of equity and responsibilities on the matter.¹⁵⁸ It is suggested that cooperation measures should be directed to these prescriptions, including:

- a. Participation within relevant IMO Conventions or other treaties
- b. Efforts to ensure effective enforcement and compliance
- c. Enhancement of port state controls
- d. Assistance for developing states in the implementation of international regulations
- e. Institutional reform in IMO

Emeka Duruigbo recommended similar approaches, including participation in global efforts against oil pollution, financial assistance or funding support from developed countries, promotion of regulatory compliance and the importance of port state control.¹⁵⁹

This thesis argues that three factors that may enable better cooperation: strong institutional frameworks, financial support from developed countries, and effective involvement of the shipping or tanker industry. An institutional approach is critical not only in establishing cooperative mechanisms through regulatory framework but also in reviewing the implementation of the

*Governance Options & Opportunities. Connecticut: Yale School of Forestry & Environmental Studies; 'ASEAN Political-Security Community Blueprint' (ASEAN Secretariat, 2009); Kuala Lumpur Transport Strategic Plan (ASEAN Transport Strategic Plan) 2016-2025 (ASEAN Secretariat, 2015); Memorandum of Understanding on ASEAN Cooperation Mechanism for Joint Spill Preparedness and Response, signed 28 November 2014 (entered into force 28 November 2014); See also Hao Duy Phan, 'Institutional Building for Maritime security in Southeast Asia: the Role of ASEAN' (Paper presented at the 37th Annual Conference of the Center for Oceans Law and Policy, Seoul, Korea, 1-3 May 2013); J Ashley Roach, 'Enhancing Maritime Security in the Straits of Malacca and Singapore' (2005) 59 *Journal of International Affairs* 1; Kesrat Sukasam, 'ASEAN Cooperation on Coastal and Marine Environment' (Paper presented at International Symposium on Protection and Management of Coastal Marine Ecosystem).*

¹⁵⁸ Alan Khee-Jin Tan, *Vessel-Source Marine Pollution - the Law and Politics of International Regulation* (Cambridge University Press, 2006) 347-384.

¹⁵⁹ Duruigbo, above n 140.

mechanism and other regulations. In Southeast Asia, for example, the existing relevant ASEAN framework on oil and gas carriers contains an assessment system for the implementation of this framework in the area of maritime security, safety of navigation and marine environmental protection.¹⁶⁰

Financial support from developed countries is one of the most important methods to create effective cooperation in order to strengthen the implementation of the legal framework for tanker activities.¹⁶¹ This support would generate strong relationships between states and enhance the capacity of developing states.¹⁶² It should provide developing states with adequate resources in building port states capability such as through the installation of port reception facilities, monitoring equipment, inspection services and ship crew training and development.¹⁶³ Financial support from developed countries also may be utilised in strengthening domestic laws and regulations on tankers with reference to applicable international and regional maritime conventions.¹⁶⁴ It is doubtful whether the international legal framework can achieve full and effective implementation if there is no strong relationship among states specifically in the form of economic cooperation.¹⁶⁵ Additionally, as the cost of international legal framework compliance requires a significant amount of financial support, states should also require contributions from corporations involved in the operation of tankers.

¹⁶⁰ For further discussion on the specific regional arrangement regarding oil and gas activities in Southeast Asia see Chapter three of this thesis in relation to the 2014 Memorandum of Understanding on ASEAN Cooperation Mechanism for Joint Spill Preparedness and Response. See also Youna Lyons, 'Transboundary Pollution from Offshore Oil and Gas Activities in the Seas of Southeast Asia' in Robin Warner and Simon Marsden (eds), *Transboundary Environmental Governance-Inland, Coastal and Marine Perspectives* (Ashgate, 2012) 167; Bayu Satya, *Indonesia response strategy to oil spill disaster* (2007) <www.pcs.gr.jp/doc/esymposium/2007/2007_bayu_e.pdf>; Joselita Guevarra, 'Global Initiative for Southeast Asia: the Journey Towards Regional Cooperation in Oil Spill Preparedness and Response in ASEAN' (Paper presented at the 2015 Interspill Conference, Amsterdam, 2015) <http://interspill.org/previous-events/2015/WhitePapers/Interspill2015_ConferenceProceedings>; Pakorn Prasertwong, *Future Directions of the ASEAN Regional Cooperation on Oil Spill* (2012) <<http://eascongress.pemsea.org/2012/sites/default/files/document-files/presentation-st43-prasertwong.pdf>>.

¹⁶¹ Karim, above n 140, 144.

¹⁶² Tan, above n 158, 373-376.

¹⁶³ Karim, above n 140, 144.

¹⁶⁴ Ibid.

¹⁶⁵ Duruigbo, above n 140.

It is imperative for every maritime enterprise relevant to oil and gas carrier activities to support cooperation among concerned parties, including through financial contributions, as a form of compensation to the developing world.¹⁶⁶ Emeka Duruigbo outlined as an example of management of fund contributions or commitments, that in marine environmental protection the fund should be managed by the international funding facility. This model could be followed in other domains such as a maritime security capacity building fund or a fund for the improvement of safety of navigation for developing states.¹⁶⁷

6.5. The Application of Cooperative Mechanism

A cooperative mechanism is vital for dealing with the severe problem of degradation of the marine environment either caused by ships operation or seabed activities.¹⁶⁸ In fact, there are at least two key provisions in the LOSC which address obligation of states to cooperate on the prevention, reduction and control of marine pollution: Articles 197 and 43. Whilst chapter three of this Thesis has dealt with Article 197 on obligation to cooperate in protecting marine environment, the following paragraphs would deal with another provision of the LOSC that related to cooperation among states matter namely Article 43.¹⁶⁹

In this respect, during the negotiation of UNCLOS III, the littoral States were concerned with preserving their sovereignty and territorial integrity, but lacked the capabilities to protect their coasts and waters adequately from the effects of harm caused by traffic in the Straits. Therefore, the States agreed to a compromise and to the wording of Article 43, which was drafted to encourage

¹⁶⁶ Ibid.

¹⁶⁷ Ibid.

¹⁶⁸ Shichun Wu, *Cooperative Environmental Mechanisms for the South China Sea*, in Myron H. Nordquist et al, *Freedom of Navigation and Globalization* (Brill Publisher, 2014).

¹⁶⁹ Leonardo Bernard, *The Cooperative Mechanism in the Straits of Malacca and Singapore* in Myron H. Nordquist et al, *Freedom of Navigation and Globalization* (Brill Publisher, 2014); William M. Eichbaum, 'The whys and hows of a cooperative mechanism for the Arctic marine environment' (2016) 52 *Polar Record* 267.

cooperation between States bordering straits and user States.¹⁷⁰ The article reads as follows:

User States and States bordering a strait should by agreement co-operate:

- (a) in the establishment and maintenance in a strait of necessary navigational and safety aids or other improvements in aid of international navigation; and
- (b.) for the prevention, reduction and control of pollution from ships.

Worth mentioning that Article 43 of the LOSC only provides authoritative guidance regarding goals, process and participation but leaves a lot of room for States to determine precise procedures and specific measures.

In practical context, the application of cooperative mechanism between the littoral states and the user states can be seen in Southeast Asia region between Indonesia, Malaysia and Singapore (as the littoral States) and several user States including Japan and United States.¹⁷¹ Principally, this Mechanism consists of three pillars: the Cooperation Forum, the Project Coordination Committee (PCC), and the Aids to Navigation Fund.¹⁷² The Cooperation Forum is a platform for dialogue between the littoral States, the user States, the shipping industry and other stakeholders in order to exchange views and facilitate more concrete and practical cooperation.¹⁷³ The PCC decides on projects to enhance safety of navigation. The PCC is comprised of the littoral States and sponsors of projects who oversee the coordination of the implementation of the projects. As for the Aids Navigation fund, currently the Fund has resulted to the establishment of 51

¹⁷⁰ Bernard H. Oxman, 'Observations on the Interpretation and Application of Art. 43 of UNCLOS with Particular Reference to the Straits of Malacca and Singapore' (1998) 2 *Singapore Journal of International & Comparative Law* 408.

¹⁷¹ For another instance see regional cooperative mechanism in the South China Sea region where China, Japan, Russia and the Republic of Korea, under the guidance of the United Nations Environment Programme (UNEP) and the International Maritime Organization (IMO), passed the North West Pacific Action Plan (NOWPAP) in response to oil spill incidents in September 1994. These four nations therefore signed the Memorandum of Understanding on Regional Cooperation in Marine Pollution Preparedness and Response and the NOWPAP Regional Oil Spill Contingency Plan in November 2004. Additionally, other examples of cooperation programs include the South China Sea Large Marine Ecosystem (LME), the UNEP/GEF Project and the UNEP/Action Plan.

¹⁷² Bernard, above n 169.

¹⁷³ In this meeting, the various stakeholders including from shipping industry (BIMCO and INTERTANKO), had the opportunity to discuss new projects such as raising awareness amongst seafarers transiting the Straits of local navigational considerations and the synergy between the Marine Electronic Highway and e-navigation.

aids to navigation installations within the Traffic Separation Scheme of the Malacca Straits, which were primarily installed by the littoral States and Japan.

Having the application of cooperative mechanism concept among the concerned States in the Straits of Malacca and Singapore so far, it is safe to state that the cooperative mechanism is a great significance for both of safety navigation and marine environment protection purposes. Moreover, the Mechanism expressly recognizes the role of the IMO and it also welcomes participation not only from user States, but also from private parties and other stakeholders.¹⁷⁴ Most importantly, it addresses various challenges by involving user States and other stakeholders without infringing the sovereignty of the littoral States.¹⁷⁵

6.6. Policy Options to Enhance Indonesia's Tanker Laws

Earlier in this chapter it was indicated that even though the Indonesian domestic legal framework pertaining to tanker activities is reasonably comprehensive and much clearer than the frameworks governing offshore installations, there remain areas to be improved. The discussion below outlines policy options to improve Indonesia's laws on tankers. A multifaceted approach will be required to integrate the various domains requiring a policy response, including safety of navigation, protection of marine environment and maritime security.¹⁷⁶

This thesis suggests that the Indonesian government should consider three factors: sustainable political and economic support, strict implementation of relevant laws and regulations including their effective legal enforcement, and human resources (crew/personnel) capacity building.¹⁷⁷ Sustainable political and economic support from the government is perhaps the most important factor in the improvement of tanker laws. As Indonesia has numerous governmental agencies at different levels, support must come from various agencies and exist at all levels.¹⁷⁸ This thesis maintains that most vessel or tanker issues have occurred mainly due to lack of political and economic support from the

¹⁷⁴ Bernard, above n 169.

¹⁷⁵ Ibid.

¹⁷⁶ Dirhamsyah, above n 14.

¹⁷⁷ Taufan, above n 14.

¹⁷⁸ Dirhamsyah, above n 14, 2-7.

government and other stakeholders. Through adequate and sustainable support from authorities many of the problems associated with oil and gas carriers could be resolved. For instance, one of the biggest issues pertaining to tanker activities is the development of infrastructure such as ports, maritime safety facilities (such as telecommunication equipment and navigation aids) and ship patrols.¹⁷⁹

Currently, under the presidency of Joko Widodo, the Indonesian government has declared its commitment and seriousness to develop its maritime sector through the so-called 'global maritime fulcrum' vision. The 'global maritime fulcrum' is President Widodo's signature vision of Indonesia's future which contains five pillars: (i) revitalizing maritime culture, (ii) improving the management of oceans and fisheries, (iii) developing the maritime economy, (iv) strengthening maritime diplomacy and (v) reinforcing maritime defence capacity.¹⁸⁰ With respect to the third pillar, the President specifically plans to develop a 'sea toll' or 'maritime highway' project to improve inter-island connectivity across the archipelago. To support this project the government plans to build more than 24 new sea ports

¹⁷⁹ Ade Faisal, *Designing National Freight Maritime Network in Indonesia: A Supporting Study for Maritime Highway Policy (Kebijakan Tol Laut) in some Future Scenarios* (Master Thesis, TU Delft, 2015); Siwage Dharma Negara, 'Indonesia's Infrastructure Development under the Jokowi Administration' (2016) *Southeast Asian Affairs*, 145-165; Fajri Satria Hidayat, 'The Potential of the Shipyard Industry as the Main Force Indonesia's Maritime Sector' on *Kompasiana* (21 August 2016) <<http://www.kompasiana.com/fajrisatriahidayat/the-potential-of-the-shipyard-industry-as-the-main-force-indonesia-s-maritime-sector>>; Indonesia shipping gazette, *National Connectivity a Basis Toward a World Maritime Axis Country* (18 May 2016) Marintec Indonesia <<http://marintecindonesia.com/national-connectivity-a-basis-toward-a-world-maritime-axis-country/>>; 'Indonesia 2015-Energy Analysis Beyond IEA Countries' (Review Analysis, International Energy Agency, 2015) 143-157; Melda Kamil Ariadno, 'Main Challenges for Indonesia to Become Maritime Fulcrum' (2015) 8 *Indonesian Law Journal*, 37-53.

¹⁸⁰ Naster, *President Jokowi at IMO Forum: I'm Committed to Making Indonesia Global Maritime Fulcrum* (20 April 2016) Ministry of Foreign Affairs Republic of Indonesia <<http://kemlu.go.id/en/berita/Pages/President-Jokowi-at-IMO-Forum.aspx>>; International Maritime Organization, *Indonesian President visits IMO* (2016) <<http://www.imo.org/en/MediaCentre/PressBriefings/Pages/10-Indonesia-president.aspx>>; Rendi A. Witular, 'Presenting maritime doctrine', *The Jakarta Post* (online), 14 November 2014 <<http://www.thejakartapost.com/news/2014/11/14/presenting-maritime-doctrine.html>>; Iis Gindarsih and Adhi Priamarizki, 'Indonesia's Maritime Doctrine and Security Concerns' (2015) *RSIS Policy Report*; Leonard C. Sebastian et al (eds), 'RSIS Workshop on Indonesia's Global Maritime Fulcrum Challenges and Trajectories' (Event report, S. Rajaratnam School of International Studies, Nanyang Technological University, 23 July 2015); Ety R. Agoes, 'Legal and Regulatory Framework to Support Indonesia as a World Maritime Fulcrum: the 1982 UNCLOS Provisions to Support the Pillar of Maritime Diplomacy' (2015) 8 *Indonesian Law Journal*, 27-36; Tan Hwee Hwee, *Transforming Indonesia into a maritime power* (9 May 2016) ie-Singapore Go Global <<http://www.iesingapore.gov.sg>>.

and add numerous maritime/navigation facilities in eastern Indonesia including ship patrols.¹⁸¹

On financial support, in 2015, the Indonesian government allocated 2.7 per cent of Gross Domestic Product (GDP) for infrastructure development, equivalent to US\$20.9 billion. Moreover, in 2016, Joko Widodo's administration increased infrastructure spending to US\$22.6 billion.¹⁸² With this significant financial investment, the government should be able to make real progress towards its vision. It is argued that maritime safety and marine environment protection should be added to Indonesia's global maritime fulcrum vision as these two elements are paramount not only for tanker operations but also shipping activities.

The global maritime fulcrum vision will only be effective if it is properly implemented by the responsible agencies. The central government together with relevant stakeholders and concerned public groups should ensure that the policy is implemented effectively by governments at all levels and lead to measurable outcomes.

Strict implementation of relevant laws and regulations is also required in order to improve Indonesia's tanker laws. As previously discussed in Chapters Four and Five, a wide range of national laws pertain to tanker activities including the 2014 Indonesian Law of the Sea, the 2008 Shipping Law, the 1985 LOSC Ratification Law, the Indonesian Penal Code, the 2009 Environmental Law, the 2010 Navigational Regulation and the 2009 Marine Pollution Regulation. In addition to these laws, there are other international and domestic technical standards that apply to tanker activities, including Indonesian classification board (BKI) regulations, International Safety Management (ISM) Code and International Ship and Port Facility Security (ISPS) Code.¹⁸³

¹⁸¹ Negara, above n 171.

¹⁸² Ibid.

¹⁸³ As for the ISM Code rules, they are mainly incorporated within the 2008 Shipping Law, the 2002 Government Regulation on Ship and the 2012 Minister of Transportation Regulation on Ship safety Management. See for instance articles 4(3) and 8 of the 2012 Regulation. Moreover, the

Some of the domains contained in those legal frameworks are Indonesian offshore zones, national ocean policy, sea transport management, requirements for seaworthy ships, maritime safety and security, protection of the marine environment, working standards for crew/seafarers, and standards for maritime telecommunication facilities.¹⁸⁴ Consequently, the implementation of laws and regulations in these domains is essential to enable Indonesia to enhance oil and gas carrier operations and to meet its international and national regulatory obligations.

The government should focus on the legal enforcement of these frameworks in order to ensure their effectiveness. Agencies involved in this enforcement process include:

- a. Directorate General of Maritime Transportation, Ministry of Transportation
- b. Directorate General of Oil and Gas, Ministry of Energy and Mineral Resources
- c. Port Authority or Harbour Master
- d. Maritime Security Board/Coast Guard
- e. Indonesian Police
- f. Indonesian Navy
- g. National Search and Rescue Board (Basarnas)
- h. National Transportation Safety Committee (KNKT)

These agencies are responsible to contribute in various ways in order to enhance the implementation of laws and regulations relevant to tanker activities in Indonesia. Among their crucial responsibilities are the promotion of ship safety activities, prevention and control of marine pollution, search and rescue operations, accident and incident investigation, and protection of maritime security.¹⁸⁵ To ensure the effectiveness of these organizational or institutional

Indonesian authority has also been issued Decision of Transportation Minister No. 33 of 2003 on the Implementation of the ISPS Code. In relation to BKI regulations, instances of these framework are including (i) Rules for Machinery Installations, 2016 (ii) Rules for Electrical Installations, 2016 (iii) Rules for Materials Installations, 2014 (iv) Rules for Welding, 2015 (v) Rules for Automation, 2014 (vi) Rules for Hull, 2014 and (vii) Rules for Classification and Surveys, 2016.

¹⁸⁴ See Chapters Four and Five of this Thesis.

¹⁸⁵ See Dirhamsyah, above n 168, 3; Faturachman and Mustafa, above n 13;; Danny Faturachman and Shariman Mustafa, 'Safety & Security Analysis of Sea Transportation in Indonesia' (Paper

systems, public or community involvement should be a major feature, through activities such as public participation or monitoring of legal enforcement processes, research projects on oil and gas carrier operations, and joint reviews of existing laws and regulations.

Continuous capacity building for crew or personnel is also required to improve Indonesia's legal framework regulating tankers. As the human factor is the major contributor in up to 80% of maritime accidents in Indonesia,¹⁸⁶ it is vital to improve the quality of human resources. The Government should develop a training program to meet recent international standards (the *International Convention on Standards for Training, Certification and Watch keeping (STCW Convention)*),¹⁸⁷ establish more maritime/shipping training centres in order to increase the number of qualified seafarers and personnel, and continuously support the training and certificate examination program for Indonesian crews or shipping companies.

6.7. Conclusion

An examination of the legal framework for offshore installations and tankers in Indonesian waters has rarely been conducted by scholars or concerned organizations. This paucity of scholarly attention belies the significant and long-standing challenges within these legal frameworks. Challenges identified in this thesis include the absence of any specific treaty or agreement, an over-complicated legal regime and issues with the implementation or enforcement of regulations pertaining to offshore installations or tankers. This chapter recommended several approaches to remedy these problems, to be considered by international organizations and the Indonesian government.

presented in International Conference on Knowledge Management, Kuala Lumpur, 14-15 February 2013) 527-529; Artana et al, above n 13.

¹⁸⁶ Faturachman and Mustafa, above n 13; Artana et,al above n 13.

¹⁸⁷ The *International Convention on Standards for Training, Certification and Watch keeping* adopted 7 July 1978, (entered into force 28 April 1984) (*'STCW Convention'*); The STCW Convention incorporates the 2010 Manila Amendments to the Annex as its latest Amendment at the time. The 2010 Manila Amendments were adopted by the Conference of Parties to the STCW Convention on 25 June 2010 in Manila, the Philippines, and entered into force on 1 January 2012.

It was suggested that states could adopt a specific convention concerning offshore installations. Salient regulatory features to be included within a proposed convention include registration of offshore installations, safety requirements, civil and penal jurisdictions, and liability for damage from pollution from offshore operations. Although there is a compelling case for this new convention, some stakeholders do not share this view, including oil and gas producers association and some states.

The thesis provided advice on reform of the Indonesian offshore installations legal framework. Two recommended approaches were the adoption of domestic legislation concerning offshore installations and references to relevant laws of other states namely Norway, Denmark and Australia. Through these measures, it is expected that there will be clearer and more thorough regulatory framework for offshore installations.

This chapter made two recommendations to strengthen global legal frameworks for tanker activities: the application and expansion of international goal-based standards, and strengthening cooperation among stakeholders. Goal-based standards emphasise a more general goal-based approach in regulating their subject-matter, and are not intended to set prescriptive requirements or to provide specific solutions. Strengthening cooperation would include participation by states in IMO conventions or other treaties, efforts to ensure effective enforcement and compliance, enhancement of port state controls, assistance for developing states in the implementation of international regulations, and institutional reform of the IMO. Three main factors support cooperation: a strong institutional framework, financial support from developed countries, and effective involvement of the shipping or tanker industry.

As a tool for the development of laws regulating tankers in Indonesia, it was suggested that the government could consider three approaches: sustainable political and economic support, strict implementation of laws and regulations including effective legal enforcement, and human resources capacity building. Currently, with the promulgation and operation of the global maritime fulcrum

concept, Indonesia has a major opportunity not only to strengthen its offshore oil and gas activities legal framework but also its general maritime undertakings.

CHAPTER 7 CONCLUSION

7.1. Findings

This thesis has undertaken analysis of the legal frameworks for offshore oil and gas installations and tankers in both international and domestic contexts. It considered a wide range of regulatory instruments and laws from UN conventions, IMO treaties, and regional arrangements, to national legislations. Domains discussed included safety and security, decommissioning of offshore installations, and navigation of oil and gas carrier in Indonesian waters.

In Chapter Two, provisions of major international conventions and regulations such as LOSC, SOLAS, MARPOL, OPRC Convention, SUA Convention and its protocol, London Convention, and several IMO resolutions were reviewed. These instruments contain international legal principles and rules for offshore installations. Four main categories can be identified: rights to construct offshore installations, safety of offshore installations, security of offshore installations, and protection of the marine environment. While LOSC contains provisions that intersect, SOLAS and the 1989 IMO Resolutions mainly address safety of offshore installations. The 1988 SUA Protocol and its 2005 protocol regulate security of offshore installations. MARPOL, OPRC Convention and London Convention provide rules and standards for protection of the marine environment from offshore installations.

This chapter also examined the major global conventions relating to tankers: LOSC, SOLAS, MARPOL, COLREGs and Load Lines Convention. The legal regime for tankers is much more comprehensive and progressive than that for offshore installations. Almost all aspects of tanker activities are governed by numerous regulations and standards mainly formulated by the IMO, including those relating to safety of tanker construction, ship or tanker navigation, and marine pollution from tanker operations. This chapter also reviewed a number of important developments in the international legal framework relating to offshore installations and tankers. Among the developments discussed were (i) the

adoption of Guidance for bilateral/regional agreement on liability and compensation issues connected with transboundary oil pollution from offshore oil and gas activities, (ii) the decision of the international tribunal in the *Arctic Sunrise* case, (iii) recent offshore oil and gas activities in the South China Sea region, and (iv) the adoption of Polar Code and goal-based standards for oil tanker design and construction.

Chapter Three reviewed the major regional legal frameworks related to offshore oil and gas installations and tanker activities. These key regional frameworks encompass (i) the OSPAR Convention, (ii) the Kuwait Convention, (iii) Barcelona Convention and its 1994 Protocol, (iv) the (Abidjan Convention, and (iv) the *Memorandum of Understanding (MoU) on Association of South East Asian Nations (ASEAN) Cooperation Mechanism for Joint Oil Spill Preparedness and Response, 2014*.

Chapter Three described that regional legal frameworks provide significant rules and standards including (i) specific characteristics of marine area where offshore installations and tanker activities mainly take place, and (ii) cooperation mechanisms for marine environmental protection. Nevertheless, regional seas governances have their challenges especially in comparison between, including human resources and funding gaps, different technological and technical abilities, lack of inter-regional co-operative mechanisms, and the absence of any regional legal systems to regulate offshore oil and gas activities.

Chapter Four examined the Indonesian domestic legal framework for offshore installations and tankers. It analysed the legal treatment of offshore installations by Indonesian laws and regulations, and discussed the procedure for construction of offshore installations and jurisdiction over installations. It also outlined key domestic legislations pertaining to safety of offshore installations in Indonesian waters. Legal measures to protect offshore installations from maritime threats and decommissioning activity were also addressed in Chapter Four. In relation to transportation of oil and gas by tankers in Indonesian waters, this chapter examined a number of laws and regulations in three areas namely

navigation, safety, and security. Major laws and regulations are the 2014 Indonesian Law of the Sea, the 2008 Shipping Law, the Indonesian Penal Code, and the 2010 Navigation Regulation.

The Indonesian Law of the Sea succeeded in establishing the national foundation for the jurisdictional framework and general rules for offshore oil and gas production and transportation. What had been previously fragmented regulations have now been refined into a single comprehensive regime aimed at clarifying and securing balance between the global maritime and coastal state (Indonesian) interests. As the umbrella instrument, the Law focuses on the broad-spectrum of oil and gas activities in Indonesian waters including Indonesia's maritime zones, rights, jurisdiction, and national policy over maritime security, safety, research, development and natural resources.

The Shipping Law contains a broad range of regulations governing maritime affairs particularly in relation to shipping activities. Although this law provides few provisions in respect of offshore installations, it includes important regulations on navigational matters that are relevant to the operation of offshore oil and gas structures. The Law outlines the requirements for general shipping activity. As a type of ship, oil and gas tanker operating in Indonesian waters must take into account the requirements of the Shipping Law. Other instruments such as the Navigation Regulation, the Supervision Regulation, and BKI Rules have contributed in setting standards for safety in construction and operation. There are two methods to promote safety of offshore oil and gas installations activities in Indonesian waters according to these frameworks: prevention and management.

In terms of security, the Indonesian Penal Code, the Shipping Law, and the Indonesian Law of the Sea are among the key law that aim to secure offshore installations and tankers. While the Indonesian Law of the Sea and the Shipping Law contain grand strategy or general policy related to security of offshore activities, the Indonesian Penal Code contains rigid regulations concerning maritime crimes. This thesis described two serious challenges within the

domestic legal framework to the protection of offshore oil and gas operations: the lack of a clear and comprehensive instrument that sets out measures to combat maritime security threats, and outdated provisions. This chapter also revealed several general challenges the domestic laws on offshore oil and gas installations and tankers: overly complex regulatory frameworks, including overlapping regulations, and gaps, in terms of outdated laws and between domestic and international laws.

Chapter Five considered the major legal framework for marine pollution from offshore installations and tankers. It comprised two main parts: analysis of major conventions pertaining to marine pollution from offshore installations and tanker activities, and review of the Indonesian legal framework for the protection of marine environment from marine pollution caused by offshore installations and tankers. Key international treaties addressed in this chapter were SOLAS, LOSC and MARPOL. In the Indonesian context, the relevant laws were Protection and Management of Environment Law, the Indonesian Law of the Sea, the Emergency Response of Oil Spills Regulation, and Marine Pollution Control Regulation.

After reviewing the relevant laws, Chapter Five revealed that there are multiple laws and regulations pertaining to the protection of marine environment from pollution caused by offshore installation and tankers, which are not necessary connected. These legal frameworks do not clearly differentiate between offshore installations and ships. In other words, there is no clarification provided by relevant laws and regulations in Indonesia on this issue. The majority of the domestic laws discussed focus on matters such as the procedure for responding to an oil spill, three categories of tiers for oil spill incidents from offshore oil and gas activities, and maintenance of marine ecosystem quality. In this respect, it was suggested to expand the scope of those laws, particularly by establishing a national regime for national compensation and enhanced criminal law provisions.

Chapter Six contains proposals for law reform relating to offshore installations and tankers, at the international and Indonesian levels. This chapter described that in order to address the thesis' findings, several strategies should be applied, including adoption of an international convention on offshore installations, enhancement of the implementation of IMO regulations to tankers, and development of comprehensive domestic laws for offshore installations and tankers.

7.2. Recommendations

7.2.1. International Legal Frameworks for Offshore Oil and Gas Installations and Tanker Operations

This thesis suggested that states could adopt a specific treaty for offshore installations, as well as a number of salient regulatory features to be included within the proposed convention, including registration of offshore installations, safety requirements, civil and penal jurisdictions, and liability for damage from pollution from offshore operations. Although there is a compelling case for a new treaty, this is opposed by the oil and gas producers association and some states.

The thesis recommended that global legal frameworks for tankers should be strengthened by the application and expansion of international goal-based standards, and enhanced cooperation among stakeholders. Goal-based standards encourage a more general goal-based approach in regulating their subject-matter. Strengthening cooperation comprises state participation in IMO Conventions or other treaties, efforts to ensure effective enforcement and compliance, enhancement of port state controls, assistance for developing states in the implementation of international regulations, and institutional reform of the IMO.

7.2.2. Regional Legal Frameworks on Offshore Oil and Gas Activities

This thesis proposed that the implementation of regional regulatory arrangements should be advanced and expanded. It also highlighted the importance of cooperation on offshore oil and gas activities between regional

legal frameworks in order to assist states' capacity to regulate offshore oil and gas activities. Cooperation could be carried out in many ways including capacity building, sharing best practice, and technical support.

Several key provisions within regional instruments such as OSPAR Convention and the Offshore Protocol of Barcelona Convention could be developed into an international treaty. These provisions include: definitions of offshore oil and gas installations, protection of marine environment from pollution caused by offshore installations and tanker operations, removal of offshore installations, liability for marine pollution or incidents caused by offshore installations and tanker operations, and establishment of the convention secretariat. In addition, this thesis also contemplated the implementation of the 2014 ASEAN OSPAR MoU region through a number of cooperation and domestic measures by states in Southeast Asia.

7.2.3. Indonesian Legal Framework for Offshore Installations and Tanker Operations

This thesis made four main recommendations pertaining to Indonesian laws and regulations for offshore installations and tankers. It recommended the adoption of a new law that outlines the legal status of offshore oil and gas installations, measures against security threats toward offshore installations, and marine environment protection from offshore activities. These areas currently lack clear and comprehensive regulations. Indonesia could instead accede to several relevant international conventions such as the London Convention, the SUA Convention, and the SUA Protocol. The thesis also recommended that national authorities should improve two important yet outdated regulations pertaining to offshore oil and gas installations: the 1977 Regulation on Structure Worthiness Certificate and the 1974 Supervision Regulation. The thesis proposed the revision of the 2011 Decommissioning Regulation so that it incorporates the 1989 IMO Guidelines and Standards.

The Indonesian legal framework for offshore oil and gas installations and tanker activities should be consistent with regional efforts to address key legal issues.

These legal issues include safety of operation of installations and tankers, security of offshore oil and gas activities, and marine environment protection from offshore pollution. Domestic regulation could be formulated that supports international and regional cooperation.

The Indonesian legal framework on tankers should be improved in three ways: sustainable political and economic support, strict implementation of laws and regulations including effective legal enforcement, and human resources capacity building.

7.3. Directions for Further Research

The realm of international and Indonesian laws would certainly benefit from further research on the legal frameworks for offshore oil and gas installations and tanker operations. Further research could investigate regional governance of offshore oil and gas activities in Southeast Asian seas. This research could assess the implementation of the *MoU on ASEAN Cooperation Mechanism for Joint Oil Spill Preparedness and Response* and compare it to national legal instruments of the concerned states in the region. As the emerging regional legal framework, the MoU contains essential requirements and is a crucial legal reference for states in the region to address marine pollution caused by offshore oil and gas activities in Southeast Asian seas. The MoU shows the importance of regional collaborative mechanisms for controlling and combating oil spill incidents. Southeast Asia's seas comprises key maritime routes for international energy transportation and navigation such as the Straits of Malacca, Strait of Singapore, South China Sea and Sulu Sea.

Future research could also examine the domestic legal frameworks pertaining to offshore installation and tankers in other countries especially in the Southeast Asian region such as in Malaysia, Singapore, Thailand, the Philippines and Vietnam, as these countries have comparable characteristics, including the condition of the marine environment, economic capacity and regional interests in the protection of marine environment. Analysis of the legal frameworks on offshore installations and tankers of these countries could benefit research on

Indonesian laws and regulations. Further research could also address the necessary aspects to improve the Indonesian domestic legal framework pertaining to offshore installations and tanker operations. This work could lead to clear contributions to academic knowledge and direct recommendations for law and policy in practice.

7.4. Concluding Remarks

Offshore oil and gas activities involving platforms and tankers represent two central energy operations: production and transportation. These activities encompass risks to civil society and the environment through collisions and oil spill incidents. It is therefore imperative for the international community to formulate the best possible treaty for offshore oil and gas installations or tankers. This requirement also applies to any national authority, which must adopt clear and thorough laws and regulations.

Following a review of a number of relevant international conventions and regional legal frameworks, this research has progressed earlier scholarly studies on offshore installations and tanker operations. In the Indonesian context, this thesis begins a new discourse on domestic laws pertaining to offshore hydrocarbon operations and enriches legal study on Indonesia's ocean and maritime affairs. This research considers relevant issues within international and domestic legal frameworks, and makes a number of proposals, including the adoption of a specific convention to regulate offshore installations, enhancement of the implementation of IMO regulations on tankers, and the development of comprehensive domestic laws on offshore installations and tankers. It is hoped that the discussion and analysis in this thesis will be beneficial not only for academic purposes but also for those with a practical interest in its subject matter, including government agencies, international or regional organizations, and other stakeholders.

BIBLIOGRAPHY

Books

Anand, R.P., *Origin and Development of the Law of the Sea* (Martinus Nijhoff Publishers, 1982)

Agusman, Damos D., *Treaties under Indonesian Law - A Comparative Study* (Rosda International, 2014)

Arifin, Syamsul, *Hukum Perlindungan dan Pengelolaan Lingkungan Hidup di Indonesia [Law of Environmental Management and Protection in Indonesia]* (Sofmedia, 2011)

Ayoade, Morakinyo Adedayo, *Disused Offshore Installations and Pipelines, Towards "Sustainable Decommissioning"* (Kluwer Law International, 2002)

Batemen, Sam, ' Piracy and Armed Robbery against Ships in Indonesian Waters' in Robert Cribb and Michele Ford (eds), *Indonesia beyond the water's edge: Managing An Archipelagic State* (Institute of Southeast Asian Studies Publishing, 2009)

Birnie, Patricia, Alan Boyle and Catherine Redgwell, *International Law and the Environment* (Oxford University Press, 3rd edition, 2009)

Boswell, LF, et al, *Mobile Offshore Structures* (Van Nostrand Reinhold, 1988)

Bowett, Derek, *The Legal Regime of Islands in International Law* (Oceana Publications, 1979)

Brown, E.D., *Sea Bed Energy and Minerals: the International Legal Regime, Volume 1: The Continental Shelf* (Martinus Nijhoff Publishers, 1992)

Brown, E.D., *Sea Bed Energy and Minerals: the International Legal Regime, Volume 2: Sea Bed Mining* (Martinus Nijhoff Publishers, 2001)

Brown, E.D., *The International Law of the Sea*, Dartmouth, (Aldershot, 1994)

Brubaker, Douglas, *Marine Pollution and International Law, Principles and Practice* (Belhaven Press, 1993)

Buntoro, Kresno, *Lintas Navigasi di Nusantara Indonesia [Navigation in Indonesian Archipelago]* (Rajawali Pers, 2014)

Capuzzo, Judith M., 'Biological Effects of Petroleum Hydrocarbons: Assesments from Experimental Results' in Donald F. Boesch and Nancy N. Rabalais (eds), *Long-Term Environmental Effects of Offshore Oil and Gas Development* (ElsevierApplied Science, 1987)

Churchill, R.R. and Lowe, A.V., *The Law of the Sea* (Manchester University Press, 3rd ed, 1999)

Clauss, Gunther, Eike Lehmann and Carsten Ostergaard, *Offshore Structures: Conceptual Design and Hydromerchanics* (M J Shields trans, Springer-Verlag, 1992-94)

Comite Maritime International, *Yearbook 1994 Annuaire*, March 1995

Crawford, James and Donald R Rothwell, *The Law of the Sea in the Asian Pacific region* (Martinus Nijhoff Publishers, 1995)

Crawford, James, *Brownlie's Principles of International Law* (Oxford University Press, 2012)

Dang, Vu Hai, 'Disputes between Vietnam and China in the South China Sea: A Legal Analysis' in Hiebert et al, *Perspectives on the South China Sea-Diplomatic, Legal, and Security Dimensions of the Dispute* (Rowman & Littlefield, 2014)

Dauterive, Les, *Rigs-to-Reefs, Progress and Perspectives* (U.S. Department of the Interior Minerals Management Service Gulf of Mexico OCS Region, 2000)

Djalal, Hasjim, *Indonesia and the Law of the Sea* (Centre for Strategic and International Studies (CSIS) Indonesia, 1995)

Dupuy, R-J and D. Vignes, *A Handbook of the New Law of the Sea Volumes 1 and 2* (Dordrecht, Nijhoff, 1991)

Dyke, Jon M. Van, *Whither the UNEP Regional Seas Programmes?* in Harry N. Scheiber and Jin-Hyun Paik, *Regions, Institutions, and Law of the Sea: Studies in Ocean Governance* (Brill Publisher. 2013)

Esmaili, Hossein, *The Legal Regime of Offshore Oil Rigs in International Law* (Ashgate Publishing, 2001)

Esmaili, Hossein, and Brendan Grigg, 'Pollution from Dumping' in David Joseph Attard et al (eds), *The IMLI Manual on International Maritime Law-Volume III, Marine Environmental Law and Maritime Security Law* (Oxford University Press, 2016)

Gao, Zhiguo (ed.), *Environment Regulation of Oil and Gas* (Kluwer Law International, 1998)

Gavounelli, Maria, *Pollution from Offshore Installations* (Springer, 1995)

Geraci, Joseph R., and David J. St. Aubin, 'Effects of Offshore Oil and Gas Development on Marine Mammals and Turtles' in Donald F. Boesch and Nancy N. Rabalais (eds), *Long-term Environmental Effects of Offshore Oil and Gas Development* (Elsevier Applied Science, 1987)

Gold, Edgar and Christopher Petrie, 'Pollution from Offshore Activities an Overview of the Operational, Legal and Environmental Aspects' in CM de La Rue, *Liability for Damage to the Marine Environment* (Lloyd's of London Press LTD, 1993)

Guilfoyle, Douglas, 'The High Seas' in Donald R Rothwell et all (eds), *The Oxford Handbook of the Law of the Sea* (Oxford University Press, 2015)

Harris, David, *Cases and Materials on International Law* (Sweet & Maxwell, 7th ed, 2010)

Hassan, Daud, *Protecting the Marine Environment from Land-Based Sources of Pollution, Towards Effective International Cooperation* (Ashgate Publishing, 2006)

Hunt, Jr., George L., 'Offshore Oil Development and Seabirds: The Present Status of Knowledge and Long-Term Research Needs' in Donald F. Boesch and Nancy N. Rabalais (eds), *Long-Term Environmental Effects of Offshore Oil and Gas Development* (Elsevier Applied Science, 1987)

Husin, Sukanda, *Penegakan Hukum Lingkungan [Environmental Law Enforcement]* (Sinar Grafika, 2008)

Hutchinson, Terry C., *Researching and writing in law* (Law-book Co./Thomson Reuters, 2010)

Karim, Md Saiful, *Prevention of Pollution of the Marine Environment from Vessels-The Potential and Limits of the International Maritime Organization* (Springer, 2015)

Kaye, Stuart, 'The Protection of Platforms, Pipelines and Submarine Cables under Australian and New Zealand Law' in Natalie Klein, Joanna Mossop and Donald Rothwell (eds), *Maritime Security: International Law and Policy Perspectives from Australia and New Zealand* (Routledge, 2010)

Kusumaatmadja, Mochtar and Ety, R. Agoes, *Rights over Natural Resources the Indonesian Experience* (Alumni Publisher, 2002)

Kirrichaisaree, Kriangsak, *The Law of the Sea and Maritime Boundary Delimitation in South - East Asia*, (Oxford University Press, 1987)

Lyons, Youna, 'Transboundary Pollution from Offshore Oil and Gas Activities in the Seas of Southeast Asia' in Robin Warner and Simon Marsden (eds), *Transboundary Environmental Governance* (Ashgate Publishing Limited, 2012)

M'Gonigle, R. Michael and Mark W. Zacher, *Pollution, Politics and International Law: Tankers at Sea* (University of California Press, 1979)

McClelland, B. and M.D. Reifel, *Planning and Design of Fixed Offshore Platforms* (Van Nostrand Reinhold, 1986)

Mendelson, M., 'The International Court of Justice and the sources of international law' in V. Lowe and M. Fitzmaurice (eds), *Fifty Years of the International Court of Justice* (Cambridge University Press, 1996)

Miller, Russel A. and Rebecca Bratspies, *Transboundary Harm in International Law: Lessons from the Trail Smelter Arbitration* (Cambridge University Press 2006)

Mitchell, Ronald B., *Intentional Oil Pollution at Sea, Environmental Policy and Treaty Compliance* (The MIT Press, 1994)

Munawwar, Muhammad, '*Ocean States: Archipelagic regimes in the Law of the Sea*' (Martinus Nijhoff Publishers, 1995)

Nandan, Satya N. and Shabtai Rosenne, *United Nations Convention on the Law of the Sea 1982, A Commentary*, Vol. II (Martinus Nijhoff Publishers, London, 2002-2003)

Neff, Jerry M., et al, 'Offshore Oil and Gas Development Activities Potentially Causing Long-term Environmental Effects' in Donald F. Boesch and Nancy N. Rabalais (eds), *Long-term Environmental Effects of Offshore Oil and Gas Development* (Elsevier Applied Science, 1987)

Nordquist, Myron, Shabtai Rosenne and Yankov, Alexander *United Nations Convention on the Law of the Sea 1982, A Commentary*, Vol. IV (Martinus Nijhoff Publishers, London, 1991)

Patin, Stanislav, *Waste discharges during the offshore oil and gas activity* (translation by Elena Cascio) <<http://www.offshore-environment.com/discharges.html>> or Stanislav Patin, *Environmental Impact of the Offshore Oil and Gas Industry* (Ecomonitor Publisher, 1999)

Pellet in Andreas Zimmermann et al, *The Statute of the International Court of Justice* (Oxford University Press, 2nd edition, 2012)

Pereira, Ricardo, 'Pollution from Seabed Activities' in David Joseph Attard et al (eds), *The IMLI Manual on International Maritime Law Volume III Marine Environmental Law and Maritime Security Law* (Oxford University Press, 2016)

Reddy, D.V., and A.S.J. Swamidas, *Essentials of Offshore Structures: Framed and Gravity Platforms* (CRC Press, 6 June 2013)

Rosmali, Erwin, 'Marine Safety in Indonesian Waters' in Robert Cribb and Michele Ford (eds), *Indonesia beyond the water's edge: Managing An Archipelagic State* (Institute of Southeast Asian Studies Publishing, 2009)

Rothwell, Donald R., Stuart Kaye, Afshin Akhtarkhavari and Ruth Davis, *International Law: Cases and Materials with Australian Perspectives* (Cambridge University Press, 2nd ed, 2014)

Rothwell, Donald R. and Tim Stephens, *The International Law of the Sea* (Hart Publishing, 2016)

Rue, Colin de La and Charles B. Anderson, *Shipping and the Environment* (Informa law 2nd ed, 2009)

Sands, Philippe and Jacqueline Peel, *Principles of International Environmental Law* (Cambridge University Press, 3rd ed, 2012)

Shearer, Ivan, 'Navigation Issues in the Asian Pacific Region' in James Crawford and Donald Rothwell (ed.), *The Law of the Sea in the Asian Pacific Region* (Martinus Nijhoff, Dordrecht, 1995)

Sodik, Dikdik Mohamad, *Hukum Laut Internasional dan pengaturannya di Indonesia [International Law of the Sea and its regulation in Indonesia]* (Refika Aditama, 2014)

Sukandarrumid, *Geologi Minyak dan Gas Bumi untuk Geologist Pemula [Oil and Gas Geology for Beginner]* (Gadjah Mada University Press, 2013)

Summerskill, M., *Oil Rigs: Law and Insurance* (Stevens & Sons, 1979)

Tan, Alan Khee-Jin, *Vessel-Source Marine Pollution, The Law and Politics of International Regulation* (Cambridge University Press, 2006)

Tanaka, Yoshifumi, *The International Law of the Sea* (Cambridge University Press, 2012)

O'Connell, DP, *The International Law of the Sea Volume I* (Oxford, Clarendon Press, 1982)

Oegroseno, Arif Havas, 'Indonesia's Maritime Boundaries' in Robert Cribb and Michele Ford (eds), *Indonesia beyond the water's edge: Managing An Archipelagic State* (Institute of Southeast Asian Studies Publishing, 2009)

Prescott, Victor and Clive Schofield, *The Maritime Political Boundaries of the World*, (The Netherlands: Martinus Nijhoff Publishers, 2nd ed, 2005)

Van Hoecke, Mark, *Methodologies of legal research: which kind of method for what kind of discipline?* (Bloomsbury Publishing, 2011)

Vukas, Budislav, 'Generally accepted international rules and standards', in Alfred Soons (ed), *Implementation of the Law of the Sea Convention through International Institutions* (The Law of the Sea Institute, Honolulu, 1990)

Warner, Robin, *Protecting the Oceans Beyond National Jurisdiction* (Martinus Nijhoff, 2009)

Whitehead, Harry, *An A-Z of Offshore Oil & Gas, An Illustrated International Glossary and Reference Guide to the Offshore Oil & Gas Industries and their Technology* (Kogan Page, 2nd ed, 1983)

Wu, Shichun, *Cooperative Environmental Mechanisms for the South China Sea*, in Myron H. Nordquist et al, *Freedom of Navigation and Globalization* (Brill Publisher, 2014)

Articles

Anderson, A.W., 'National and International Efforts to Prevent Traumatic Vessel Source Pollution' (1976) 30 *University of Miami Law Review*

Agoes, Eddy R, 'Current issues of marine and coastal affairs in Indonesia' (1997) 12(2) *The International Journal of Marine and Coastal Law* 201

Agoes, Eddy R. 'Legal and Regulatory Framework to Support Indonesia as a World Maritime Fulcrum: the 1982 UNCLOS Provisions to Support the Pillar of Maritime Diplomacy' (2015) 8 *Indonesian Law Journal*, 27-36

Agoes, Eddy R, 'Indonesia and the LOS Convention: Recent developments in ocean law, policy and management' (1991) 15(2) *Marine Policy* 122

Allen, Jacqueline, 'Global Oil Spill-Cleaning up International Conventions for Liability and Compensation for Oil Exploration/Production, A' (2011) 25 *Austl. & NZ Mar. LJ* 90

Akuwumi, P, and T Melvasalo, 'UNEP's Regional Seas Programme: approach, experience and future plans' (1998) 22 *Marine Policy* 3

Andrianov, V.I., 'The role of the International Maritime Organization in implementing the 1982 UNCLOS' (1990) 14(2) *Marine Policy* 120

Archer, AA, 'Marine mineral resources: Effect of the law of the sea convention' (1983) 9(1) *Resources Policy* 23

Ariadno, Melda Kamil, 'Main Challenges for Indonesia to Become Maritime Fulcrum' (2015) 8 *Indonesian Law Journal*, 37-53

ARTANA, Ketut Buda et al, 'Some Considerations in Enhancing Ship Safety Operation and Management of Indonesia' (2006) *DGHE-JSPS Program in Marine Transportation Engineering, Ship Safety Management Group*

Barret, R. , and R. Howells, 'The Offshore Petroleum Industry and Protection of the Marine Environment', (1990) 2 *Journal of Environmental Law*

Barston, Ronald P. 'International Dimensions of Coastal Zone Management', *Ocean & Coastal Management* 23 (1994)

Batemen, Sam, Joshua Jo and Mathew Mathai, 'Shipping Patterns in the Malacca and Singapore Straits: An Assessment of the Risks to Different Types of Vessel' (2007) 29 *Contemporary Southeast Asia*

Beckman, Robert C, 'Combatting piracy and armed robbery against ships in Southeast Asia: the way forward' (2002) 33(3-4) *Ocean Development & International Law* 317

Bernard, Leonardo, *The Cooperative Mechanism in the Straits of Malacca and Singapore* in Myron H. Nordquist et al, *Freedom of Navigation and Globalization* (Brill Publisher, 2014)

Bernhardt, J. Peter A., 'A Schematic Analysis of Vessel-Source Pollution: Prescriptive and Enforcement Regimes in the Law of the Sea Conference' (1980) 20 *Virginia Journal of International Law* 2

Boehmr-Christiansen, S, 'An end to radioactive disposal 'at sea'?' (1986) 10 *Marine Policy* 119

Bosma, Shane, 'The Regulation of Marine Pollution Arising from Offshore Oil and Gas Facilities-An Evaluation of the Adequacy of Current Regulatory Regimes and

the Responsibility of States to Implement a New Liability Regime, The' (2012) 26 *Austl. & NZ Mar. LJ* 89

Boyle, Alan, 'Marine Pollution under the Law of the Sea Convention' (1985) 79 *American Journal of International Law* 347-372

Boyle, Alan, (1992), 'Protection The Marine Environment: Some Problems and Developments in the Law of the Sea', 16 *Marine Policy*

Boyle, Alan E., 'Globalising Environmental Liability: The Interplay of National and International Law' (2005) 17 *Journal of International Environmental Law*

Boyle, Alan, 'Further Development of the Law of the Sea Convention: Mechanism for Change' (2005) 54 *International and Comparative Law Quarterly*

Bradford, Lieutenant John F. , 'The Growing Prospects for Maritime Security Cooperation in Southeast Asia' (2005) 58 *Naval War College Review*

Brown, Chester, 'International Environmental Law in the Regulation of Offshore Installations and Seabed Activities: The Case for a South Pacific Regional Protocol' (1998) 17 *Australian Mining & Petroleum LJ* 109

Burgherr, Peter, 'In-depth analysis of accidental oil spills from tankers in the context of global spill trends from all sources' (2007) 140(1) *Journal of Hazardous Materials* 245

Buszynski, Leszek and Sazlan, Iskandar, 'Maritime Claims and Energy Cooperation in the South China Sea' (2007) 29 *Contemporary Southeast Asia*

Caddell, Richard, 'Platforms, Protestors and Provisional Measures: The Arctic Sunrise Dispute and Environmental Activism at Sea', *Netherlands Yearbook of International Law 2014* (Springer, 2015) 359-384

Cates, Melissa B, 'Offshore oil platforms which pollute the marine environment: a proposal for an international treaty imposing strict liability' (1983) 21 *San Diego L. Rev.* 691

Center, Maritime Knowledge, 'International Shipping Facts and Figures- Information Resources on Trade' (2011) *Safety, Security and the Environment. sl: International Maritime Organization*

Charm, Robert, 'Terrorist See Offshore as Tempting Target' (1983) January *Offshore* 62

Cherney, Jonathan I., 'The Marine Environment and the 1982 United Nations Convention on the Law of the Sea' (1994) 28 *The International Lawyer*

Coenen, René, 'Dumping of Wastes at Sea: Adoption of the 1996 Protocol to the London Convention 1972', (1997) *Review of European Community and International Environmental Law* 6 (*RECIEL*) 55

Collins, Rosemary and Daud Hassan, 'Applications and Shortcomings of the Law of the Sea in Combating Piracy: A South East Asian Perspective' (2009) *Journal of Maritime Law & Commerce* 40(1)

Cordner, Lee, 'Managing Regional Risk: Offshore Oil and Gas Safety and Security in the Asia-Pacific Region' (2011) 3(1) *Australian Journal of Maritime and Ocean Affairs* 15

Curtis, Jeff B., 'Vessel-Source Oil Pollution and MARPOL 73/78: An International Success Story?' (1984-1985) 15 *Environmental Law*

Davis, Anthony, "Piracy in the Waters of Southeast Asia Shows Signs of Increased Organization," *Jane's Intelligence Review* (June 2004)

Dean, Arthur H, 'The Geneva Conference on the Law of the Sea: What was Accomplished' (1958) 52 *American Journal of International Law*

Desrina, R., Chairil Anwar and Tri Muji Susantoro, 'Environmental Impacts of the Oil and Gas Platform Decommissioning' (2013) 36 *Scientific Contributions Oil & Gas* 98

Dimri, Brij M, 'Offshore Platforms: A Legal Overview in Indian Ocean Perspective' (2013) 9(1) *Maritime Affairs: Journal of the National Maritime Foundation of India* 80

Dinstein, Y., 'Oil Pollution from Ships and Freedom of the High Seas' (1971) 3 *Journal of Maritime Law and Commerce*

Dirhamsyah, 'Maritime Law Enforcement and Compliance in Indonesia: Problems and Recommendations' (2005) 2005(144) *Maritime Studies* 1

Dirhamsyah, D, 'Indonesian legislative framework for coastal resources management: A critical review and recommendation' (2006) 49(1) *Ocean & coastal management* 68

Djalal, Hasjim, *Indonesia and the Law of the Sea* (Centre for Strategic and International Studies, 1995)

Dundas, Carl W, 'The impact of maritime boundary delimitation on the development of offshore mineral deposits' (1994) 20 *Resources Policy*

Dupuy, Pierre-Marie, 'The International Law of State Responsibility: Revolution or Evolution?' (1989-1990) 11 *Michigan Journal of International Law*

Duruigbo, Emeka, 'Reforming the international law and policy on marine oil pollution' (2000) 31 *J. Mar. L. & Com.* 65

Dzidzornu, David M. , 'Coastal State Obligations and Powers Respecting EEZ Environmental Protection Under Part XII of the UNCLOS: A Descriptive Analysis' (1997) 8 *Colorado Journal of International Law and Policy*

Dzidzornu, David M and B Martin Tsamenyi, 'Enhancing International Control of Vessel-source Oil Pollution under the Law of the Sea Convention, 1982: A Reassessment' (1991) 10 *University of Tasmania Law Review*

Eichbaum, William M., 'The whys and hows of a cooperative mechanism for the Arctic marine environment' (2016) 52 *Polar Record* 267

Elferink, Alex G Oude, 'The Arctic Sunrise incident: a multi-faceted law of the sea case with a human rights dimension' (2014) 29(2) *The International Journal of Marine and Coastal Law* 244

Esmaili, Hossein, 'The Protection of Offshore Oil Rigs in International Law (Part I)' (1999) 18(3) *Australian Petroleum and Mining Law Journal* 241

Esmaili, Hossein, 'The Protection of Offshore Oil Rigs in International Law (Part II)' (2000) 19(1) *Australian Petroleum and Mining Law Journal* 35

Faturachman, Danny and Shariman Mustafa, 'Trend Analysis of Ship Accidents in Indonesia' (2012)(2 (Jan) *World Academy of Science, Engineering and Technology*

Faturachman, Danny and Shariman Mustafa, 'Safety & Security Analysis of Sea Transportation in Indonesia' (2013)

Fayette, Louise de La, 'New developments in the disposal of offshore installations' (1999) 14(4) *The International Journal of Marine and Coastal Law* 523

Forward, Chris, 'Archipelagic Sea-Lanes In Indonesia-Their Legality in International Law' (2009) 23 *Austl. & NZ Mar. LJ* 143

Fowler, Deanna, 'Offshore Oil: A Frontier for International Lawmaking' (2012) 12 *Chicago-Kent Journal of International and Comparative Law* 153

Futsæter, Gunnar, 'Environmental policy and regulation for oil exploration and shipping activities in the Barents Sea' (1994) 29(6-12) *Marine pollution bulletin* 348

Gerges, Makram A., 'Marine Pollution Monitoring, Assessment and Control: UNEP's Approach and Strategy' (1994) 28 *Marine Pollution Bulletin* 4

Gotthard M. Gauci, 'Protection of the Marine Environment through the International Ship-Source Oil Pollution Compensation Regimes', (1999) 8 *the Review of European Comparative & International Environmental Law (RECIEL)* 1

Gold, Edgar, International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 Report (1991) 22 *Journal of Maritime Law and Commerce* 342

Gotlieb, Allan E, 'Recent Developments Concerning the Exploration and Exploitation of the Ocean Floor' (1969)

Hamzah, BA, 'International rules on decommissioning of offshore installations: some observations' (2003) 27(4) *Marine Policy* 339

Harel, Assaf, 'Preventing Terrorist Attacks on Offshore Platforms: Do States Have Sufficient Legal Tools' (2012) 4 *Harv. Nat'l Sec. J.* 131

Harris, Peter et al, '. Offshore Hydrocarbon Industries' (2016)

Hassan, Daud, 'Territorial Sovereignty and State Responsibility' (2015) *Environmental Policy and Law* 45(3-4)

Hassan, Daud, 'South China Sea: Control of Land Based Sources of Marine Pollution - A Regional Overview (Part 1) (2012) *Environmental Policy and Law* 42(2)

Hassan, Daud, Regional Frameworks for Land Based Sources of Marine Pollution Control: A Legal Analysis on the North East Atlantic and the Baltic Sea Regions' (2004-2005) *Queensland University of Technology Law & Justice Journal* 1

Hayward, Peter, 'Environmental Protection: Regional Approaches' (1984) 8(2) *Marine Policy*

Hey, Ellen, Ton Ilstra and André Nollkaemper, '1992 Paris Convention for the Protection of the Marine Environment of the North-East Atlantic: A Critical Analysis' (1993) 8 *Int'l J. Marine & Coastal L.* 1

Hinds, Lennox, 'Oceans governance and the implementation gap' (2003) 27 *Marine Policy* 349-356

Höfer, Thomas, 'Tanker safety and coastal environment: prestige, erika, and what else?' (2003) 10(1) *Environmental Science and Pollution Research* 1

Honein, Salah E, *The International Law Relating to Offshore Installations and Artificial Islands: An Industry Report* (LLP, 1991)

Horn, Gary E et al, 'Tanker safety: Regulatory change' (2008) 7(1) *WMU Journal of Maritime Affairs* 317

Hoppe, Heike, 'Goal-based Standards-A New Approach to the International Regulation of Ship Construction (2005) 4 *WMU Journal of Maritime Affairs* 2

Hutchinson, D. N., 'The seaward limit to continental shelf jurisdiction in customary international law', (1989) 56 *British Yearbook of International Law*

Huchinson, Terry and Nigel Duncan, 'Defining and describing what we do: Doctrinal legal research' (2012) 17 *Deakin L. Rev.* 83

Huijter, Keisha, 'Trends in oil spills from tanker ships 1995-2004' (2005) 30 *International Tanker Owners Pollution Federation (ITOPF), London*

Idelhakkar, Brahim, Faris Hamza and Houdaifa Ameziane, 'The transportation of petroleum Products by sea and the environmental challenge' (2012) 1(2) *International Journal of Applied Science and Engineering Research* 266

Jenkins, Brian M, *Potential threats to offshore platforms*, DTIC Document No (1988)

Karim, Md Saiful, 'The Rise and Fall of the International Law of Maritime Terrorism: the Ghost of Piracy is Still Hunting!' (2014) *New Zealand University Law Review* 26

Karim, Md Saiful, 'Flag State Responsibility for Maritime Terrorism' (2013) *The School of Advanced International Studies (SAIS) Review* XXXIII(2)

Kashubsky, Mikhail, 'Marine Pollution from the Offshore Oil and Gas Industry: Review of Major Conventions and Russian Law (Part I)' (2006) 2006(151) *Maritime studies* 1

Kashubsky, Mikhail, 'A Chronology of Attacks on and Unlawful Interference with, Offshore Oil and Gas Installations, 1975-2010' (2011) 5(5-6) *Perspectives on Terrorism* 139

Kashubsky, Mikhail and Anthony Morrison, 'Security of offshore oil and gas facilities: exclusion zones and ships' routing' (2013) 5(1) *Australian Journal of Maritime & Ocean Affairs* 1

Kasoulides, G. C. (1989), 'IMO, Draft Guidelines for the Removal of Offshore Platforms', *International Journal of Estuarine and Coastal Law*, Vol. 4

Kaye, Stuart, 'International measures to protect oil platforms, pipelines, and submarine cables from attack' (2006) 31 *Tul. Mar. LJ* 377

Kwiatkowska, Barbara, 'Creeping jurisdiction beyond 200 miles in the light of the 1982 Law of the Sea Convention and State practice' (1991) 22 *Ocean Development and International Law*

Kindt, J. W. (1986), *Marine Pollution and the Law of the Sea*, William S. Hein and Co. Inc., Vol. II, Buffalo/New York

Kopacz, Z, W Morgas and J Urbanski, 'The maritime safety system, its main components and elements' (2001) 54(02) *The Journal of Navigation* 199

Korzetz, Edward, 'Transboundary Dimensions of Petroleum Development in Ecuador and Peru' (1995) 3(1) *IBRU Boundary and Security Bulletin* 81

Koskenniemi, Marti, 'Case concerning passage through the great belt' (1996) 27(3) *Ocean Development & International Law* 255

Krueger, Robert B, 'International and national regulation of pollution from offshore oil production' (1970) 7 *San Diego L. Rev.* 541

Kuhn, Arthur K., 'The Trail Smelter Arbitration-United States and Canada' (1938) 32 *American Journal of International Law* 4

Kusumaatmadja, Mochtar, 'Sovereign Rights over Indonesian Natural Resources: An Archipelagic Concept of Rational and Sustainable Resource Management' (2006) 4 *Indonesian J. Int'l L.* 199

Kusumaatmadja, Mochtar, and Purwaka, Tommy H, 'Legal and Institutional Aspects of Coastal Zone Management in Indonesia' (1996) 20 *Marine Policy* 1

La Fayette, Louise de, 'The London Convention 1972: Preparing for the Future,' 13 *The International Journal of Marine and Coastal Law* 4 (1998)

Lagoni, Rainer, 'Oil and Gas Deposits Across National Frontiers' (1979) 73 *The American Journal of International Law*

Laina, Eustathia, 'The "Arctic Sunrise" Case', 45 *Environmental Policy and Law* (2015)

Lian, Kheng, Koh and Robinson, Nicholas A 'Regional Environmental Governance: Examining the Association of Southeast Asian Nations (ASEAN) Model' (2002) *Global Environmental Governance Options & Opportunities. Connecticut: Yale School of Forestry & Environmental Studies*

Lombardo, Lucia, 'Overview of Floating Production, Storage and Offtake (FPSO) Services Agreements (2003) 22 *Australia Resources and Energy Law Journal* 468

Lott, Alexander, 'Marine Environmental Protection and Transboundary Pipeline Projects: A Case Study of the Nord Stream Pipeline' (2011) 27 *Merkourios-Utrecht J. Int'l & Eur. L.* 55

Lyons, Youna, 'The New Offshore Oil and Gas Installation Abandonment Wave and the International Rules on Removal and Dumping' (2014) 29(3) *The International Journal of Marine and Coastal Law* 480

Mahmoudi, Said, 'Legal Protection of the Persian Gulf's Marine Environment' (1997) 21 *Marine Policy*

Marsden, Simon, 'Regulatory Reform of Australia's Offshore Oil and Gas Sector after the Montara Commission of Inquiry: What about Transboundary Environmental Impact Assessment' (2013) 15 *Flinders LJ* 41

Mathai, Mathew, Walter Samuel Grono Bateman and Joshua Ho, 'Shipping patterns in the Malacca and Singapore straits: an assessment of the risks to different types of vessel' (2007) 29(2) *Contemporary Southeast Asia: A Journal of International and Strategic Affairs* 309

McDorman, T. L., 'The entry into force of the Law of the Sea Convention and the article 76 outer continental shelf regime', (1995) 10 *International Journal of Marine and Coastal Law*

Mensah, Thomas A, 'The place of the ISPS Code in the legal international regime' (2004) 3(1) *WMU Journal of Maritime Affairs* 17

Meron, Theodor, 'The Geneva conventions as customary law' (1987) 81(2) *The American Journal of International Law* 348

A.L.C. De Mestral, 'The Prevention of Pollution of the Marine Environment Arising from Offshore Mining and Drilling' (1979) 20 *Harvard International Law Journal* 3

Mossop, Joanna, 'Protests against Oil Exploration at Sea: Lessons from the Arctic Sunrise Arbitration' (2016) 31(1) *The International Journal of Marine and Coastal Law* 60

Negara, Siwage Dharma, 'Indonesia's Infrastructure Development under the Jokowi Administration' (2016) *Southeast Asian Affairs*, 145-165

Oxman, Bernard, 'The Third United Nations Conference on the Law of the Sea: the 1976 New York Sessions' (1976) 71 *American Journal of International Law*

Oxman, Bernard H., 'The Duty to respect generally accepted rules and standards' (1991) 24 *N.Y.U. Journal of International Law and Politics*

Oxman, Bernard, 'The Law of the Sea Convention' (1994) *The American Society of International Law*, November - December 1994

Oxman, Bernard H., 'Observations on the Interpretation and Application of Art. 43 of UNCLOS with Particular Reference to the Straits of Malacca and Singapore' (1998) 2 *Singapore Journal of International & Comparative Law* 408

Papadakis, Nikos, 'Artificial Islands in International Law' (1975) 3 *Maritime Study Management*

Pawson, Owen, 'Implications of Floating Communities for International Law' (1989) 1 *Marine Policy*

Penick, FVW, 'Legal Character of the Right to Explore and Exploit the Natural Resources of the Continental Shelf, The' (1985) 22 *San Diego L. Rev.* 765

Pesch, Sebastian tho, 'Coastal State Jurisdiction around Installations: Safety Zones in the Law of the Sea' (2015) 30(3) *The International Journal of Marine and Coastal Law* 512

Philip C Jessup, 'The Geneva Conference on the Law of the Sea: A Study in International Law-Making' (1958) 52 *American Journal of International Law*

Popp, Alfred HE, 'Recent Developments in Tanker Control in International Law' (1980) 18 *Can. YB Int'l L.* 3

Rares, Steven, 'An international Convention on offshore hydrocarbon leaks' (2011)(3) *Lloyd's maritime and commercial law quarterly* 361

Raymond, Catherine Zara, 'Piracy and Armed Robbery in the Malacca Strait: A Problem Solved?' (2009) 62(3) *Naval War College Review* 31

Roach, J Ashley, 'Enhancing Maritime Security in the Straits of Malacca and Singapore' (2005) 59 *Journal of International Affairs* 1

Rochette, Julien and Raphaël Billé, 'Bridging the gap between legal and institutional developments within regional seas frameworks' (2013) 28(3) *The International Journal of Marine and Coastal Law* 433

Rodrigue, Jean - Paul, 'Straits, Passages and Chokepoints A Maritime Geostrategy of Petroleum Distribution (2004) 48 *Cahiers de Géographie du Québec*

Rubin, Alfred P., 'Pollution by Analogy: The Trail Smelter Arbitration' (1970) 50 *Oregon Law Review*

Schenk, Christopher J et al, 'An estimate of undiscovered conventional oil and gas resources of the world, 2012' (2012) 3028 *USGS Fact Sheet*

Sielen, Alan, 'Treaty Review: The New International Rules on Ocean Dumping: Promise and Performance' (2008) 21 *Georgetown International Environmental Law Review*

Singhota, Gurpreet S., 'IMO's Role in Promoting Oil Spill Preparedness' 4 *Spill Science & Technical Bulletin* 4 (1995)

Siry, Hendra Yusran, 'In search of appropriate approaches to coastal zone management in Indonesia' (2011) 54 *Ocean & Coastal Management*

Sittnick, Tammy M., 'State Responsibility and Maritime Terrorism in the Strait of Malacca: Persuading Indonesia and Malaysia to take Additional Steps to Secure the Strait' (2005) 14 *Pacific Rim Law & Policy Journal*

Sodik, Dikdik Mohamad, 'The Indonesian Legal Framework on Baselines, Archipelagic Passage, and Innocent Passage' (2012) 43(4) *Ocean Development & International Law* 330

O Schram Stokke, 'Beyond Dumping The effectiveness of the London Convention' (1989-90) *Yearbook of International Cooperation and Development* 39

Spicer, Wylie and Tanya Bath, 'The Canadian Arctic: The Changing Seascape of Offshore Oil and gas Exploration Issues' (2010) 48 *Alberta Law Review* 255

Sumakul, Willy F., 'Pembajakan Kapal di Perairan Laut Sulu dikaitkan dengan ISPS Code' (Piracy in Sulu Sea and its relation to ISPS Code) (2016) 4 *Quarterdeck* 10

Symon, Andrew, 'Petroleum and mining in Southeast Asia: managing the environmental and social impacts' (2007) *Southeast Asian Affairs* 77

Talley, Wayne K., 'Vessel damage severity of tanker accidents' (1995) 31 *Transportation Research: Logistics and Transportation Review* 3, Faculty of Commerce and Business Administration, University of British Columbia

Treves, Tullio, 'The International Tribunal for the Law of the Sea and the Oil and Gas Industry' (2008) 6(3) *Oil, Gas & Energy Law Journal (OGEL)*

Ulfstein, G, 'The Conflict Between Potroleum Production, Navigation and Fisheries in International Law' (1988) 19 *Ocean Development and International Law*

Vallega, Adalberto, 'The Regional Seas in the 21st Century: An Overview' (2002) 45 *Ocean and Coastal Management*

Vanem, Erik et al, 'Analysing the risk of LNG carrier operations' (2008) 93(9) *Reliability Engineering & System Safety* 1328

Verlaan, P. , 'Current Legal Developments London Convention and London Protocol', (2011) 26 *The International Journal of Marine and Coastal Law*

Weiss, Edith Brown, 'International Environmental Law: Contemporary Issues and the Emergence of a New World Order' (1992) 81 *Georgetown Law Journal*

White, Michael, 'Offshore Craft and Structures: A Proposed International Convention' (1999) 18 *Australian Mining & Petroleum LJ* 21

Wieslaw, Tarelko, 'Origins of ship safety requirements formulated by International Maritime Organization' (2012) 45 *Procedia Engineering* 847

Wonham, J, 'Some recent regulatory developments in IMO for which there are corresponding requirements in the United Nations convention on the law of the sea. A challenge to be met by the states parties?' (1996) 20(5) *Marine policy* 377

Woodliffe, John, 'Decommissioning of Offshore Oil and Gas Installations in European Waters: The End of a Decade of Indecision?' (1999) 14(1) *The International Journal of Marine and Coastal Law* 101

Working Papers/Conference Papers/Reports

Agusman, Damos D., 'Designing new scheme of liability and compensation regime caused by transboundary oil spill resulting from offshore exploration and exploitation activities' (Paper presented at the Comite Maritime International (CMI) Colloquium and Assembly, 7-9 June 2015)

Artificial Islands and Installations: Working Paper submitted by Belgium, UN Doc A/AC.138/91 (11 July 1973)

Balkin, Rosalie, 'Is there a place for the regulation of offshore oil platforms within international maritime law? if not, then where?' (Paper presented at the Comité Maritime International, Dublin, September 2013)

Barki, Denis and Rogers, John (eds), 'Review of Maritime Transport 2015' (United Nations Conference on Trade and Development (UNCTAD), 2015)

Beckman, Robert and Zhen Sun, 'The Development of the Polar Code & Challenges to Its Implementation' (Paper presented at International Symposium on "Global Common and the Law of the Sea", Hangzhou, 22-23 June 2015)

Bernard, Leonardo, 'UNCLOS & the South China Sea' (Paper presented at International Malaysia Law Conference, 27 September 2012)

Borthwick, David, *Report of the Montara Commission of Inquiry*, (Commonwealth of Australia, 2010)

Canadian Maritime Law Association, 'Background Paper for an International Convention on Offshore Units, Artificial Islands and Related Structures Used in the Exploration for and Exploitation of Petroleum and Seabed Mineral Resources' (Background Paper, CMI Yearbook, 1994)

CMI New York Conference; 'Offshore Activities-update on current situation' (Report on Offshore Liabilities-Documentation of 2016 CMI Conference, CMI, 2016)

Columbia, Mexico and Venezuela: Draft Articles of Treaty, UN Doc A/AC.138/SC.II/L.21 (21 April 1973)

Comité Maritime International, 'The Origins of the CMLA Draft Convention on Offshore Units, Artificial islands and Related Structures used in the Exploration for and Exploitation of Petroleum and Seabed Mineral Resources' (CMI News Letter No. 1, 2004)

Comite Maritime International, *CMI News Letter* (2015)

Comite Maritime International, *Yearbook 1994 Annuaire, Sydney II Documents of the Conference* (1994)

Cordner, Lee, *Offshore oil and gas safety and security in the Asia Pacific: the need for regional approaches to managing risks* (S Rajaratnam School of International Studies, 2013)

CSCAP, 'Safety and Security of Offshore Oil and Gas Installations' (Memorandum 16, Council for Security Cooperation in the Asia Pacific, January 2011) 1

Djundjuna, Bebeb Akn 'The Concept of Law Model and Mitigation Process for Transboundary Oil Pollution' (Paper presented at the Second International Conference on Liability and Compensation Regime for Transboundary Oil Damage Resulting from Offshore Exploration and Exploitation Activities, Bali, 21-23 November 2012)

Document A/CONF 62/L.57/Rev 1-Report of the Chairman of the Drafting Committee (1 August 1980) Third United Nations Conference on the Law of the Sea <http://legal.un.org/diplomaticconferences/lawofthesea-1982/docs/vol_XIV/a_conf-62_l-57_rev-1.pdf>

Document A/CONF.62/C.2/L.47-United States of America: draft articles for a chapter on the economic zone and the continental shelf (8 August 1974) Third United Nations Conference on the Law of the Sea <http://legal.un.org/diplomaticconferences/lawofthesea-1982/docs/vol_III/a_conf-62_c-2_l-47.pdf>

Document A/CONF 62/L.57/Rev 1-Report of the Chairman of the Drafting Committee (1 August 1980) Third United Nations Conference on the Law of the Sea <http://legal.un.org/diplomaticconferences/lawofthesea-1982/docs/vol_XIV/a_conf-62_l-57_rev-1.pdf>

Environmental Defender's Office of Western Australia (Inc.), *Petroleum Law: Oil, Gas, Geothermal Energy and Greenhouse Gas Storage* (Fact Sheet 38, June 2011) <<http://www.edowa.org.au/assets/Publications/Factsheets/edo38petroleumlawv4.pdf>>

Faisal, Ade, *Designing National Freight Maritime Network in Indonesia: A Supporting Study for Maritime Highway Policy (Kebijakan Tol Laut) in some Future Scenarios* (Master Thesis, TU Delft, 2015)

'Fate of Marine Oil Spills' (Technical Information Paper No 2 The International Tanker Owners Pollution Federation Limited (ITOPF), 2011)

GESAMP, *Estimates of Oil Entering the Marine Environment from Sea-Based Activities*, GESAMP Report and Studies No. 75 (2007)

Gindarsih, Iis and Adhi Priamarizki, 'Indonesia's Maritime Doctrine and Security Concerns' (2015) *RSIS Policy Report*

Griggs, Patrick, *Report of the International Working Group (IWG) on Offshore Activities* (2014) CMI

Griggs, Patrick, *Offshore Activities-responses to Questionnaire* (20 June 2014) Comite Maritime International

'Goal-based new ship construction standards' (Meeting Document No 78/6/2, Maritime Safety Committee (MSC), IMO, 5 February 2004). This document was proposed by the Bahamas, Greece and IACS

'Governmental Agency Working Report (LAKIP)' (Directorate General of Maritime Transportation, Ministry of Transportation, 2013)

Guidance for Bilateral/Regional Arrangement or Agreement on Liability and Compensation Issues Connected with Transboundary Oil Pollution Damage Resulting from Offshore Exploration and Exploitation Activities-Submitted by Indonesia and Denmark (FGD Draft Guidance July 2015-Documentation of 2016 CMI Conference, CMI, 2016)

Hao Duy Phan, 'Institutional Building for Maritime security in Southeast Asia: the Role of ASEAN' (Paper presented at the 37th Annual Conference of the Center for Oceans Law and Policy, Seoul, Korea, 1-3 May 2013)

Hein, James R., 'Deep-Ocean Mineral Deposits in the Global Ocean' (Paper presented at International Seabed Authority Seminar on Deep Seabed Mining, New York, 16 February 2012)

Huss, M, 'Status at IMO: Where are we heading with goal-based standards?' (Paper presented at SAFEDOR-the Mid Term Conference, May 2007)

'Indonesia 2015-Energy Analysis Beyond IEA Countries' (Review Analysis, International Energy Agency, 2015) 143-157

Ibrahim, Rosnani, *International/Regional Cooperation to Oil Spill Response in the Straits of Malacca: An Overview*, Oil Spill Symposium

ICC International Maritime Bureau, *Piracy and Armed Robbery against Ships*, Report for the Period of 1 January - 30 June 2015, July 2015

ICC International Maritime Bureau, *Piracy and Armed Robbery against Ships* (October 2015) International Chamber of Commerce
<<http://www.iccspain.org/wp-content/uploads/2015/11/2015-Q3-IMB-Piracy-Report.pdf>>

'Implications of the United Nations Convention on the Law of the Sea for the International Maritime Organization' (Study by the Secretariat of the international Maritime Organization (IMO), 19 January 2012)

INTERTANKO, *Statistics on Publicly Reported Tanker Incidents* (2012)
<<https://www.intertanko.com>>

International Law Commission, 'Articles concerning the Law of the Sea with Commentaries' (1956) II the *Yearbook of the International Law Commission*

Kristel, De Smedt et al, 'Civil Liability and Financial Security for Offshore Oil and Gas Activities' (Final Report, Maastricht European Institute for Transnational Legal Research Faculty of Law, Maastricht University, 2013)

'Limits of Oceans and Seas' (Special Publication No 23, The International Hydrographic Organization, 1986)

Lodge, Michael W., 'Observations on the structure and functions of the organs of the Authority' (Paper presented at ISA Sensitization Seminar, New York, 16 February 2012)

Lyons, Youna, 'Prospects for Rigs-to-Reef in Southeast Asia: Regional Workshop Findings and Recommendations' (Paper presented at Indonesia Decommissioning Conference 2015, Bandung, 13-14 August 2015)

Mukhtasor, 'Penanggulangan Pencemaran Laut terhadap Aktivitas Migas di Indonesia' [Prevention of Marine Pollution from Indonesia's Oil and Gas Activities] (Institute Teknologi Sepuluh November (ITS), Surabaya)

NOAA-Hazardous Materials Response and Assessment Division, *Oil Spill-Case Histories 1967-1991, Summaries of Significant US and International Spills, Report No. HMRAD 92-11*, (NOAA-Hazardous Materials Response and Assessment Division, September 1992)

'Oil Tanker Spill Statistics 2015' (ITOPF, February 2016)

<http://www.itopf.com/fileadmin/data/Documents/Company_Lit/Oil_Spill_Stats_2016.pdf>

'Report of the Legal Committee on the Work of Its One Hundredth Session' (Report, IMO, 2013)

'Report of the Legal Committee on the Work of Its One Hundred and First Session' (Report, IMO, 2014)

'Report of the Legal Committee on the Work of Its One Hundred and Second Session' (Report, IMO, 2015)

'Report of the Maritime Safety Committee on its Eightieth Session' (Meeting Document No 80/24, MSC-IMO, 24 May 2005)

ReCaap Information Sharing Centre, *Quarterly Report*, Report for January - September 2015-Piracy and Armed Robbery against Ships in Asia, 27 September 2015

Report No. 426, International Association of Oil & Gas Producers, March 2010)

Report of the International Law Commission (ILC) at its 8th Session, YBILC, 1956, Vol. II

Roach, J. Ashley, 'The Polar Code and Its Adequacy: Warts and Omissions' (Paper presented at CIL-JCLOS Conference on Governance of Arctic Shipping, Singapore, 9-11 December 2015)

Rochette, Julien, *Towards an international regulation of offshore oil exploitation*, Report of the experts workshop held at the Paris Oceanographic Institute (Working Paper No. 15, Institut du Développement Durable et des Relations Internationales (IDDRI), 12 July 2012)

Rochette, Julien and Glen Wright, *Strengthening the international regulation of offshore oil and gas activities*, Global Sustainable Development Report (GSDR) 2015

Schofield, Clive and Kuan-Hsiung Wang, Dustin, 'The Regime of Islands under UNCLOS: Implications for the South China Sea' (2012) 37 *The National Bureau of Asian Research-NBR Special Report*

Scicluna, Nikita, 'A Legal Discussion on Civil Liability for Oil Pollution Damage resulting from Offshore Oil Rigs in the Light of the Recent *Deepwater Horizon* Incident' (Mediterranean Action Plan UNEP (DEPI)/MED WG.384/INF.6, United Nations Environment Program (UNEP), 6 June 2013)

Sebastian, Leonard C., et al (eds), 'RSIS Workshop on Indonesia's Global Maritime Fulcrum Challenges and Trajectories' (Event report, S. Rajaratnam School of International Studies, Nanyang Technological University, 23 July 2015)

Sharpe 'Guidance for Bilateral/Regional Arrangements-Denmark/Indonesia Submission to IMO Legal Committee 2016' (Paper presented at 2016 CMI Conference, New York, 4-6 May 2016)

Soons, Alfred HA, *Artificial islands and installations in international law*, University of Rhode Islands Law of the Sea Institute No (1974)

Sukasam, Kesrat, 'ASEAN Cooperation on Coastal and Marine Environment' (Paper presented at International Symposium on Protection and Management of Coastal Marine Ecosystem)

Susantono, Bambang (Keynote Speech delivered at the Second International Conference on Liability and Compensation Regime for Transboundary Oil Damage Resulting from Offshore Exploration and Exploitation Activities, Bali, 21-23 November 2012)

United Nations Environment Programme, *A legal discussion on civil liability for oil pollution damage resulting from offshore oil rigs in the light of the recent deep water horizon incident*, Mediterranean Action Plan, June 2013

United Nations Environment Programme, 'Regional Seas Reports and Studies No. 201-UN Environment (2016) Regional Seas Strategic Directions (2017-2020)' 2016

Varghese, Geeva, *An Assessment of the Increasing Risk of Marine Oil Spills and the Existing Preparedness Capabilities in the Southeast Asian Region*, International Oil Spill Conference Proceedings

Cases

Corfu Channel Case (United Kingdom v Albania) (Merits) [1949] ICJ Rep 4

M/V Saiga (St Vincent v Guinea) (Judgment) (ITLOS, Case No 2, 1 July 1999)

Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America) Merits) [1986] ICJ Rep 3

North Sea Continental Shelf (Federal Republic of Germany v Netherlands) (Judgment) [1969] ICJ Rep 3

Oil Platforms (Islamic Republic of Iran v United States of America) (Merits) [6 November 2003] ICJ

Passage through the Great Belt (Finland v. Denmark) [1991] ICJ Rep 94

Pulp Mills on the River Uruguay (Argentina v. Uruguay) [20 April 2010] ICJ

The “Arctic Sunrise” Case (Kingdom of the Netherlands and Russian Federation) [2013] ITLOS Case No. 22

The Lotus case (France v Turkey) (decision) [1927] PCIJ Rep ser A no 10

Trail Smelter Case (United States v. Canada) [1941] International Arbitral Awards Rep III

The South China Sea Arbitration (The Republic of Philippines v The People’s Republic of China) (Awards) (2016)

Legislation

Peraturan Pemerintah No. 17 Tahun 1974 Tentang Pengawasan Eksplorasi dan Eksploitasi Minyak dan Gas Bumi di Daerah Lepas Pantai (Government Regulation (GR) No. 17 of 1974 concerning Supervision of Offshore Oil and Gas Exploration and Exploitation) (Indonesia)

Peraturan Pemerintah No. 19 Tahun 1999 Tentang Pengendalian Pencemaran dan/atau Perusakan Laut (GR No. 19 of 1999 concerning Control of Marine Pollution and/or Destruction) (Indonesia)

Peraturan Pemerintah No. 51 Tahun 2002 Tentang Perkapalan (GR No. 51 of 2002 concerning Shipping) (Indonesia)

Peraturan Pemerintah No. 5 Tahun 2010 Tentang Navigasi (GR No. 5 of 2010 concerning Navigation) (Indonesia)

Peraturan Pemerintah No.20 Tahun 2010 Tentang Angkutan Perairan (GR No.20 of 2010 concerning Water Transportation) (Indonesia)

Peraturan Pemerintah No. 21 Tahun 2010 Tentang Perlindungan Maritim (GR No.21 of 2010 concerning Maritime Protection) (Indonesia)

Peraturan Menteri Perhubungan Nomor 58 Tahun 2013 Tentang Pengendalian Pencemaran di Laut dan Pelabuhan [Minister of Transport Regulation No. 58 year 2013 on Pollution Management in Waters and Port] (Indonesia)

Peraturan Presiden No. 109 Tahun 2006 Tentang Penanggulangan Keadaan Darurat Tumpahan Minyak di Laut (Presidential Regulation No. 109 of 2006 concerning Emergency Response to Oil Spill Incident) (Indonesia)

Peraturan Presiden No. 178 Tahun 2014 Tentang Badan Keamanan Laut (Presidential Regulation No. 178 of 2014 concerning Maritime Security Board) (Indonesia)

Surat Keputusan Menteri Energi dan Sumber Daya Mineral No. 5 Tahun 1977 Tentang Kewajiban Memiliki Sertifikat Kelayakan Konstruksi untuk Platform Minyak dan Gas Bumi di Daerah Lepas Pantai (Minister of Energy and Mineral Resources Decision Letter No. 5 of 1977 concerning the Obligation to Obtain Certificate of Worthiness for Oil and Gas Platform) (Indonesia)

Peraturan Menteri Energi dan Sumber Daya Mineral No. 1 Tahun 2011 Tentang Pedoman Teknis Pembongkaran Instalasi Lepas Pantai Minyak dan gas Bumi (The Ministry of Energy and Mineral Resources Regulation No. 1 of 2011 concerning Technical Guidance for Offshore Oil and Gas Installation Removal) (Indonesia)

Peraturan Menteri Perhubungan No. 68 Tahun 2011 Tentang Alur Laut Pelayaran Indonesia (The Minister of Transportation Regulation No. 68 of 2011 concerning Indonesian Sea Lane) (Indonesia)

Peraturan Menteri Perhubungan No. 45 Tahun 2012 Tentang Manajemen Keselamatan Kapal (The Minister of Transportation Regulation No. 45 of 2012 concerning Ship Safety Management) (Indonesia)

Undang-Undang Dasar Republik Indonesia Tahun 1945 (Constitution of the Republic of Indonesia, 1945) (Indonesia)

Undang-Undang No. 1 Tahun 1946 Tentang Peraturan Hukum Pidana (Law No. 1 of 1946 on Criminal Law (Indonesian Penal Code) (Indonesia)

Undang-Undang No. 1 Tahun 1973 Tentang Landas Kontinen Indonesia (Law No. 1 of 1973 on Indonesian Continental Shelf) (Indonesia)

Undang-Undang No. 5 Tahun 1983 Tentang Zona Ekonomi Eksklusif Indonesia (Law No. 5 of 1983 on Indonesian Exclusive Economic Zone) (Indonesia)

Undang-Undang No. 17 Tahun 1985 Tentang Ratifikasi Konvensi Perserikatan Bangsa-Bangsa Tentang Hukum Laut, 1982 (Law No. 17 of 1985 on the Ratification of the United Nation Convention on the Law of the Sea) (Indonesia)

Undang-Undang No. 6 Tahun 1996 Tentang Perairan Indonesia (Law No. 6 of 1996 on Indonesian Waters) (Indonesia)

Undang-Undang No. 24 Tahun 2000 Tentang Perjanjian Internasional (Law No 24 of 2000 on Treaties) (Indonesia)

Undang-Undang No. 22 Tahun 2001 Tentang Minyak dan Gas Bumi (Law No. 22 of 2001 on Oil and Gas) (Indonesia)

Undang-Undang No. 2 Tahun 2002 Tentang Kepolisian Republik Indonesia (Law No. 2 of 2002 on Indonesian Police) (Indonesia)

Undang-Undang No. 34 Tahun 2004 Tentang Tentara Nasional Indonesia (Law No. 34 of 2004 on Indonesian Armed Force) (Indonesia)

Undang-Undang No. 43 Tahun 2008 Tentang Wilayah Negara (Law No. 43 of 2008 on State Territory) (Indonesia)

Undang-Undang No. 17 Tahun 2008 Tentang Pelayaran (Law No. 17 of 2008 on Shipping) (Indonesia)

Undang-Undang No. 32 Tahun 2009 Tentang Perlindungan dan Pengelolaan Lingkungan Hidup (Law No. 32 of 2009 on the Protection and Management of Environment) (Indonesia)

Undang-Undang No. 34 Tahun 2014 Tentang Kelautan (Law No. 34 of 2014 on the Sea) (Indonesia)

Australian Maritime Safety Authority Act 1990 (Cth) (Australia)

*Offshore Petroleum and Greenhouse Gas Storage Act 2006 (Cth) (Australia)
Act No. 293 of 10 June 1981 as revised by Consolidated Act No. 960 of 13 September 2011 on the Use of the Danish Subsoil and Act No. 526 of 11 June 2002 on the Use of the Danish Subsoil ('Subsoil Act') (Denmark)*

Petroleum Activities Act, Act 29 November 1996 No. 72 last amended by Act 24 June 2011 No. 38 (Norway)

Regulations relating to health, safety and the environment in the petroleum activities and at certain onshore facilities, last amended 17 June 2016 (Norway)

Regulations relating to management and the duty to provide information in the petroleum activities and at certain onshore facilities, last amended 18 December 2015 (Norway)

Regulations relating to Design and outfitting of facilities in the petroleum activities, last amended 18 December 2015 (Norway)

Regulations relating to technical and operational matters at onshore facilities in the petroleum activities, 18 December 2015 (Norway)

Treaties

ASEAN Political-Security Community Blueprint (ASEAN Secretariat, 2009)

The United Nation Convention on the Law of the Sea, signed 10 December 1982, 1183 UNTS 3 (entered into force 16 November 1994)

Convention on the Territorial Sea and the Contiguous Zone, signed 29 April 1958, 516 UNTS 205 (entered into force 10 September 1964)

Convention on the Continental Shelf, signed 29 April 1958, 499 UNTS 311, (entered into force 10 June 1964)

Convention on the High Seas, signed 29 April 1958, 450 UNTS 11 (entered into force 30 September 1962)

Convention on Fishing and Conservation of the Living Resources of the High Seas, signed 29 April 1958, 559 UNTS 285 (entered into force 20 March 1966)

Convention on the Law of the Treaties, opened for signature 30 November 1969, 1155 UNTS 331 (entered into force 27 January 1980)

Kuala Lumpur Transport Strategic Plan (ASEAN Transport Strategic Plan) 2016-2025 (ASEAN Secretariat, 2015)

The International Convention for the Prevention of Pollution from Ships (MARPOL), (1973/1978)

The 1973 International Convention for the Prevention of Pollution from Ships, adopted 2 November 1973, 1340 UNTS 184, (entered into force 2 October 1983)

The 1978 Protocol Relating to the 1973 International Convention for the Prevention of Marine Pollution from Ships, adopted 17 February 1978, 1340 UNTS 61 (entered into force 2 October 1983)

International Convention for the Safety of Life at Sea, signed 1 November 1974, 1184 UNTS 2 (entered into force 25 May 1980)

Convention on the International Regulations for Preventing Collisions at Sea, adopted 20 October 1972, 1050 UNTS 16 (entered into force 15 July 1977)

Convention for the Suppression of Unlawful Acts against the Safety of Navigation, adopted 10 March 1988, 1678 UNTS 201 (entered into force 1 March 1992)

Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf, adopted 10 March 1988, 1678 UNTS 304 (entered into force 1 March 1992)

International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (INTERVENTION) (1969)

Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter 1972, adopted 29 December 1972, 11 ILM 1294, (entered into force 30 August 1975)

Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, adopted 7 November 1996, 36 ILM 1, (entered into force 24 March 2006)

International Convention on Oil Pollution Preparedness, Response and Co-operation, adopted 30 November 1990, 1891 UNTS 51, (entered into force 13 May 1995)

International Convention on Load Lines, 1966, adopted 5 April 1966, 640 UNTS 133 (entered into force 21 July 1968)

The International Safety Management (ISM) Code, International Maritime Organization (IMO) Assembly Resolution A. 741(18)-1993

Code for the Construction and Equipment of Mobile Offshore Drilling Units 2009 (2009 MODU Code) (adopted on 2 December 2009)

Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention), 1976

The Convention for the Protection of the marine Environment of the North-East Atlantic adopted 22 September 1992, 2354 UNTS 67 (entered into force 25 March 1998)

Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region, 1981

1989 Recommendation on Safety Zones and Safety of Navigation around Offshore Installations and Structures/IMO Resolution A.671 (16) (adopted by IMO on 19 October 1989)

1989 Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the EEZ/IMO Resolution A.672 (16) (adopted by IMO on 19 October 1989)

Memorandum of Understanding on ASEAN Cooperation Mechanism for Joint Oil Spill Preparedness and Response, 2014

Statute of the International Court of Justice, adopted 26 June 1945, 59 Stat. 1031 (entered into force 24 October 1945)

IMO Resolution MSC.104(73) (adopted on 5 December 2000) concerning Adoption of Amendments to the International Safety Management (ISM) Code

IMO Resolution A.744(18) MSC/Circ.655 on guidance for planning the enhanced programme of inspections surveys of bulk carriers and oil tankers

IMO Resolution A.744(18) MSC/Circ.686, guidelines on the means of access to structures for inspection and maintenance of oil tankers and bulk carriers

International Code for Ships Operating in Polar Waters (Polar Code), IMO's Marine Environment Protection Committee (MEPC) Resolution No. 68/21/Add.1

Other

An AMTI Interview featuring John Norton Moore (Center for Strategic & International Studies, 17 December 2015)

Arifin Rudianto, *A Critical Appraisal of Marine and Coastal Policy in Indonesia including Comparative Issues and Lesson Learns from Australia* (PhD Thesis, University of Wollongong, 2002) 113 <<http://ro.uow.edu.au/theses/368/>>

Bagus Surya Darma Marwanto, *Perkembangan Pidana Denda dalam Perspektif Pembaharuan Hukum Pidana Indonesia (the Development of Criminal Fines from the Perspective of Indonesia's Criminal Law Renewal)* <<http://download.portalgaruda.org/article.php>>

Baker Hughes, *Worldwide Rig Count* (2016) <<http://phx.corporate-ir.net/phoenix.zhtml?c=79687&p=irol-rigcountsintl>>

Board of Research and Development, Ministry of Energy and Mineral Resources (MoEMR), *Identifikasi Infrastruktur Migas Dasar Laut serta Usulan Pengelolaan Pipa Bawah Laut dan Anjungan Migas Lepas Pantai [Identification of Deep-Sea Oil and Gas Infrastructure, and the Recommendation to Manage Submarine Pipeline and Offshore Platform]* (2010) <<http://www.litbang.esdm.go.id>>

Borthwick, Ian, et al, *Environmental management in oil and gas exploration and production-An overview of issues and management approaches* (1997) International Association of Oil & Gas Producers <<http://www.ogp.org.uk/pubs/254.pdf>>

Bugge, Hans Christian, 'The principle and duty to cooperate' (Paper presented at International Conference on Transboundary Pollution: Evolving Issues of International and Policy, National University of Singapore, Singapore, 27-28 February 2014)

China National Petroleum Corporation, Science & Technology Management Department, *Submarine Oil and Gas Pipeline Technology* (2015) <<http://www.cnpc.com.cn/cnpc/gcdx/201507/1a6f5193e5514a218fa7ffc4064c7f90/files/d3946f4cc5964a1099f7125a4778b73e.pdf>>

Comité Maritime International, *Documents: Session 19-Liabilities Arising from Offshore Activities-Latest Developments, 19*, 42 International Conference of the Comité Maritime International <<http://www.cmi2016newyork.org/session-19>>

Duong, Huy, *Massive Island-Building and International Law* (15 June 2015) Asia Maritime Transparency Initiative <<https://amti.csis.org/massive-island-building-and-international-law/>>

Focus on IMO-International Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers (January 2015) <<http://www.imo.org/en/OurWork/Safety/SafetyTopics/Documents/>>

Freudenrich, Craig, and Jonathan Strickland, *How Oil Drilling Works* <<http://science.howstuffworks.com/environmental/energy/oil-drilling4.htm/printable>>

Generic Guidelines for Developing IMO Goal-based Standards (14 June 2011) <<http://www.imo.org/en/OurWork/Safety/SafetyTopics/Documents/1394.pdf>>

Gluckauf (1886-1893) Auke Visser's German Esson Tanker's Site <<http://www.aukevisser.nl/german/id95.htm>>

Governmental Agency Working Report (LAKIP)' (Directorate General of Maritime Transportation, Ministry of Transportation, 2013) chapter III-18, available at <<http://hubla.dephub.go.id>>

Lehmköster, Jen et al, *Oil and gas from the sea* <http://worldoceanreview.com/wp-content/downloads/wor3/WOR3_chapter_1.pdf>

Hazmi, Mohd, bin Moh Rusli, *Maritime Highways of Southeast Asia: Alternative Straits?* (10 February 2012) S. Rajaratnam School of International Studies (RSIS) Commentaries <<https://www.rsis.edu.sg/wp-content/uploads/2014/07/CO12024.pdf>>

Hidayat, Fajri Satria, 'The Potential of the Shipyard Industry as the Main Force Indonesia's Maritime Sector' on *Kompasiana* (21 August 2016) <<http://www.kompasiana.com/fajrisatriahidayat/the-potential-of-the-shipyard-industry-as-the-main-force-indonesia-s-maritime-sector>>

Hong, Nong, and Adolf K.Y.Ng., *The International Legal Instruments in Addressing Piracy and Maritime Terrorism: A Critical Review* <<https://www.researchgate.net>>

How Do Jack-Ups Work? Rig Zone <http://www.rigzone.com/training/insight.asp?insight_id=339>

How Do Semisubmersibles Work? Rig Zone <http://www.rigzone.com/training/insight.asp?insight_id=338>

Hwee, Tan Hwee, *Transforming Indonesia into a maritime power* (9 May 2016) ie-Singapore Go Global <<http://www.iesingapore.gov.sg>>

Indonesian Legal System (2005) Legal Systems in ASEAN <<http://www.aseanlawassociation.org/papers/Constitution.pdf>>

Indonesia shipping gazette, *National Connectivity a Basis Toward a World Maritime Axis Country* (18 May 2016) Marintec Indonesia <<http://marintecindonesia.com/national-connectivity-a-basis-toward-a-world-maritime-axis-country/>>

International Maritime Organization (IMO), Maritime Knowledge Centre, *International Shipping Facts and Figures-Information Resources on Trade, Safety, Security, Environment*, 6 March 2012

International Maritime Organization, *Indonesian President visits IMO* (2016) <<http://www.imo.org/en/MediaCentre/PressBriefings/Pages/10-Indonesia-president.aspx>>

International Maritime Organization (IMO), *History of SOLAS*
<[http://www.imo.org/en/
KnowledgeCentre/ReferencesAndArchives/HistoryofSOLAS/Pages/default.aspx](http://www.imo.org/en/KnowledgeCentre/ReferencesAndArchives/HistoryofSOLAS/Pages/default.aspx)>

International Maritime Organization (2016) IMO Goal-based standards
<<http://www.imo.org/en/OurWork/Safety/SafetyTopics/Pages/Goal-BasedStandards.aspx>>

IMO Media Centre, *Shipping in polar waters Adoption of an international code of safety for ships operating in polar waters (Polar Code)* (2016) International Maritime Organization <<http://www.imo.org/en/mediacentre/>>

IMO, *Surviving disaster -The Titanic and SOLAS*
<[http://www.imo.org/en/OurWork/
Safety/Regulations/Documents/TITANIC.pdf](http://www.imo.org/en/OurWork/Safety/Regulations/Documents/TITANIC.pdf)>

Ives, Mike, 'Vietnam Objects to Chinese Oil Rig in Disputed Waters', *The New York Times* (online), 20 January 2016
<http://www.nytimes.com/2016/01/21/world/asia/south-china-sea-vietnam-china.html?_r=0>

Kashubsky, Mikhail, *Protecting Offshore Oil and Gas Installations: Security Threats and Countervailing Measures* (13 August 2013) Journal of Energy Security
<<http://www.ensec.org/>>

Khan, Kamran, *Different Types of Offshore Production Units*
<[https://www.linkedin.com/
pulse/different-types-offshore-production-units-kamran-khan](https://www.linkedin.com/pulse/different-types-offshore-production-units-kamran-khan)>, 6 March 2016

Lee, Victor Robert, *China's New Military Installations in the Disputed Spratly Islands: Satellite Image Update* (16 March 2015) Satellite Image Analysis <<https://medium.com/satellite-image-analysis/china-s-new-military-installations-in-the-spratly-islands-satellite-image-update-1169bacc07f9#.qitqyke0r>>

Lotulung, Paulus E., et all (eds), *Indonesian Legal System* (2005) ASEAN Law Association <<http://www.aseanlawassociation.org/papers/Constitution.pdf>>

Marine Gazetteer Placedetails (20 September 2012) Marineregions
<<http://www.marineregions.org/gazetteer.php?p=details&id=4332>>

Farhad Mehdiyev, 'Providing and Maintenance of Oil Platforms and Pipelines'
<https://www.academia.edu/210612/Providing_and_maintenance_of_oil_platforms_and_pipelines_maritime_security>

Menhantz, *What are Jack Up Drilling Rigs?* (13 July 2016) Marine Insight
<<http://www.marineinsight.com/types-of-ships/what-are-jack-up-drilling-rigs/>>

Mikhail Kashubsky, *Offshore petroleum security: Analysis of offshore security threats, target attractiveness, and the international legal framework for the protection and security of offshore petroleum installations* (PhD Thesis, University of Wollongong, 2011) <<http://ro.uow.edu.au/theses/3662/>>

Mirasola, Christopher, *What Makes an Island? Land Reclamation and the South China Sea Arbitration* (15 July 2015) Asia Maritime Transparency Initiative <<https://amti.csis.org/what-makes-an-island-land-reclamation-and-the-south-china-sea-arbitration/>>

Murdoch, Lindsay, 'South China Sea: Vietnam accuses China of dragging oil rig into its waters', *The Sydney Morning Herald* (online), 21 January 2016 <<http://www.smh.com.au/world/south-china-sea-vietnam-accuses-china-of-dragging-oil-rig-into-its-waters-20160120-gmafr1.html>>

Naster, *President Jokowi at IMO Forum: I'm Committed to Making Indonesia Global Maritime Fulcrum* (20 April 2016) Ministry of Foreign Affairs Republic of Indonesia <<http://kemlu.go.id/en/berita/Pages/President-Jokowi-at-IMO-Forum.aspx>>

Norway Maritime Law Association, *Norwegian Answer to Offshore Activities Questionnaire* <<http://comitemaritime.org/Uploads/Work>>.

Number of tankers in the world's merchant fleet in 2010, by vessel type (2016) Statista <<http://www.statista.com/statistics/264052/number-of-tankers-in-the-world-merchant-fleet/>>

Oceans and Law of the Sea United Nations/Division for Ocean Affairs and the Law of the Sea, *Maritime Space: Maritime Zones and Maritime Delimitation - Asian and South Pacific States*, (8 December 2014). <http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/STATEFILES/IDN.htm>

Office for Ocean Affairs and the Law of the Sea, United Nations, *The Law of the Sea, Archipelagic States: Legislative History of Part IV of the United Nations Convention on the Law of the Sea*, (New York, 1990)

Office for Ocean Affairs and the Law of the Sea, United Nations, *The Law of the Sea, Practice of Archipelagic States* (New York, 1992)

Oil & Gas UK, *About the Industry-Chemical Discharges* (November, 2009) <http://www.oilandgasuk.co.uk/knowledgecentre/chemical_discharges.cfm>

Operational discharges of oil, Global Marine Oil Pollution Information Gateway <<http://oils.gpa.unep.org/facts/operational.htm>>

Qu, Xiaobo, and Meng, Qiang, *the Economic Importance of the Straits of Malacca and Singapore: An Extreme Scenario Analysis*

<http://www98.griffith.edu.au/dspace/bitstream/handle/10072/47702/77135_1.pdf>

Radovich, Violeta S., *International legal regime of offshore structures-environmental concerns*
<http://www.comitemaritime.org/Uploads/Young%20CMI/Paper_2_Violeta_Radovich.pdf>

Rakhmanto, Pri Agung, 'National Oil and Gas Upstream Renaissance', *Kompas* (Jakarta), 11 May 2016

Rapp-Hooper, Mira, *Before and After: The South China Sea Transformed* (18 February 2015) Asia Maritime Transparency Initiative
<<https://amti.csis.org/before-and-after-the-south-china-sea-transformed/>>

Rodrigue, Jean-Paul, *International Oil Transportation* (2013) *The geography of transport systems*
<<https://people.hofstra.edu/geotrans/eng/ch8en/appl8en/ch8a1en.html>>

Sartin, Jensi, 'The future of our marine environment', *The Jakarta Post* (online), 5 August 2014 <<http://www.thejakartapost.com/news/2014/08/05/the-future-our-marine-environment.html>>

Seattle protesters plan to kayak blockade to stop Shell rig departure (10 June 2015) Al Jazeera (America)
<<http://america.aljazeera.com/articles/2015/6/10/raging-grannies-try-to-block-shell-rig-departure.html>>

Simcock, Alan, *Submarine Cables and Pipelines* (2016)
<http://www.un.org/depts/los/global_reporting/WOA_RPROC/Chapter_19.pdf>

Statista, *Number of Offshore Rigs Worldwide as of 2015, by Region* (2016)
<<http://www.statista.com/statistics/279100/number-of-offshore-rigs-worldwide-by-region/>>

Suharyono AR, *Pembaruan Pidana Denda di Indonesia (the Renewal of Indonesia's Criminal Fines)* (Doctoral Dissertation, University of Indonesia, 2009)
<<http://lib.ui.ac.id/opac/themes/libri2/detail.jsp?id=20278549&lokasi=local>>

Tanker history global security
<<http://www.globalsecurity.org/military/systems/ship/tanker-history.htm>>

Taufan, Muhammad, 'Enhancing RI's Maritime Safety', *The Jakarta Post* (Jakarta), 6 January 2016, 6

Twomey, Brian, *Study Asses Asia-Pacific Offshore Decommissioning Cost* (15 March 2010) *Oil & Gas Journal* <<http://www.ogj.com/articles/print/volume->

108/issue-10/Technology/study-assesses-asia-pacific-offshore-decommissioning-costs.html>.

UN Office for Ocean Affairs and the Law of the Sea, *Baselines: An Examination of the Relevant Provisions of the United Nations Convention on the Law of the Sea* (1989) and International Maritime Organization, *Ships Routing* (IMO, 6th ed., 1991)

United Nations Conference on Trade and Development (UNCTAD), *Review of Maritime Transport 2015*, October 2015

U.S. activists to protest against Shell Arctic oil rig (30 June 2015) Reuters <<http://www.reuters.com/article/usa-shell-arctic-idUSL1N0ZG01F20150630>>

U.S. Energy Information Administration (EIA), *Offshore oil and gas recovery technology* (1998) <http://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/natural_gas_1998_issues_trends/pdf/Appb.pdf>

U.S. Energy Information Administration (EIA), *Oil tanker sizes range from general purpose to ultra-large crude carried on AFRA scale* <<http://www.eia.gov/todayinenergy/detail.php?id=17991>>

Vella, Heidi, *Decommissioning Indonesia's Oil Rigs: A Vast but Challenging Market* (19 February 2015) <<http://www.offshore-technology.com/features/featuredecommissioning-indonesias-oil-rigs-a-vast-but-challenging-market-4470226/>>

Witular, Rendi A., 'Presenting maritime doctrine', *The Jakarta Post* (online), 14 November 2014 <<http://www.thejakartapost.com/news/2014/11/14/presenting-maritime-doctrine.html>>

Yoshida, Koichi, *Fire Safety ISO Standards in ISOTC 92SC1* <http://www.transfeu.eu/fileadmin/user/pdf/TRANSFEU_to_IMO_and_ISO_K_Yoshida.pdf>

