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**THE REGULATION OF VESSEL-SOURCE POLLUTION IN THE STRAITS
OF MALACCA AND SINGAPORE**

A thesis submitted in fulfilment of the
requirements for the award of the degree

MASTER OF MARITIME STUDIES (RESEARCH)

from

UNIVERSITY OF WOLLONGONG

By

AMELIA EMRAN, LLB (Hons) (Malaysia)

**AUSTRALIAN NATIONAL CENTRE FOR OCEAN
RESOURCES AND SECURITY
2007**

CERTIFICATION

I, Amelia Emran, declare that this thesis, submitted in fulfilment of the requirements for the award of Master of Maritime Studies, in the Australian National Centre for Ocean Resources and Security, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. This document has not been submitted for qualifications at any other academic institution.

Amelia Emran
14 August 2007

ABSTRACT

The high volume of traffic passing through the Straits of Malacca and Singapore continuously exposes the Straits to the problem of vessel-source pollution, particularly oil pollution. As a strait used for international navigation under the United Nations Convention on the Law of the Sea 1982 (LOSC 1982), regulation of vessel-source pollution by the littoral States are confined within the provisions of the LOSC 1982.

The thesis examines the provisions of the LOSC 1982 with regard to the prescriptive and enforcement powers of strait States to address vessel-source pollution in straits used for international navigation. As a case study, the thesis analyses the Malaysian domestic legislative framework to implement the relevant LOSC 1982 provisions in the Malaysian part of the Strait of Malacca. The thesis also examines the existing cooperative arrangements in the Straits of Malacca and Singapore pursued under the provisions of the LOSC 1982 and the extent to which they address vessel-source pollution in the Straits.

The thesis concludes that strait States are granted by the LOSC 1982, very limited prescriptive and enforcement jurisdiction to regulate vessel-source pollution in straits used for international navigation. In the context of the Straits of Malacca and Singapore, the thesis establishes the gaps in Malaysia's implementation of the provisions of the LOSC 1982 in the Malaysian part of the Strait of Malacca. The thesis also establishes that cooperation has yet to fully materialise in the Straits of Malacca and Singapore and even where it is pursued, focus is on navigational safety issues rather than the problem of vessel-source pollution in the Straits.

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ACRONYMS

AIS	Automatic Identification System
ASEAN	Association of Southeast Asian Nations
ASEAN-OSPAR	Oil Spill Preparedness and Response in the ASEAN Region Project
ASEAN-OSRAP	ASEAN-Oil Spill Response Action Plan
BBL	Barrels
BIMCO	Baltic and International Maritime Council
CLC	International Convention on Civil Liability and Pollution Damage
COLREG	Convention on the International regulations for Preventing Collisions at Sea
ECDIS	Electronic Chart Display and Information System
ENCs	Electronic Navigational Charts
EQA	Environmental Quality Act
D.W.	Dead Weight
D.W.T.	Dead Weight Tonnage
FUND	International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage
GIS	Geographic Systems
HNS	Hazardous and Noxious Substances
IMCO	International Maritime Consultative Committee
IMO	International Maritime Organization
ICJ	International Court of Justice
ICS	International Chamber of Shipping
IHO	International Hydrographic Organization
INTERCARGO	International Association of Dry Cargo Shipowners
INTERTANKO	International Association of Independent Tanker Owners
ITF	International Transport Workers' Federation
LEG	Legal Committee
LNG	Liquefied Natural Gas
LOSC	Law of the Sea Convention
MARPOL	International Convention for the Prevention of Pollution from Ships
MEH	Marine Electronic Highway
MEPC	Marine Environment Protection Committee
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSA	Merchant Shipping (Oil Pollution) Act
MSO	Merchant Shipping Ordinance
RES	Resolution
SOLAS	International Convention for the Safety of Life at Sea
STCW	International Convention on Standards of Training Certification and Watchkeeping for Seafarers
STRAITREP	Mandatory Ship Reporting System
TTEG	Tripartite Technical Experts Group on the Safety of Navigation in the Straits of Malacca and Singapore
UNCLOS	United Nations Conference on the Law of the Sea
VLCCs	Very Large Cruise Carriers

ULCCs
VTs

Ultra Large Cruise Carriers
Vessel Traffic Services

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The Straits of Malacca and Singapore are bordered by Malaysia, Indonesia and Singapore. Together, they are the shortest sea-link between the Indian and Pacific Oceans. In 2004, the Straits were utilised by more than 90,000 vessels, at an average of 250 vessels per day.¹ This overall figure is expected to increase to over 140,000 vessels by the year 2020.² The Straits are especially important for vessels transporting oil between the Middle East and the East Asian economic giants of Japan and China because they constitute the shortest and most cost-effective sea route between the two destinations.³ In 2004, nearly 30 per cent of vessels using the Straits were oil tankers, carrying an estimated 11 million barrels of oil per day.⁴ By the year 2025, it is expected that 30 million barrels of oil per day will pass through the Straits on the way to the Far East.⁵

With such a high volume of traffic and oil passing through the Straits of Malacca and Singapore, pollution from vessels, particularly oil pollution, is a constant threat. This problem originates not only from the possibility of vessel accidents, which more often than not result in oil spill incidences, but also through vessel discharges from daily

¹Ministry of Land, Infrastructure and Transport of Japan, 'Survey of Traffic Through the Straits and Japanese Perspective on International Cooperation' (Figures presented at the Tripartite Technical Experts Group (TTEG)–User States Cooperation Meeting, Singapore, 31 March 2006).

²Vijay Sakhuja, *Malacca: Who's to Pay for Smooth Sailing?* (2007) Asia Times <http://www.atimes.com/atimes/Southeast_Asia/IE16Ae01.html> at 17 June 2007.

³Russ Swinnerton, 'A Description of Regional Shipping Routes: Navigational and Operational Considerations' (1996) 87 *Maritime Studies*, 10, 18.

⁴*World Oil Transit Chokepoints* (2005) Energy Information Administration <http://www.eia.doe.gov/emeu/cabs/World_Oil_Transit_Chokepoints/Background.html> at 15 June 2007.

⁵J. Ashley Roach, 'Enhancing Maritime Security in the Straits of Malacca and Singapore' (2005) *Journal of International Affairs* 97, 100.

operational activities such as ballasting and tank cleaning. Malaysia, Indonesia and Singapore, realising the vulnerability of the Straits to pollution from vessels, have long been proponents of tighter measures to regulate vessel-source pollution in the Straits of Malacca and Singapore. However, the States have limited control over vessel activities and passage in the Straits of Malacca and Singapore because of their status as a strait used for international navigation under the United Nations Convention on the Law of the Sea 1982 (LOSC 1982).⁶

The regime of transit passage, developed during the Third United Nations Conference on the Law of the Sea and formalised in Part III of the LOSC 1982,⁷ is applicable in the Straits of Malacca and Singapore. In addition to guaranteeing the right of unhampered passage to all vessels in straits used for international navigation, the regime includes provisions dealing with the reduction and control of pollution from vessels in such straits. Articles 42 and 233 of the LOSC 1982, which deals with strait States' powers to prescribe and enforce vessel pollution laws and regulations, is the central provision in relation to a strait State's right to protect its marine environment from vessel-source pollution. However, the prescriptive powers of strait States under Article 42 are confined to implementing standards set internationally under instruments such as the International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978⁸ relating thereto (MARPOL 73/78), whilst the enforcement

⁶*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, (entered into force 16 November 1994).

⁷*Ibid*, part III.

⁸*International Convention for the Prevention of Pollution from Ships 1973*, opened for signature 15 January 1974, 12 International Legal Materials 1319; *Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 1 June 1978, 17 International Legal Materials 546 (entered into force 2 October 1983). Collectively, the 1973 Convention and the 1978 Protocol are referred to as MARPOL 73/78. The text of MARPOL 73/78 is also found in International Maritime Organization, *MARPOL Consolidated Edition 2006: Articles, Protocols, Annexes Unified Interpretations of the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto* (2006).

authority of strait States under Article 233 is restricted by a number of interpretational issues.⁹ Strait States are nevertheless encouraged to enter into cooperative arrangements in straits used for international navigation with the user States of the straits for the purposes of addressing the problem of pollution from vessels.

1.2 The Thesis

The purpose of the thesis is to examine the scope of the prescriptive and enforcement powers of strait States with regard to vessel-source pollution provisions under the LOSC 1982. A case study will be undertaken of the Malaysian legislative implementation of Articles 42 and 233 of the LOSC 1982 in the Malaysian part of the Strait of Malacca. In addition, the existing cooperative initiatives between the littoral States and the user States of the Straits of Malacca and Singapore are examined, especially cooperative efforts designed to address the prevention, reduction and control of pollution in the Straits, entered pursuant to Article 43 of the LOSC 1982.

1.3 Thesis Structure

Following this introductory chapter, chapters 2 and 3 of the thesis provide a background to the Straits of Malacca and Singapore. The natural characteristics of the Straits are analysed, in addition to examining the importance of the Straits to the littoral States and to the regional and international shipping community. An overview is provided of the trend in vessel utilisation of the Straits of Malacca and Singapore in light of the Straits' status as the shortest and most cost effective option for vessels travelling the Indian-Pacific Ocean route. The problem of vessel-source pollution in the Straits of Malacca

⁹See section 5.2.4 of chapter 5 of the thesis.

and Singapore is analysed in chapter 3, particularly pollution as a result of vessel operations and accidents in the Straits.

Chapter 4 discusses the international legal framework governing pollution from vessels in straits used for international navigation under the LOSC 1982. The evolution of the concept of straits used for international navigation and the right of transit passage in such straits is reviewed, together with Part III of the LOSC 1982 to govern straits used for international navigation.

Chapter 5 focuses specifically on the provisions of the LOSC 1982 dealing with the prevention, reduction and control of pollution from vessels. It examines the strait States' competence to prescribe and enforce laws and regulations to control pollution from vessels exercising transit passage under the provisions of Article 42 and Article 233 of the LOSC 1982. The chapter also highlights the obligations of vessels exercising transit passage in straits used for international navigation under Article 39 of the LOSC 1982 to comply with general international regulations on the prevention, reduction and control of pollution from vessels. The requirement for strait States and user States of a strait used for international navigation to cooperate for the prevention, reduction and control of pollution from vessels under Article 43 of the LOSC 1982 is also examined.

Chapter 6 examines the implementation of Articles 42 and 233 of the LOSC 1982 in the Straits of Malacca and Singapore by examining the regulatory framework adopted by Malaysia to address the problem of vessel-source pollution in the Malaysian part of the Strait of Malacca. The relevant Malaysian legislation and its implementation in the

Malaysian part of the Strait of Malacca is analysed against the requirements of Article 42 and Article 233 of the LOSC 1982.

Chapter 7 examines Article 43 of the LOSC 1982 which encourages strait States and user States to cooperate in addressing the problem of pollution from vessels in straits used for international navigation. In particular, the chapter examines the implementation of Article 43 in the Straits of Malacca and Singapore through the different levels of cooperation that exist in the Straits.

1.4 Conclusion

The overall conclusions drawn from the thesis are first, that Articles 42 and 233 of the LOSC 1982 grant limited prescriptive and enforcement jurisdiction to strait States for the regulation of vessel-source pollution in straits used for international navigation. Second, in the case of Malaysia's implementation of Articles 42 and 233 of the LOSC 1982 in the Malaysian part of the Strait of Malacca, there are gaps in the Malaysian domestic legislation, which not only demonstrates the failure by Malaysia to fulfil the prescriptive requirements of Article 42 of the LOSC 1982 but also inhibits the exercise of enforcement powers under Article 233 of the LOSC 1982 by the relevant Malaysian authorities. The thesis proposes reform measures which Malaysia may undertake to remedy these legislative gaps.

The thesis also concludes that cooperation under Article 43 of the LOSC 1982 has yet to fully materialise in the Straits of Malacca and Singapore, particularly between the littoral States of the Straits and individual user States of the Straits, and particularly in relation to the request from the littoral States for the sharing of the financial burden of

maintaining the Straits. The thesis also demonstrates that where there is cooperation between strait states and user states, this cooperation typically consists of the adoption of measures to ensure the safe navigation of vessels in the Straits. Cooperation is yet to be exercised in a way that fully addresses the specific problem of vessel-source pollution in the Straits.

CHAPTER 2

THE STRAITS OF MALACCA AND SINGAPORE

2.1 Introduction

The purpose of this chapter is to provide background information on the Straits of Malacca and Singapore. It is divided into three sections. The first section highlights the natural characteristics of the Straits, including their geography, climate and biodiversity. The second section examines the importance of the Straits to the littoral States of the Straits in terms of the exploitation of resources and the third section analyses the Straits' strategic significance as the shortest route linking the Indian and Pacific Oceans, in particular for purposes of oil transportation.

2.2 Natural Characteristics of the Straits of Malacca and Singapore

The Straits of Malacca and Singapore are one of the most important watercourses in the world, equivalent to that of the Suez and Panama Canals. They are rich in renewable and non-renewable resources and house a myriad of flora and fauna. An overview of the Straits' unique geographical and natural environmental features is provided.

2.2.1 Geography

The Strait of Malacca is bordered on the north-west by a line from Ujung Baka (the north-west extremity of Sumatra, Indonesia) to Laem Phra Chao (the south extremity of Ko Phuket Island, Thailand).¹ On the south-east end, the limits of the Strait is indicated by a line drawn from Tanjung Piai (the south extremity of Malaysia) to Pulau Iyu Kechil, thence to Pulau Karimun Kechil, thence to Tanjung Kedabu in Sumatra,

¹Hamzah Ahmad, 'Straits of Malacca: A Profile' in Hamzah Ahmad (ed), *The Straits of Malacca International Co-operation in Trade, Funding and Navigational Safety* (1997) 3, 3.

Indonesia.² Three minor straits are found within the Strait of Malacca, namely, the Strait of Bengkali, located between the islands of Bengkali and Sumatra, the Strait of Rupat, situated between the islands of Rupat and Sumatra, and the Strait of Johore, between the southern tip of Peninsular Malaysia and the north coast of Singapore.³ At its southern-most extremity, the Strait of Malacca is joined by the Strait of Singapore which lies to the south of Singapore. The Strait of Singapore measures approximately 60 miles or about 52 nautical miles and extends from the south-eastern tip of Peninsular Malaysia to the north of Riau Island in Indonesia.⁴ Collectively, both Straits are referred to as the Straits of Malacca and Singapore.⁵ Figure 2.1 depicts the location of the Straits of Malacca and Singapore.

²Ibid. In Chua Thia-Eng, S. Adrian Ross and Huming Yu (eds), *Malacca Straits Environmental Profile* (1997) 1, the north-west entrance of the Strait of Malacca was identified as being either between Pulau Perak (Malaysia) and Diamond Point (Indonesia) or between Penang Island (Malaysia) and Ujung Thamiang (Indonesia) whilst its south-east entrance is identified as being between Tahan Datok (Malaysia) and Tanjong Pergam (Indonesia).

³Mary George, 'Adequacy of Strait States Laws for the Control of Marine Pollution in the Straits of Malacca and Singapore', (2001) 6 *Asia Pacific Journal of Environmental Law* 239, 241.

⁴Ibid.

⁵Ahmad, above n 1, 3.

Please see print copy for Figure 2.1

Figure 2.1: The Straits of Malacca and Singapore

Source: The Malacca Straits Research and Development Centre⁶

The Straits of Malacca and Singapore are approximately 600 nautical miles or approximately 1,000 km in length, and are essentially funnel-shaped, narrowing considerably in the south-east area. The north-west entrance of the Strait of Malacca measures about 200 miles and is its widest section.⁷ The Strait tapers to about 8 nautical miles as it reaches the south-east entrance.⁸ At the Strait of Singapore, the waters narrow to a navigable breadth of 3.2 nautical miles.⁹ Water depths in the Straits of Malacca and Singapore also vary considerably and in certain areas are less than 20

⁶The Malacca Straits Research and Development Centre, <http://www.fsas.upm.edu.my/~masdec/web/straits.html> at 20 January 2007.

⁷Michael Leifer, *International Straits of the World Malacca, Singapore and Indonesia* (1978), 52-53.

⁸Ibid, 53.

⁹Ibid.

metres.¹⁰ It has been estimated that depths in the main shipping channel of the Straits vary from 73 metres to less than 25 metres.¹¹

The whole length of the Straits of Malacca and Singapore is bordered by four States, namely, Indonesia, Malaysia, Thailand and Singapore.¹² However, Thailand borders the Straits only briefly, on the eastern side of its western entrance for a distance of 50 nautical miles.¹³ Here, the width of the waterway is approximately 200 miles.¹⁴ The navigational channel of the Straits passes through the territorial waters of only Indonesia, Malaysia and Singapore. Thus, for the purpose of this thesis, the littoral States of the Straits of Malacca and Singapore shall have limited reference to Indonesia, Malaysia and Singapore.

2.2.1.1 Maritime Boundaries in the Straits of Malacca and Singapore

There are at present four international maritime boundary demarcation lines in the Straits of Malacca and Singapore. These lines represent the territorial waters and continental shelf boundaries of the respective littoral States. A description of the boundary lines together with their accompanying agreements follows.

In areas less than 24 nautical miles in width, the waters of the Strait of Malacca is divided between Malaysia and Indonesia.¹⁵ Here, the waters of the Strait form part of the territorial waters of these two States. Malaysia and Indonesia agreed to delimit the territorial sea boundary between the two States in the Strait of Malacca on 17 March

¹⁰Thia-Eng, Ross and Yu, above n 2, 2.

¹¹E.E. Mitropolous, 'Enhancing Navigational Safety in the Straits of Malacca' (1999) *Singapore Journal of International & Comparative Law* 305, 307.

¹²Leifer, above n 7, 35.

¹³Ibid.

¹⁴Ibid.

¹⁵Ibid, 53. Leifer described the overlapping of the territorial waters of Malaysia and Indonesia as beginning where a "line of latitude is reached just South of 3°N and just below One Fathom Bank".

1970.¹⁶ Malaysia and Indonesia have also agreed to a continental shelf boundary line covering the entire stretch of the Strait of Malacca.¹⁷ This agreement was signed on 27 October 1969 and entered into force on 7 November 1969.¹⁸ Although reaching agreement in relation to the territorial waters and continental shelf boundaries, Malaysia and Indonesia have yet to achieve consensus on the boundary line for the exclusive economic zone in the Strait of Malacca. Negotiations are currently underway between the two States to resolve the matter. In the northern entrance of the Strait of Malacca, the continental shelf boundary between Thailand, Malaysia and Indonesia has also been delimited.¹⁹ Singapore and Indonesia entered into an agreement to delimit the territorial sea boundary between them in the Strait of Singapore on 25 May 1970.²⁰ This Agreement entered into force in 1974.²¹

There are three areas in the Straits of Malacca and Singapore where boundary agreements have yet to be reached. The first area is located at the southern end of the Strait of Malacca, where the Strait meets the western end of the Strait of Singapore,

¹⁶*Treaty between the Republic of Indonesia and Malaysia on Determination of Boundary Lines of Territorial Waters of the Two Nations at the Strait of Malacca*, 17 March 1970, Indonesia-Malaysia (entered into force 8 October 1971) in International Boundary Study Series A, Limits in the Seas, Territorial Sea Boundary Indonesia-Malaysia, Department of State United States of America, No. 50, 10 January 1973.

¹⁷*Agreement between the Government of the Republic of Indonesia and the Government of Malaysia Relating to the Delimitation of the Continental Shelves between the Two Countries*, 27 October 1969, Indonesia-Malaysia (entered into force 7 November 1969). See 'Agreement between the Government of the Republic of Indonesia and the Government of Malaysia Relating to the Delimitation of the Continental Shelves between the Two Countries' (1970) International Legal Materials 1173, 1173; Hamzah Ahmad (ed), *Malaysia and the United Nations Conference on the Law of the Sea: Selected Documents* (1983) 295.

¹⁸*Ibid.*

¹⁹*Agreement Between the Government of the Republic of Indonesia, the Government of Malaysia and the Government of the Kingdom of Thailand Relating to the Delimitation of the Continental Shelf Boundaries in the Northern part of the Straits of Malacca*, 21 December 1971, Indonesia-Malaysia-Thailand (entered into force 16 July 1973). See Ahmad, above n 17, 299.

²⁰*Agreement Stipulating the Territorial Sea Boundary Lines between Indonesia and the Republic of Singapore in the Strait of Singapore*, 25 May 1970, Indonesia-Singapore (Indonesia ratified the agreement on December 3, 1973 and Singapore ratified the agreement on August 29, 1974) in International Boundary Study Series A, Limits in the Seas, Territorial Sea Boundary Indonesia-Singapore, Department of State United States of America, No. 60, 11 November 1974.

²¹*Ibid.*

whilst the second area is located at the eastern end of the Strait of Singapore.²² Boundary demarcation in both these areas would require a tripartite agreement to be reached between the three littoral States of the Straits. The last area is located around the island of *Pulau Batu Puteh* (Pedra Branca) on which the Horsburgh Lighthouse is situated. The boundary for this area can only be demarcated once the dispute over the sovereignty of the island between Malaysia and Singapore is resolved by the International Court of Justice.²³ The public hearing for the case is scheduled to commence before the Court on 6 November 2007.²⁴

2.2.2. Climate

The Straits of Malacca and Singapore experience a tropical climate influenced by monsoons.²⁵ This affects the Straits' water circulation and the seasonal distribution of physical, chemical and biological characteristics.²⁶ The north-east monsoon normally contributes more rain and occurs from the months of December to February, whilst the south-west monsoon, which is generally dry, occurs between the months of June to August.²⁷ The months of March to May and September to November have unstable weather conditions, dominated by two inter-monsoon periods.²⁸

²²See Director of National Mapping Malaysia, 1979, Map showing the Territorial Waters and Continental Shelf Boundaries of Malaysia, Sheet 1.

²³International Court of Justice, 'Malaysia and Indonesia Jointly Submit A Dispute Concerning Sovereignty over Pedra Branca/ Pulau Batu Puteh, Middle Rocks and South Ledge to the International Court of Justice', (Press Release, 24 July 2003) Press Release 2003/22.

²⁴International Court of Justice, 'Sovereignty over Pedra Branca/ Pulau Batu Puteh, Middle Rocks and South Ledge (Malaysia/Singapore): Public Hearing on the Merits of the Dispute open on Tuesday 6 November 2007, (Press Release, 16 November 2006) Press Release 2006/38.

²⁵Thia-Eng, Ross and Yu, above n 2, 6.

²⁶Ibid.

²⁷Ibid.

²⁸Ibid.

There are generally no problems with visibility in the Straits of Malacca and Singapore, except during heavy rain.²⁹ However, in the last few years, thick haze emanating from forest fires in Sumatra has resulted in reduced visibility in the Straits. The occurrence of the haze has resulted in the issuance of hazard warnings to vessels by the littoral States.³⁰ Compared to a ten kilometre radius on a clear day,³¹ visibility in the Straits during the haze season has been reported to be less than five kilometres.³²

2.2.3 Biodiversity

Located in the subregion of East Asia, an area renowned for its diverse living and non-living resources, the Straits of Malacca and Singapore boast a profuse collection of coastal and marine biodiversity. The estuarine environment of the Straits makes them especially rich and diverse with marine flora and fauna.³³

2.2.3.1 Coastal Features of the Straits of Malacca and Singapore

A large coastal area facing the Straits of Malacca and Singapore is covered by coastal forests. Most of the coastal forests found along the Straits comprise mangroves and peat swamps and are located in east Sumatra and the west coast of Peninsular Malaysia.³⁴ Mangroves and peat swamps comprise one of the most dynamic ecosystems found along coastal zones and islands.³⁵ The mangrove-swamp ecosystem is described as one of the most productive ecosystems in the world and is an important spawning, nursery and habitat area for many prawn and fin-fish species, while mullets, croakers and

²⁹Ibid.

³⁰*Malaysia Issues Haze Alert on Malacca Straits* (2006) Channel News Asia <http://www.channelnewsasia.com/stories/afp_asiapacific/view/234552/1/.html> at 8 February 2007.

³¹Ahmad, above n 1, 3.

³²Above n 30.

³³Chua Thia-Eng, R. Nataranjan and S. Adrian Ross (eds), 'Analysis of the State of the Marine Environment of the Straits of Malacca and Singapore' (1998) 2 *Singapore Journal of International & Comparative Law* 323, 335.

³⁴Chua Thia-Eng et al, 'The Malacca Straits' (2000) 41 *Marine Pollution Bulletin* 160, 162.

³⁵Thia-Eng, Ross and Yu, above n 2, 18.

rabbitfish spend their larvae and juvenile stages there.³⁶ Some species of oysters and cockles are also associated with mangroves.³⁷ It was determined that 42 per cent of the fish catches off the west coast of Peninsular Malaysia were of mangrove-related species.³⁸ Mangroves also assist in the protection of coastlines by acting as buffers from erosion, storms, heavy waves and strong winds.³⁹ It has also been shown that the presence of mangroves could have reduced the effects of the December 2004 tsunami that struck, amongst other places, the Aceh Province of Sumatra Island.⁴⁰

Apart from mangrove and peat swamp forests, the Straits of Malacca and Singapore are also bordered by about 272,289ha of beaches.⁴¹ The entire east coast of Sumatra bordering the Straits of Malacca is made up of beaches.⁴² In general, these are inter-tidal in character with broad mudflats, except for those which have been developed into ports, industrial estates, housing and tourist resorts with their associated commercial and recreational usages.⁴³

2.2.3.2 Marine Flora and Fauna in the Straits of Malacca and Singapore

As part of the extensive and shallow Sunda Shelf, the Straits are rich with shallow soft-bottom habitats, and support a wide biodiversity of species, including different types of fish, seaweed, horseshoe crabs, shrimps, bivalves, gastropods, sea cucumbers and sea

³⁶Ibid; Mark Cleary and Goh Kim Chuan, *Environment and Development in the Straits of Malacca* (2000), 35.

³⁷Thia-Eng, Ross and Yu, above n 2, 18.

³⁸Ibid.

³⁹Thia-Eng, Ross and Yu, above n 2, 20.

⁴⁰Finn Danielsen et al, 'The Asian Tsunami: A Protective Role for Coastal Vegetation' (2005) 310 *Science* 643; Nigel Williams, 'Tsunami Insight to Mangrove Value' (2005) 15 *Current Biology* 73; Mark Kinver, *Tsunami: Mangroves 'Saved Lives'* (2005) BBC News <<http://news.bbc.co.uk/2/hi/science/nature/4547032.stm>> at 21 March 2006; *Mangrove Forests Seen as Life Savers* (2005) MSNBC <<http://www.msnbc.msn.com/id/6826505/>> at 21 March 2006.

⁴¹Thia-Eng et al, above n 34, 163.

⁴²Thia-Eng, Ross and Yu, above n 2, 28.

⁴³Ibid.

urchins.⁴⁴ The Straits of Malacca and Singapore also contain high fisheries crops and other marine products of commercial value.⁴⁵

Apart from marine fisheries, the Straits contain large concentrations of seagrass beds.⁴⁶ Seagrass beds are found mostly on the Malaysian side of the Straits of Malacca and Singapore, in particular, along Cape Rochado, Port Dickson and around Langkawi Island, and off the east coast of Sumatra in the Riau Archipelago.⁴⁷ Isolated patches may also be found off the southern islands of Singapore.⁴⁸ Of the 50 seagrasses species known worldwide, 14 species have been found in the Indonesian⁴⁹ and Malaysian seas.⁵⁰ Seagrasses may form mixed species meadows and are an essential component in food chains.⁵¹ The seagrass ecosystem serves numerous functions, including acting as a shelter and food source for fish, crustaceans and invertebrates, in addition to providing harvestable stocks of molluscs, sea urchins, sea cucumbers, and macro-algae.⁵² In Indonesia alone, 300 species of fishes were discovered around the seagrass beds.⁵³ Seagrass is also grazed directly by seacows (dugongs) and green turtles.⁵⁴ It performs a number of important ecological functions including the reduction of wave action in coastal waters and the regulation of chemical composition of coastal waters by acting as a filter.⁵⁵

⁴⁴Thia-Eng et al, above n 34, 163.

⁴⁵Thia-Eng, Nataranjan and Ross, above n 33, 335.

⁴⁶Thia-Eng, Ross and Yu, above n 2, 23.

⁴⁷Thia-Eng et al, above n 34, 163.

⁴⁸Ibid.

⁴⁹Thia-Eng, Ross and Yu, above n 2, 24.

⁵⁰Japar Sidik Bujang, Muta Harah Zakaria and Aziz Arshad, 'Distribution and Significance of Seagrass Ecosystems in Malaysia' (2006) 9 *Aquatic Ecosystem Health & Management* 203, 206.

⁵¹Thia-Eng, Ross and Yu, above n 2, 23.

⁵²Ibid, 24; Bujang, Zakaria and Arshad, above n 50, 206-211.

⁵³Thia-Eng, Ross and Yu, above n 2, 23.

⁵⁴Ibid, 24.

⁵⁵Ibid, 25.

Coral reefs are also found in the Straits of Malacca and Singapore. The total coral reef area in the Straits reaches approximately 56,000ha.⁵⁶ In Malaysia, most of the coral reefs are located around offshore islands or rocky outcrops and most notably around the islands of Langkawi, Sembilan and Pangkor.⁵⁷ In the Indonesian side, coral reefs occur mainly around the south-eastern entrance of the Strait, along the Riau Archipelago and the north-eastern tip of Sumatra, and off Singapore, along its southern islands.⁵⁸ It has been recorded that coral reef development in the Straits is amongst the lowest in the ASEAN region, possibly as a result of stressed conditions.⁵⁹ The dilapidation of reefs has also been identified as being caused by sea-based activities such as fishing and pollution.⁶⁰

2.3 Resource Utilisation in the Straits of Malacca and Singapore

Malaysia, Indonesia and Singapore have experienced rapid economic progress and population growth since the 1980s. The Straits of Malacca and Singapore played a vital role in this development and are considered the artery for Malaysia and Singapore's survival as independent States.⁶¹ The Straits house Malaysia's largest concentration of population, industries, ports and agriculture activities along their coasts and are one of the reasons behind Singapore's successful multi-billion dollar port and refinery industry.

Resource utilisation in the Straits of Malacca and Singapore differs between the three littoral States. Singapore, literally being situated in the middle of the waterway, depends

⁵⁶Thia-Eng et al, above n 34, 164.

⁵⁷Thia-Eng, Ross and Yu, above n 2, 22.

⁵⁸Ibid, 21.

⁵⁹F.M. Yusoff, M. Shariff and N. Gopinath, 'State of Malaysian Environment, Diversity of Malaysian Ecosystem and Resources' (2006) 9 *Aquatic Ecosystem Health & Management* 119, 121-122.

⁶⁰Thia-Eng et al, above n 34, 164.

⁶¹Ahmad, above n 1, 8.

on the Straits for the nation's trade and economic activities.⁶² However, due to its size and location, Singapore has been placed in a less advantageous position to exploit the natural resources of the Straits as compared to Malaysia and Indonesia. An example of this is the exploitation of the Straits' fisheries resources. Instead, Singapore receives the most benefit from vessel navigational use of the Straits.⁶³ To illustrate this point, in 2005, the Singapore port was recorded as the world's busiest port in the world.⁶⁴

2.3.1 Marine Fisheries and Coastal Aquaculture

The Straits of Malacca and Singapore supply the bulk of fisheries resources to the west coast of Peninsular Malaysia, the east coast of Sumatra, and Singapore.⁶⁵ Statistics from the Malaysian Department of Fisheries show that compared to other fisheries areas in Malaysia, the Straits are the most heavily exploited area.⁶⁶ Figures in 2004 showed that around 32,666 of Malaysian fishermen depended on the Strait of Malacca for their livelihood.⁶⁷ This figure accounts to about 37 per cent of the total number of fishermen in Malaysia.⁶⁸ In 1990, the total fish landings from the Straits amounted to 510,471 tonnes, which was about 54 per cent of the national total.⁶⁹ This figure continues to rise. In 2004, the total fish landings from the Strait amounted to 593,475 tonnes.⁷⁰

⁶²Chia Lin Sien, 'The Importance of the Straits of Malacca and Singapore', (1998) 2 *Singapore Journal of International & Comparative Law* 301, 303.

⁶³MPA *Achievements*, Singapore Maritime and Port Authority, <www.mpa.gov.sg/aboutmpa/achievements/achievements.htm> at 5 February 2007.

⁶⁴*Ibid.*

⁶⁵Cleary and Chuan, above n 36, 54-55.

⁶⁶See Department of Fisheries Malaysia, Annual Fisheries Statistics 2002 Volume 1, Table 4.1; Department of Fisheries Malaysia, Annual Fisheries Statistics 2003 Volume 1, Table 4.1; Department of Fisheries Malaysia, Annual Fisheries Statistics 2004 Volume 1, Table 4.1; G. Naidu, 'The Straits of Malacca in the Malaysian Economy' in Hamzah Ahmad (ed), *The Straits of Malacca International Co-operation in Trade, Funding and Navigational Safety* (1997) 33, 52.

⁶⁷Department of Fisheries Malaysia, Annual Fisheries Statistics 2004 Volume 1, 3.

⁶⁸*Ibid.*

⁶⁹Naidu, above n 66, 51.

⁷⁰Department of Fisheries Malaysia, above n 67.

However, an Indonesian study conducted in 2001 reveals that fisheries exploitation in the Indonesian part of the Strait of Malacca has reached 389,280 tonnes a year, higher than the Strait's estimated sustainable potential of 276,030 tonnes a year.⁷¹ These figures indicate that the exploitation of fisheries resources in the Strait is far beyond its maximum sustainable yield, raising concerns of overfishing and the depletion of resources.⁷² This problem is also compounded by, *inter alia*, trawling activities, illegal fishing, destructive fishing methods and pollution.⁷³ Due to its size and location, Singapore relies heavily on fish imported from Malaysia, Indonesia and Thailand without having to actively participate in the industry.⁷⁴ Coastal aquaculture is also a growing industry for both Malaysia and Indonesia. Brackishwater ponds, known as *tambak*, dominate the coastal areas of eastern Sumatra that border the Straits of Malacca and Singapore.⁷⁵ In Malaysia, aquaculture activities takes place in nearly all the states aligning the Straits.⁷⁶

2.3.2 Coastal Tourism and Recreation

Coastal tourism and recreation is flourishing in the Straits of Malacca and Singapore. Several major tourist resorts and 'hot spots' have been identified and developed along the Straits, including those located at Langkawi Island, Penang Island, and Pangkor Island in the Malaysian west coast, Batam and Bintan Islands in Indonesia and Sentosa Island in Singapore.⁷⁷ Recreational activities carried out in these areas include scuba diving, snorkeling, boating and fishing.

⁷¹Anugerah Nontji, 'Managing the Marine Environment of the Straits of Malacca' (Paper presented at the Conference on the Straits of Malacca: Building a Comprehensive Security Environment, Kuala Lumpur, 11-13 October 2004) 9; Thia-Eng, Ross and Yu, above n 2, 51.

⁷²Nontji, above n 71, 9.

⁷³Cleary and Chuan, above n 36, 57-59; Thia-Eng, Ross and Yu, above n 2, 66.

⁷⁴Thia-Eng, Ross and Yu, above n 2, 58.

⁷⁵Ibid, 59-62.

⁷⁶Ibid, 61.

⁷⁷Ibid, 85-91.

2.3.3 Oil and Gas Mining

Almost all the oil fields in the Straits of Malacca and Singapore are located on the east coast of Sumatra Island.⁷⁸ Around 8 million barrels of possibly recoverable oil have been identified in this area, with offshore oil production amounting to 55,000 barrels a day.⁷⁹ The development by Indonesia of the ports of Dumai along the Straits of Malacca and Pekanbaru was undertaken to meet these mining activities.⁸⁰ Indonesia is also a major producer of liquefied natural gas (LNG) in the region with an important LNG source being located in the Arun field in Aceh, near the north-west entrance to the Straits of Malacca and Singapore.⁸¹

The mining of tin ore and bauxite takes place on the Indonesian coasts bordering the Straits, notably in the Riau Archipelago.⁸² The mining of non-metal resources such as urea, kaolin and granite is also being carried out along the Indonesian coasts facing the Straits.⁸³ In addition, sand mining activities take place in various Malaysian and Indonesian locations facing the Straits.⁸⁴

2.4 Strategic Significance to Maritime Transportation

The Strait of Malacca, and later, together with the Strait of Singapore, was recognised as an important international maritime corridor from as early as the fifth century A.D.⁸⁵ Today, the Straits of Malacca and Singapore are one of the busiest waterways in the world. The strategic significance of the Straits lie in the fact that they constitute the shortest and cheapest link for vessels travelling from the Indian Ocean (via the

⁷⁸Ibid, 109.

⁷⁹Ibid, 112; Thia-Eng et al, above n 34, 165.

⁸⁰Cleary and Chuan, above n 36, 53.

⁸¹Thia-Eng et al, above n 34, 165.

⁸²Thia-Eng, Ross and Yu, above n 2, 83-84.

⁸³Ibid.

⁸⁴Ibid, 85.

⁸⁵Leifer, above n 7, 6.

Andaman Sea) to the South China Sea and Pacific Ocean. The Straits also constitute the longest strait used for international navigation in the world.⁸⁶ They serve the Europe to Middle East shipping route and link the growing East Asian economies to the Middle East. It was estimated that 93,855 vessels used the Straits of Malacca and Singapore in 2004.⁸⁷ By the year 2020, it is estimated that 141,000 vessels will be plying the Straits.

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Apart from supporting the bulk of maritime trade between Europe and the Asia Pacific, the Straits provide the key route for oil transportation between the Persian Gulf and the East Asian States of China, Japan and the Republic of Korea. It was estimated that about 11 million barrels of oil per day flowed through the Straits in 2004.⁸⁹ Seventy per cent of China's annual oil imports⁹⁰ and more than 80 per cent of Japan's and the Republic of Korea's crude oil supplies flow through this route.⁹¹ With an average increase of 3 per cent per annum between the present time and 2025, the demand for oil by the East Asian nations will grow to 30 million barrels per day by 2025.⁹² In fact, the

⁸⁶Morkzani Zubir, *The Strategic Value of the Strait of Malacca*, Maritime Institute of Malaysia <<http://www.mima.gov.my/mima/htmls/papers/pdf/mokhzani/strategic-value.pdf>> at 17 May 2007; B.A. Hamzah and M. N. Basiron, 'Providing for Safer and Cleaner Seas in the Malacca Straits' (1996) 3 *Tropical Coasts* 7, 7.

⁸⁷Ministry of Land, Infrastructure and Transport of Japan, 'Survey of Traffic through the Straits and Japanese Perspective on International Cooperation' (Figures presented at the Tripartite Technical Experts Group (TTEG)–User States Cooperation Meeting, Singapore, 31 March 2006).

⁸⁸Vijay Sakhuja, *Malacca: Who's to pay for smooth sailing?* (2007) Asia Times <http://www.atimes.com/atimes/Southeast_Asia/IE16Ae01.html> at 20 May 2007.

⁸⁹*World Oil Transit Chokepoints* (2005) Energy Information Administration <http://www.eia.doe.gov/emeu/cabs/World_Oil_Transit_Chokepoints/Background.html> at 15 June 2007.

⁹⁰Marwaan Macan-Markar, *Environment-Asia: China Turns Mekong into Oil Shipping Route* (2007) Inter Press Service News Agency <<http://ipsnews.net/news.asp?idnews=36074>> at 5 February 2007. In Tianshu Chu, Fereidun Fesharaki and Kang Wu, 'China's Energy in Transition: Regional and Global Implications' (2006) 1 *Asian Economic and Policy Review* 134, 147, the Chinese oil import trends were highlighted. It was pointed out that in 2004 China imported 3.0 million bbl per day with crude oil imports amounting to 2.4 million bbl per day. China's 2004 net oil imports constituted nearly 40 per cent of China's total petroleum product consumption. The article also predicted a rapid rise in these figures within the next 10-15 year period.

⁹¹J. Ashley Roach, 'Enhancing Maritime Security in the Straits of Malacca and Singapore' (2005) *Journal of International Affairs* 97, 100.

⁹²*Ibid.*

Straits are also responsible for the transportation of almost 70 per cent of the Republic of Korea's and 60 per cent of Japan's energy supplies.⁹³

Apart from being the shortest route between the Indian and Pacific oceans, the existence of ports along the coasts of the Straits of Malacca and Singapore has also encouraged vessel use of the Straits. The ports of Klang, Penang and Port Dickson in the west coast of Peninsular Malaysia and the world renowned, Singapore port are all situated in the Straits. In 2005, Singapore port was recorded to be the world's busiest port in terms of tonnage, the world's leading bunkering port and one of the world's busiest container ports.⁹⁴ In 2005, the Singapore port recorded vessel arrivals of 1.15 billion gross tons, supplied a record total of 25.48 million tonnes of bunkers, and handled 423 million tonnes of seaborne cargo and 23.19 million TEUs (twenty-foot equivalent units).⁹⁵

2.4.1 Alternative Routes

While the Straits of Malacca and Singapore may not be the only route connecting the Indian and Pacific oceans, alternative routes, such as the Lombok-Makassar route add substantial distance and cost to a vessel's journey. For instance, a passage from the Middle East to Japan via the Lombok-Makassar Strait would add about 1,000 nautical miles to the journey, which is equivalent to an additional 4 days for a vessel travelling at 12.5 knots.⁹⁶ The Sunda Strait has also been considered as an alternative route to the Straits of Malacca and Singapore, but like the Lombok-Makassar route, would cause a vessel to travel a longer distance. Table 2.1 details out the difference in distance and

⁹³Ibid.

⁹⁴Above n 63.

⁹⁵Ibid.

⁹⁶Russ Swinnerton, 'A Description of Regional Shipping Routes: Navigational and Operational Considerations' (1996) 87 *Maritime Studies*, 10, 18.

days between the Malacca and Singapore Straits, Lombok Strait and the Sunda Strait routes for vessels travelling the Middle East-Yokohama course.

Table 2.1: Summary of distances and days for vessels travelling the Middle East-Yokohama route through the Malacca and Singapore Straits, Lombok Strait and the Sunda Strait⁹⁷

Please see print copy for Table 2.1

Apart from the distance, factors such as piracy and security make the Lombok-Makassar route less appealing to vessels.⁹⁸ The lack of navigational charts on the Sunda Strait, accompanied by the existence of potential hazards such as sandbanks and oil drilling platforms, makes it a less preferred alternative to the Straits of Malacca and Singapore.⁹⁹ Both routes have also in the past been closed to international traffic.¹⁰⁰ In terms of costs, Sien observes that diverting tankers on the Middle East-Japan route from the Malacca and Singapore Straits to the Lombok-Makassar route, would involve an additional annual figure of more than USD\$ 340 million to the Japanese petroleum industry.¹⁰¹ In addition, it is estimated that the Japanese bulk trade industry benefits USD\$ 1 billion a year from the use of the Straits.¹⁰²

In its bid to meet its growing demand for oil, China has begun to seek alternative routes to the Straits of Malacca and Singapore. It has entered into an agreement with Rangoon to build an oil pipeline linking Myanmar's deep-water port of Sittwe to Kunming,

⁹⁷Ibid.

⁹⁸Chia Lin Sien, *Alternative Routes for Oil Tankers: A Financial, Technical and Economic Analysis* in Hamzah Ahmad (ed), *The Straits of Malacca International Co-operation in Trade, Funding and Navigational Safety* (1997) 103, 117.

⁹⁹Ibid, 106-107.

¹⁰⁰Ibid, 117.

¹⁰¹Zubir, above n 86; B.A. Hamzah, 'Managing Marine Pollution in the Straits of Malacca and Singapore: Personal Observations' (1998) *Singapore Journal of International & Comparative Law* 464, 466.

¹⁰²Hamzah, above n 101, 466.

Yunnan's capital.¹⁰³ The Mekong River is also being considered as an alternative shipping route for the Chinese.¹⁰⁴ However, both ventures have met with opposition from environmentalists and human rights activists, who are concerned about the potential environmental and social impact that these projects might have on local inhabitants.¹⁰⁵ A 250 km pipeline across the Kra Isthmus from the Andaman Sea to the Gulf of Thailand has also been proposed as a substitute for the Straits of Malacca and Singapore route.¹⁰⁶ However, the viability of this project is still uncertain.¹⁰⁷ China's oil requirement is expected to reach nearly 9 million barrels per day by 2025 and unless an alternative route is identified, three quarters of it is expected to pass through the Straits.¹⁰⁸ An indication of China's continued reliance on the Straits for the future transportation of oil is that country's work alongside Japan, in promoting user State-littoral State cooperation.¹⁰⁹

2.5 Conclusion

Chapter two presented background information on the Straits of Malacca and Singapore, describing their geographical characteristics and unique natural features. It has also shown the importance of the Straits of Malacca and Singapore to the overall economic survival of the coastal communities of the littoral States. The reliance of the international maritime community on the Straits of Malacca and Singapore was

¹⁰³Macan-Markar, above n 90.

¹⁰⁴*Ibid.*

¹⁰⁵*Ibid.*

¹⁰⁶Henry J. Kenny, 'China and the Competition for Oil and Gas in Asia' (2004) 11 *Asia Pacific Review* 36, 43.

¹⁰⁷*Ibid.*

¹⁰⁸*Ibid.*, 36, 38 and 42.

¹⁰⁹For instance, at the Meeting on the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection held in Kuala Lumpur in 2006, China undertook to replace navigational aids in the Straits destroyed by the 2004 tsunami. See Statement by the People's Republic of China (Presented at the Meeting on the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection, Kuala Lumpur, 18-20 September 2006).

discussed, in particular the dependence of the East Asian economies on the Straits for the transportation of oil from the Middle East. This chapter has established that for lack of a better alternative and as a result of this continued reliance, the Straits will retain their role as the main transportation route for vessels heading from and towards these areas. The subsequent chapters will discuss vessel use and activities in the Straits of Malacca and Singapore, with particular emphasis on the impact that usage and activities have on the marine environment of the Straits.

CHAPTER 3

VESSEL TRAFFIC AND POLLUTION IN THE STRAITS OF MALACCA AND SINGAPORE

3.1 Introduction

Chapter two established the strategic significance of the Straits of Malacca and Singapore as the shortest and most cost-effective option for vessels travelling the Indian-Pacific Ocean route. In light of the predicted increase in future vessel use and activity in the Straits of Malacca and Singapore, particularly by tankers for the transportation of oil,¹ the main purpose of this chapter is to discuss the problem of vessel-source pollution in the Straits, particularly pollution by oil.

Chapter two is divided into two sections. The first section examines vessel traffic trends in the Straits of Malacca and Singapore. It provides an overview of the traffic situation in the Straits, highlighting, amongst other issues, statistics on the volume, tonnage and flag States of the vessels in the Straits. The second section analyses the problem of pollution from vessels in the Straits of Malacca and Singapore. This problem originates from two main sources, namely, pollution as a result of vessel operations in the Straits (such as tanker ballasting and cleaning) and pollution as a result of vessel accidents.

¹Vijay Sakhuja, *Malacca: Who's to Pay for Smooth Sailing?* (2007) Asia Times <http://www.atimes.com/atimes/Southeast_Asia/IE16Ae01.html> at 20 May 2007. The article predicted that by the year 2020, 141,000 vessels will be plying the Straits of Malacca and Singapore.

3.2 Vessel Traffic in the Straits of Malacca and Singapore

The Straits of Malacca and Singapore support the bulk of maritime trade between Europe and Asia,² and together with the Sunda and Lombok Straits, have more than half of the world's merchant fleet tonnage passing through them.³ According to Roach, tonnage via the Straits of Malacca and Singapore is dominated by bulk liquid, with nearly two-thirds of it consisting of crude oil from the Persian Gulf.⁴

The Straits of Malacca and Singapore and the Strait of Hormuz are collectively responsible for 60 per cent of global oil transit.⁵ It was estimated that 11.7 million barrels of oil per day passed through the Straits of Malacca and Singapore in 2004, about three times greater than in the Suez Canal and 21 times greater than the oil transported through the Panama Canal.⁶ The bulk of oil shipments passing through the Straits are transported to China, Japan and South Korea, the biggest oil consumers in the region.⁷ By the year 2020, 20 million barrels of oil is expected to pass through the Straits daily.⁸ This figure is expected to climb to 30 million barrels of oil per day by 2025, mostly due to China's increasing demand for energy.⁹ Chinese oil imports are likely to rise from 2 million barrels per day in 2004 to

²Chia Lin Sien, 'The Importance of the Straits of Malacca and Singapore', (1998) 2 *Singapore Journal of International & Comparative Law* 301, 302.

³J. Ashley Roach, 'Enhancing Maritime Security in the Straits of Malacca and Singapore' (2005) *Journal of International Affairs* 97, 100.

⁴*Ibid.*

⁵Jean-Paul Rodrigue, 'Straits, Passages and Chokepoints: A Maritime Geostrategy of Petroleum Distribution' (2004) 48 *Cahiers de géographie du Québec* 357, 365.

⁶*World Oil Transit Chokepoints* (2005) Energy Information Administration <http://www.eia.doe.gov/emeu/cabs/World_Oil_Transit_Chokepoints/Background.html> at 15 June 2007.

⁷Roach, above n 3, 100-101.

⁸Donald Urquhart, 'All Users Urged to Help on Straits' Upkeep, Security' *The Business Times Singapore*, (Singapore), 9 February 2007.

⁹Roach, above n 3, 100. See also Henry J. Kenny, 'China and the Competition for Oil and Gas in Asia' (2004) 11 *Asia-Pacific Review* 36, 37.

about 9 million barrels per day by 2025, and about three-quarters of that supply is expected to arrive from the Persian Gulf via the Straits of Malacca and Singapore.¹⁰

3.2.1 Volume of Vessels in the Straits of Malacca and Singapore

The number of vessels using the Straits of Malacca and Singapore steadily increases every year. In 2004, the Marine Department of Malaysia recorded 63,636 vessels reporting to the Malaysian Vessel Traffic Services (VTS) in the Strait of Malacca, an increase of 19,671 vessels from 1999.¹¹ The Ministry of Land, Infrastructure and Transport of Japan quoted an overall number 93,855 vessels using the Straits of Malacca and Singapore in 2004.¹² The number of vessels in the Straits of Malacca and Singapore is expected to reach 141,000 by the year 2020.¹³ Table 3.1 details the increasing number of vessels passing through the Strait of Malacca, as recorded by the Malaysian VTS from the years 1999 to 2004.

¹⁰Kenny, above n 9, 36, 38 and 43.

¹¹Personal communication with Ahmad Nordin Ibrahim, Maritime Traffic Services Unit, Marine Department of Malaysia. It is to be noted that the figures quoted by the Marine Department of Malaysia reflect vessels reporting to the VTS in the Malaysian part of the Straits of Malacca and Singapore only. The Indonesian Department of Communication in 2004 estimated an average of 70,000 vessels passing through the Straits annually. See Anugerah Nontji, 'Managing the Marine Environment of the Straits of Malacca' (Paper presented at the Conference on the Straits of Malacca: Building a Comprehensive Security Environment, Kuala Lumpur, 11-13 October 2004) 1.

¹²Ministry of Land, Infrastructure and Transport of Japan, 'Survey of Traffic Through the Straits and Japanese Perspective on International Cooperation' (Figures presented at the Tripartite Technical Experts Group (TTEG)–User States Cooperation Meeting, Singapore, 31 March 2006).

¹³Sakhuja, above n 1.

Table 3.1: Vessels reporting to the Malaysian VTS from 1999 to 2004

Source: Marine Department of Malaysia¹⁴

Please see print copy for Table 3.1

3.2.2 Flag States of Vessels in the Straits of Malacca and Singapore

Tables 3.2 and 3.3 show the volume and tonnage of vessels passing through the Straits of Malacca and Singapore in 2004, according to the top 20 States used as flags of registry for the vessels. Nearly half of the vessels using the Straits are registered to 'Flags of Convenience' such as Panama, Liberia, Cyprus, Malta, Antigua & Barbuda, Marshall Islands and the Bahamas.¹⁵ Vessels flying the flag of Panama had the greatest volume and tonnage in the Straits of Malacca and Singapore, accounting to more than 20 per cent of the overall vessel total.¹⁶

¹⁴Personal communication with Ahmad Nordin Ibrahim, Maritime Traffic Services Unit, Marine Department of Malaysia. It is to be noted that the figures quoted by the Marine Department of Malaysia reflect vessels reporting to the VTS in the Malaysian part of the Straits of Malacca and Singapore only.

¹⁵These States have been designated by the International Transport Workers' Federation (ITF) as "Flags of convenience" for ships. The ITF defines a "Flag of Convenience" ship as "one that flies the flag of a country other than the country of ownership". See *Campaign Against Flags of Convenience and Substandard Shipping: 2004 Annual Report*, International Transport Workers' Federation, <<http://www.itfglobal.org/infocentre/pubs.cfm/detail/1324>> at 12 April 2007.

¹⁶Ministry of Land, Infrastructure and Transport of Japan, above n 12.

Table 3.2: Volume of vessels in the Straits of Malacca and Singapore according to flag State (2004)

Source: Ministry of Land, Infrastructure and Transport of Japan¹⁷

Please see print copy for Table 3.2

Table 3.3: Tonnage of vessels (D.W.) in the Straits of Malacca and Singapore according to flag State (2004)

Source: Ministry of Land, Infrastructure and Transport of Japan¹⁸

Please see print copy for Table 3.3

¹⁷Ibid.

¹⁸Ibid.

Please see print copy for Figure 3.3

3.2.3 Types of Vessels in the Straits of Malacca and Singapore

According to the Marine Department of Malaysia, container vessels were the highest single type vessel using the Strait of Malacca in 2004 amounting to 31.72 per cent of all vessels passing through the Strait in that year.¹⁹ The next highest type of vessels was tankers, with a total of 25.78 per cent, followed by cargo and bulk going vessels with 10.41 per cent and 10.26 per cent respectively. Very Large Crude Carriers (VLCCs) amounted to only about 6 per cent of the total traffic volume,²⁰ possibly due to the imposition of a 3.5 metre under-keel clearance limit in the Straits of Malacca and Singapore. The alternative routes for VLCCs and Ultra Large Crude Carriers (ULCCs) are through the Lombok-Makassar route.²¹

¹⁹Personal communication with Ahmad Nordin Ibrahim, Maritime Traffic Services Unit, Marine Department of Malaysia. It is to be noted that the figures quoted by the Marine Department of Malaysia reflect vessels reporting to the VTS in the Malaysian part of the Straits of Malacca and Singapore only.

²⁰Ibid.

²¹Sien, above n 2, 307.

Table 3.4: Vessels reporting to the Malaysian VTS in the Strait of Malacca (2004)
Source: Marine Department of Malaysia²²

Please see print copy for Table 3.4

3.2.4 Ownership of Vessels in the Straits of Malacca and Singapore

Vessels belonging to Japanese parent companies²³ were the highest users of the Straits of Malacca and Singapore in 2004, amounting to 15.1 per cent and 18.6 per cent respectively from the total volume and tonnage of traffic in the Straits.²⁴ These figures would partly explain Japan's continuous efforts in ensuring the safety of navigation in the Straits. Japan is in fact the only user State of the Straits of Malacca and Singapore actively participating in activities to ensure the better management of the Straits.²⁵ Other major vessel-owning States in the Straits include China, Germany, Singapore, Norway, Korea and Taiwan.²⁶

²²Personal communication with Ahmad Nordin Ibrahim, Maritime Traffic Services Unit, Marine Department of Malaysia. It is to be noted that the figures quoted by the Marine Department of Malaysia reflect vessels reporting to the VTS in the Malaysian part of the Straits of Malacca and Singapore only.

²³Ministry of Land, Infrastructure and Transport of Japan, above n 12. The Ministry of Land, Infrastructure and Transport of Japan referred to the term 'Parent Company' as meaning either the company that would receive payment from the insurers if a vessel becomes a 'Total Loss' or the beneficial owner of a vessel, which is a person or a company that would have the right to sell or dispose of a vessel, or to transfer shares in a vessel.

²⁴Ministry of Land, Infrastructure and Transport of Japan, above n 12.

²⁵See Chapter 7 of the thesis for a discussion of the cooperative efforts that have been pursued in the Straits of Malacca and Singapore between the littoral States and the user States of the Straits.

²⁶Ministry of Land, Infrastructure and Transport of Japan, above n 12.

Tables 3.5 and 3.6 highlight the nationality of parent companies of the vessels traversing the Straits as per their total volume and tonnage and according to the top 20 flag States of the vessels.

Table 3.5: Parent company's nationality according to volume of vessels (2004)

Source: Ministry of Land, Infrastructure and Transport of Japan²⁷

Please see print copy for Table 3.5

Table 3.6: Parent company's nationality according to tonnage of vessels (D.W.) (2004)

Source: Ministry of Land, Infrastructure and Transport of Japan²⁸

Please see print copy for Table 3.6

²⁷Ibid.

²⁸Ibid.

Please see print copy for Table 3.6

3.2.5 Calling Ports of Vessels in the Straits of Malacca and Singapore

Based on the figures presented by the Japanese Ministry of Land, Infrastructure and Transport, the port of Singapore received and dispatched approximately 30 per cent of the vessels using the Straits of Malacca and Singapore in 2004, in terms of both volume and tonnage.²⁹ Considerably fewer vessels used the Malaysian and Indonesian ports. The ports in both States received an average of only about 20 per cent of the total volume, and account for less than 10 per cent of the total tonnage of vessels in the Straits.³⁰ Being the main destination for oil transportation between the Middle East and the East Asian States, the ports in China, Japan, U.A.E and Saudi Arabia constituted the other main calling ports of vessels using the Straits.³¹

²⁹Ibid.

³⁰Ibid.

³¹Ibid.

3.3 Sources of Pollution in the Straits of Malacca and Singapore

Due to their strategic location as a major international shipping lane and the concentration of agriculture, industry and urbanisation along their coasts, the Straits have been subjected to a variety of land and sea-based pollutants. Although land-based sources of pollution have been blamed for up to 70 per cent of global marine pollution,³² pollution from sea-based sources are no less damaging to the marine environment. This is due to the intensity and magnitude of sea-based pollution sources, especially when occurring within semi-enclosed sea areas such as the Straits of Malacca and Singapore.³³ An examination of the sources of pollution in the Straits is provided, with particular emphasis on oil pollution originating from vessels.³⁴

3.3.1 Land-based Sources of Pollution

The Straits of Malacca and Singapore are exposed to a variety of land-based pollutants. These pollutants find their way into the Straits via secondary sources such as rivers and drains and through the direct release of polluting substances into their waters.³⁵ As a result of the concentration of population and activities along the Straits' coasts, domestic sewage, agricultural wastes and industrial wastes have been identified as amongst the major sources

³²Report of the United Nations Conference on Environment and Development: Chapter 17 Protection of the Oceans, All Kinds of Seas, Including Enclosed and Semi-Enclosed Seas, and Coastal Areas and the Protection, Rational Use and Development of Their Living Resources [17.18], A/CONF151/26 (Vol.II) (1992).

³³Hamzah Ahmad 'Global Funding for Navigational Safety and Environmental Protection' in Hamzah Ahmad (ed), *The Straits of Malacca International Co-operation in Trade, Funding and Navigational Safety* (1997) 125, 128; B.A. Hamzah 'Navigational Safety and the Environmental Protection in the Straits of Malacca: The Need for Global Funding' in Mochtar Kusuma-Atmadja, Thomas A. Mensah and Bernard H. Oxman, *Sustainable Development and the Preservation of the Oceans: The Challenges of UNCLOS and Agenda 21* (1997) 518, 521.

³⁴The IMO has declared that in tonnage terms, the most important pollutant resulting from shipping operations is oil. See *Preventing Marine Pollution: The Environmental Threat* (1998) International Maritime Organization <http://www.imo.org/includes/blastDataOnly.asp/data_id%3D7996/POLLutionpreventingmarinepollution1998.pdf> at 21 June 2007.

³⁵Mark Cleary and Goh Kim Chuan, *Environment and Development in the Straits of Malacca* (2000) 154-168.

of land-based pollution in the Straits of Malacca and Singapore. These pollutants contribute to a range of problems, including, organic and biological pollution, heavy metal contamination, and the increase in suspended solids, oil and grease in the Straits.³⁶

For example, in Malaysia, states situated along the west coast of Peninsular Malaysia and bordering the Strait of Malacca have the highest population and economic concentration in the country.³⁷ This area has the highest volume of industrial and agricultural activity in Malaysia and produces nearly 70 per cent of the Malaysian national economic output.³⁸ Dow described the main features of the pollution problem in the Malaysian part of the Straits of Malacca and Singapore as reflecting the “high population density, the rapid transformation of land use and growth of industries along the west coast.”³⁹ The population and activity patterns along the Indonesian and Singaporean coasts of the Straits are comparable to that of Malaysia’s, resulting in similar land-based pollution sources and problems.⁴⁰

³⁶Kristin Dow, ‘An Overview of Pollution Issues in the Straits of Malacca’ in Hamzah Ahmad (ed), *The Straits of Malacca International Co-operation in Trade, Funding and Navigational Safety* (1997) 61, 62. See also Mohd Nizam Basiron, ‘Managing Marine Pollution in the Straits of Malacca’ (1995) Coastal Resources Management Project, Sri Lanka.

³⁷G. Naidu, ‘The Straits of Malacca in the Malaysian Economy’ in Hamzah Ahmad (ed), *The Straits of Malacca International Co-operation in Trade, Funding and Navigational Safety* (1997) 33, 45.

³⁸*Ibid.*

³⁹Dow, above n 36, 63.

⁴⁰*Ibid.*, 62; Aprilani Soegiarto ‘Pollution Management and Mitigation in the Straits of Malacca: Priorities, Uncertainties and Decision Making’ in M.Shariff et al (eds), *Towards Sustainable Management of the Straits of Malacca* (2000) 503, 505-508.

3.3.2 Sea-based Sources of Pollution

Sea-based sources of pollution are the other major source of pollution in the Straits of Malacca and Singapore. Although occurring less frequently, sea-based pollution can potentially cause just as much, or even greater damage to the marine environment than land-based sources of pollution. The Straits are generally exposed to sea-based pollution from two sources, from offshore activities such as oil exploration and mining, and from vessel utilisation of and activities in the Straits. Being a major global shipping artery, vessel-source pollution has been observed to be the main source of sea-based pollution in the Straits.⁴¹ Pollution from vessels in the Straits originates from two main sources, namely, as a result of vessel discharge from operational activities and as a result of vessel accidents.

3.3.2.1 Vessel Accidents in the Straits of Malacca and Singapore

According to Thia-Eng, cargo vessels and oil tankers are the most common types of vessels involved in accidents in the Straits of Malacca and Singapore.⁴² In 2004, container vessels, cargo vessels, vessels carrying bulk goods, tankers and VLCCs made up nearly 80 per cent of the overall number of vessels in the Straits, with an estimated 26 per cent of these vessels being oil tankers.⁴³ In addition, it was estimated that in 2004 about 11 million barrels of oil per day passed through the Straits.⁴⁴ By the year 2025, this figure is expected to increase to 30 million barrels of oil per day.⁴⁵ These numbers not only illustrate the importance of the Straits as a regional and global oil transportation route, but also justify the long-standing

⁴¹Abdul Rani Abdullah et al, 'The GEF/UNDP/IMO Malacca Straits Demonstration Project: Sources of Pollution' (1999) 39 *Marine Pollution Bulletin* 229, 232; Dow, above n 36, 88.

⁴²Chua Thia-Eng, S. Adrian Ross and Huming Yu (eds), *Malacca Straits Environmental Profile* (1997) 158.

⁴³See Table 3.4.

⁴⁴Above n 6.

⁴⁵Roach, above n 3, 100. See also Kenny, above n 9, 37.

and immediate concern of the littoral States of the Straits over potential oil spill incidences in the Straits. Statistics by the Department of Environment of Malaysia have shown that 301 oil spill incidences occurred in the Straits of Malacca and Singapore from 1976 to 2004, with about 90 oil spill incidents occurring in the Strait of Malacca between the period 1999 to 2003.⁴⁶

Vessel accidents as a result of collisions and groundings are a common concern in the Straits of Malacca and Singapore. It was estimated that 476 vessel accidents occurred in the Straits of Malacca and Singapore between 1975 and 1993.⁴⁷ The problem of vessel groundings in the Straits has been generally linked to the sea bottom topography of the Straits. Factors such as sandwaves, moving sandbanks, irregular depths, wrecks and shoal patches, makes the passage of large vessels in the Straits particularly dangerous.⁴⁸ In recognition of this, the littoral States of the Straits have restricted the use of the Straits by large vessels, usually measuring 200,000 D.W.T and above, by the imposition of a minimum 3.5 metre under-keel clearance limit throughout the length of the Straits of Malacca and Singapore.⁴⁹ A potential change in the Straits' depth as a result of the sub-sea earthquake that caused the 2004 tsunami adds to the challenge of transversing the Straits.⁵⁰

⁴⁶*Kejadian Pencemaran Minyak Mengikut Laut 1976-2004*, Department of Environment Malaysia <http://www.doe.gov.my/index.php?option=com_content&task=view&id=407&Itemid=615&lang=en> at 20 June 2007.

⁴⁷Chua Thia-Eng et al, 'The Malacca Straits' (2000) 41 *Marine Pollution Bulletin* 160, 169.

⁴⁸E.E. Mitropolous, 'Enhancing Navigational Safety in the Straits of Malacca' (1999) *Singapore Journal of International & Comparative Law* 305, 307; Michael Leifer, *Malacca, Singapore and Indonesia* (1978) 55-57; Thia-Eng, Ross and Yu, above n 42, 158; Hamzah Ahmad, 'Straits of Malacca: A Profile' in Hamzah Ahmad (ed), *The Straits of Malacca International Co-operation in Trade, Funding and Navigational Safety* (1997) 3, 4-5; Kristin Dow, 'Caught in the Currents: Pollution Risks and Environmental Change in Marine Space' (1999) 51 *Professional Geographer*, 414, 417.

⁴⁹Lee Yong Leng, *Southeast Asia and the Law of the Sea* (1980) 53. See also *Navigation Through the Straits of Malacca and Singapore*, Res. A.375 (X) (1977).

⁵⁰PostsWorld, 'Quake May Have Altered Straits of Malacca Draught' *New Straits Times* (Kuala Lumpur), 10 January 2005.

It has been speculated that in certain areas of the Straits, the depth now measures less than 100 feet in depth, which is considered to be too dangerous for shipping.⁵¹ In addition, the tsunami may have relocated old shipwrecks and, relocated and damaged navigational aids in the Straits.⁵²

In addition to the factors mentioned above, the narrowness of the Straits,⁵³ coupled with factors such as substandard ships, human error, poor visibility during squalls, cross traffic and the presence of fishing crafts all contribute to the problem of vessel collisions in the Straits of Malacca and Singapore.⁵⁴ The increase in vessel numbers and size and the density of traffic in the Straits further compounds the problem.⁵⁵

There are obvious risks associated with the high volumes of oil transported through the Straits of Malacca and Singapore. The transportation of oil coupled with the Straits' geographical and topographical configuration, the existence of navigational hazards and traffic congestion only serve to emphasise the Straits' vulnerability to the possibility of a serious maritime incident. Although having so far been spared of a catastrophe the size of the *Torrey Canyon* or the *Braer*, the Straits have had a number of oil-related maritime disasters. Amongst the major oil spill incidences that have occurred in the Straits are the

⁵¹Ibid.

⁵²Ibid.

⁵³The narrowest point of the Strait of Singapore is only 3.2 nautical miles in breadth. See Mary George, 'Adequacy of Strait States Laws for the Control of Marine Pollution in the Straits of Malacca and Singapore', (2001) 6 *Asia Pacific Journal of Environmental Law* 239, 253.

⁵⁴Ibid, 253-254.

⁵⁵In Mati L. Pal and Gabriele Götsche-Wanli, the 1993 conclusion of the IMO Working Group on the Malacca Strait Area was quoted as stating that "In view of the dense shipping traffic passing through the Malacca Strait, the high proportion of VLCCs and other tankers and the restricted navigational channels, the potential for accident is...high." See Mati L. Pal and Gabriele Götsche-Wanli 'Proposed Usage and Management of the Fund' (1999) 3 *Singapore Journal of International & Comparative Law* 475, 482.

1975 spillage of 54,000 bbl of crude oil by the 224,000 ton tanker *Showa Maru* as a result of a ruptured tank, and the 1992 collision between the oil tanker *Nagasaki Spirit* with the container vessel *Ocean Blessing* which resulted in spillage of 100,000 bbl of crude oil.⁵⁶ More recent incidences include the 1997 collision between the tankers *MT Evoikos* and *MT Orapin Global* which spilled 175,000 bbl of crude oil and the 2000 grounding of *MT Natuna Sea* which spilt 49,000 bbl of crude oil into the Straits.⁵⁷ Table 3.7 lists the major oil spill incidences that have occurred in the Straits.

Table 3.7: Major oil spill incidences in the Straits of Malacca and Singapore

Source: Department of Environment, Malaysia

Date	Vessel	Type of Oil and Hazardous Noxious Substances (HNS)	Qty of Spill (000bbl)	Area
6 January 1975	<i>MT Showa Maru</i>	Crude Oil	54	Straits of Singapore
20 September 1992	<i>MT Nagasaki Spirit</i> and <i>Ocean Blessing</i>	Crude Oil	100	Straits of Malacca
15 October 1997	<i>MT Evoikos</i> and <i>MT Orapin Global</i>	Crude Oil	175	Straits of Singapore
31 May 1999	<i>SS Sun Vista</i>	Fuel Oil	14	Straits of Malacca
3 October 1999	<i>MT Natuna Sea</i>	Crude Oil	49	Straits of Singapore

⁵⁶Major Oil and HNS Spill Incidents, Department of Environment Malaysia <http://www.doe.gov.my/index.php?option=com_content&task=view&id=326&Itemid=419&lang=en> at 15 May 2006.

⁵⁷Ibid.

13 June 2001	<i>MV Indah Lestari</i>	Phenol	650 tonnes	Johore Strait
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Whilst the total elimination of accidents in the Straits would prove to be a difficult, if not an impossible task, especially where human error is a factor,⁵⁸ the littoral States have been actively pursuing measures to make passage in the Straits safer. The implementation of a mandatory ship reporting system, the designation of a traffic separation scheme and the imposition of a 3.5 metre under-keel clearance limit are examples of such measures. However, even with precautions such as these in place, vessels accidents can still happen. For example, in the period 2001-2003, the Marine Department of Malaysia reported 25 vessel accidents within the traffic separation scheme designated area of the Strait of Malacca.⁵⁹

3.3.2.2 Operational Discharges in the Straits of Malacca and Singapore

A larger quantity of oil is in fact released into the sea as a result of daily vessel operational activities than is released through accidental discharge.⁶⁰ Tanker ballasting or oil tank and cargo cleaning are examples of vessel operational activities that cause oil pollution.⁶¹ Studies have shown that a voyage of a 200,000 ton tanker discharges about 1,000 to 3,000 gallons of oil residue into the sea with tank wash water.⁶² In fact, tanker operations associated with the cleaning of cargo residues when a vessel is ballasting, or through the

⁵⁸See Inho Kim, 'Ten Years after the Enactment of the Oil Pollution Act of 1990, A Success or a Failure' (2002) 3 *Marine Policy* 197, 200-201 for a brief discussion of the human error factor in vessel collisions.

⁵⁹Personal communication with Ahmad Nordin Ibrahim, Maritime Traffic Services Unit, Marine Department of Malaysia. It is to be noted that the figures quoted by the Marine Department of Malaysia reflect vessels reporting to the VTS in the Malaysian part of the Straits of Malacca and Singapore only.

⁶⁰*Preventing Marine Pollution: The Environmental Threat* (1998) International Maritime Organization <http://www.imo.org/includes/blastDataOnly.asp/data_id%3D7996/POLLutionpreventingmarinepollution1998.pdf> at 21 June 2007.

⁶¹*Ibid.*

⁶²Cleary and Chuan, above n 35, 58.

cleaning of tanks for the return voyage from the port of discharge, have been identified as the single largest source of oil spill from transportation activities.⁶³

With the predicted increase of the use of the Straits of Malacca and Singapore for oil transportation between the Middle East and Asia, pollution resulting from normal tanker operations in the Straits is a source for concern. Figures quoted in 1996 estimated that 2 tonnes of oily wastes was discharged into the Straits of Malacca and Singapore daily, mainly as a consequence of tanker ballasting.⁶⁴ The Malaysian Department of Environment reported that out of all the oil spill incidences recorded to have occurred in Malaysian waters from the years 1976 to 2000, 75 per cent were as a result of the illegal discharge by vessels.⁶⁵ However, due to difficulties in accurate detection and data collection, the real contribution of vessel operational discharge to the problem of pollution in the Straits is difficult to ascertain.⁶⁶

The discharge from smaller vessels plying the Straits of Malacca and Singapore also contributes a large amount of oil into the Straits.⁶⁷ It is estimated that a fleet of 10,000

⁶³Abdullah et al, above n 41, 232.

⁶⁴Thia-Eng et al, above n 47, 169.

⁶⁵Above n 56.

⁶⁶Dow, above n 36, 90-92. See also Juita Ramli, 'Dumping in Malaysian Seas: An Assessment of the Present Situation vis-à-vis International Legal Regimes' (1998) 3 *Asia Pacific Journal of Environmental Law*, 23 for a discussion of the dumping activities undertaken by vessels in the Straits of Malacca and Singapore. The article highlighted that, within the Malaysian part of the Strait of Malacca for instance, the waters off Pulau Angsana, about 6 nautical miles off the South Western Malaysian Peninsula coast, areas near the Sembilan Island off Lumut, Pangkor Island off Perak, the waters off Port Dickson, Tanjung Bidara off Melaka and Tanjung Piai off Johor are all targeted spots for dumping by vessels plying the Straits. A recent article by the *The Jakarta Post* also highlighted similar problems around the vicinity of the Riau Islands, along the Indonesian part of the Strait of Malacca. See Fadli, 'Oil Dumping in Malacca Strait Threaten Environment' *The Jakarta Post* (Batam) 10 February 2007.

⁶⁷Thia-Eng, Ross and Yu, above n 42, 158.

fishing boats would discharge about 2 tonnes of oil daily into the Straits.⁶⁸ In 2005, there were approximately 15,611 licensed fishing vessels in the west coast of Peninsular Malaysia, in states facing the Strait of Malacca.⁶⁹ This figure represents nearly 50 per cent of the total number of licensed fishing vessels in Malaysia.⁷⁰ An additional 50,000 fishing vessels were estimated to be operating in the Indonesian side of the Straits and the discharge of oil from these vessels is expected to be proportionate in volume.⁷¹ However, the dispersed nature of fishing vessels, especially smaller vessels, makes it difficult for monitoring to take place and for there to be accurate predictions on the amount of oil dispersed into the Straits by these vessels. The problem of pollution from small vessels in the Straits is not within the scope of this thesis.

The impact of oil spills on the Strait's marine and coastal habitats and ecosystems have been summarised in a number of studies.⁷² Although Thia-Eng was able to make certain observations on the detrimental effects of oil spills on natural life such as coral reefs and mangroves, and on economic activities such as marine fisheries, aquaculture and tourism, he highlighted that there was a general lack of information and data documenting the specific environmental impact of oil spills in the Straits.⁷³ Intertidal zones, fish and their spawning grounds, and cultivated species such as cockles, mussels and oysters were observed to be particularly sensitive to oil spills and if damaged could cause losses of up to millions of dollars.⁷⁴ In 2005 for instance, a 25km radius oil slick in the Strait of Malacca

⁶⁸Thia-Eng et al, above n 47, 169.

⁶⁹Department of Fisheries Malaysia, Annual Fisheries Statistics 2005 Volume 1, Table 2.1.

⁷⁰Ibid.

⁷¹Thia-Eng, Ross and Yu, above n 42, 158.

⁷²Ibid, 201-203. See also Dow, above n 36, 79.

⁷³Ibid.

⁷⁴Ibid, 201-202.

caused an estimated RM\$ 3.5 million (approximately USD\$ 997,719)⁷⁵ in losses to coastal fish farms in its vicinity.⁷⁶

A study on hydrocarbon pollution conducted in 2006 revealed that the Strait of Malacca contained the highest level of hydrocarbons in the Malaysian seas.⁷⁷ Tar ball monitoring on the Malaysian beaches of Pantai Pasir Panjang, Perak and Tanjung Rhu, Kedah and the beaches at the Riau Islands, all of which are facing the Strait of Malacca, have also exceeded tar level measurements of 10 grams per metre of shoreline, which indicate extreme oil and grease pollution.⁷⁸ Though this method cannot conclusively link the pollution of oil and grease in the Straits of Malacca and Singapore solely to vessels, it does indicate a growing problem to which vessels in the Straits are contributing.

3.4 Conclusion

This Chapter has established the existence of the problem of pollution from vessels in the Straits of Malacca and Singapore, particularly, as the result of accidental and operational discharges of oil. This problem is expected to escalate, particularly, with the increase in the number of vessels using the Straits. Chapter 4 will begin analysing the applicable regulatory framework to address the problem of pollution from vessels in the Straits of Malacca and Singapore. The chapter will discuss the United Nations Convention on the Law of the Sea 1982 (LOSC 1982) and examine the provisions of Part III of the LOSC

⁷⁵The conversion is calculated at an exchange rate RM\$ 3.5080 for every USD\$ 1.

⁷⁶R. Sittamparam, *80 Fish Farms Hit by Oil Slicks from Farm* (2005) GROWFish <<http://www.growfish.com.au/content.asp?contentid=3994>> at 14 May 2007.

⁷⁷A.T. Law and Y.S. Hii, 'Status, Impacts and Mitigation of hydrocarbon pollution in the Malaysian Seas' (2006) 9 *Aquatic Ecosystem Health & Management*, 147, 148.

⁷⁸Thia-Eng et al, above n 47, 169.

1982 which, *inter alia*, include provisions on the prevention, reduction and control of pollution from vessels in these straits.

CHAPTER 4

STRAITS USED FOR INTERNATIONAL NAVIGATION

4.1 Introduction

The passage of vessels in the Straits of Malacca and Singapore is governed by Part III of the LOSC 1982. Part III establishes the regime of transit passage in straits used for international navigation and sets out the legal framework for the relationship between foreign vessels and strait States. It also contains provisions on the prevention, reduction and control of pollution from vessels. The purpose of this chapter is to provide an overview of the historical setting which led to the adoption of Part III of the LOSC 1982. This chapter will highlight the principles expounded by the International Court of Justice in the *Corfu Channel case* in 1949 and discuss the negotiations that ensued in the First and Third United Nations Conference on the Law of the Sea on the issue of straits used for international navigation. This chapter will then analyse the provisions of Part III of the LOSC 1982, particularly those pertaining to the regime of transit passage, and discuss their application in the Straits of Malacca and Singapore.

4.2 The Corfu Channel Case 1949

A contemporary discussion of the concept of passage through straits used for international navigation begins with the consideration of the rules of customary international law, reflected in the International Court of Justice's judgment in the *Corfu Channel case*.¹ This case, which involved a dispute between the Government of the United Kingdom and the People's Republic of Albania over explosions that occurred in Albanian territorial waters

¹*Corfu Channel (United Kingdom v Albania) (Merits)* [1949] ICJ Rep 4.

within the north Corfu Channel, is the earliest legal source which attempts to satisfactorily address the concept of passage through straits.

On 22 October 1946, two British destroyers struck mines in Albanian waters in the Corfu Strait, causing injuries and death to British soldiers on board.² In response to this incident, the United Kingdom Government sent a Note to Albania announcing that it intended to sweep the Corfu Channel.³ Albania replied that consent would not be given unless the operation took place outside Albanian territorial waters and if any sweep was undertaken within Albanian waters, it would be considered a violation of Albania's sovereignty.⁴ The British Navy proceeded to sweep the Channel in areas within the Albanian territorial waters on 12 and 13 November 1946.⁵

One of the questions before the Court following these events was whether Albanian sovereignty was violated as a result of British activities in the Corfu Channel on 22 October 1946 and on the 12 and 13 November 1946.⁶ Albania had, amongst other things, argued that the Government of the United Kingdom had violated Albanian sovereignty by sending warships through the north Corfu Straits without first obtaining authorisation from the Albanian Government.⁷ In considering this question, the Court pronounced a number of key principles relevant to the issue of the passage of warships through straits used for international navigation.

²Ibid, 2-13 and 27-28.

³Ibid, 33.

⁴Ibid.

⁵Ibid, 33.

⁶Ibid, 26.

⁷Ibid, 28.

4.2.1 Passage of Warships through Straits Used for International Navigation

The first legal principle arrived at by the Court relating to passage of vessels through straits was that States have the right to send their warships in times of peace, through straits used for international navigation between two parts of the high seas without requiring the prior authorisation of the coastal State.⁸ The opinion of the Court on this point reads as follows:

It is, in the opinion of the Court, generally recognized and in accordance with international custom that States in time of peace have a right to send their warships through straits used for international navigation between two parts of the high seas without the prior authorization of a coastal State, provided that the passage is innocent. Unless otherwise prescribed in an international convention, there is no right for a coastal State to prohibit such passage through straits in time of peace.⁹

Although the Court's decision refers essentially to passage through straits by warships during peaceful times, the Court had also considered the situation involving coastal States which did not maintain 'normal relations' with each other, as was the case between Albania and Greece.¹⁰ Greece had in fact declared that it was technically in a state of war with Albania, and had claimed the part of the Albanian territory which bordered the Corfu Channel.¹¹ Even in such circumstances, the Court opined that the passage of warships through such straits could not be prohibited or made subject to special authorisation.¹² However, the Court noted that the state of relations between Greece and Albania would have justified the issuance of regulations by Albania regarding the passage of warships through the Straits, but not to the extent of prohibiting or subjecting passage to prior authorisation.¹³

⁸Ibid.

⁹Ibid.

¹⁰Ibid, 29.

¹¹Ibid.

¹²Ibid.

¹³Ibid.

4.2.2 Criteria for the Designation of Straits Used for International Navigation

The second key principle of the Court's judgment was laid out in response to Albania's claim that the Channel did not belong to the class of 'international highways' through which the right of passage exists.¹⁴ Whilst not disputing the categorisation of the Corfu Channel as a strait, Albania supported its claim by arguing that the Corfu Channel was a channel of secondary importance and not a necessary route between two parts of the high seas.¹⁵ Further, it was contended that the Channel was used almost exclusively for local traffic.¹⁶

In response, the Court took the view that the decisive criterion of such 'international highways' are "its geographical situation as connecting two parts of the high seas, and the fact of its being used for international navigation".¹⁷ The Court dispelled the notion that the tests to be applied for the characterisation of international straits should be based on the volume of vessels passing through such straits, or whether the straits were of a greater or lesser importance to international navigation.¹⁸ In this case, the Court found it sufficient that the strait was being used for international navigation, regardless of the volume of traffic passing through.

The Court also found the fact that the Channel was not a necessary route but only an alternative passage between the Aegean and Adriatic Seas was not a decisive criterion;

¹⁴Ibid, 28.

¹⁵Ibid.

¹⁶Ibid.

¹⁷Ibid.

¹⁸Ibid.

rather it noted that the Channel was useful for international maritime traffic.¹⁹ In particular, the Court observed that the Channel was used by ships of Greek, Italian, Romanian, French, Albanian and British nationality and navy ships of various States.²⁰ The Court also noted the fact that the Corfu Channel constituted a frontier between Albania and Greece, and that “a part of the Channel is wholly within the territorial waters of these States and that the Strait is of special importance to Greece by reason of the traffic to and from the port of Corfu.”²¹ On the basis of these observations, the Court decided that the Corfu Channel belonged “to the class of international highways through which passage cannot be prohibited by a coastal State in time of peace.”²²

The Court in this case succeeded in underlining the basic legal principles applicable at that time in relation to straits used for international navigation and the rights of passage therein. First, the Court established that the right of passage in “straits used for international navigation” cannot, in times of peace or where a situation of *status mixtus*, similar to that which exists between Albania and Greece, be prohibited or be made subject to prior authorisation from the coastal State.²³ The same, if not broader rights of passage, would then also be available to merchant vessels or non-warships in such straits.²⁴ Second, the Court centred the designation of a strait used for international navigation on two basic criteria, namely, that the straits connect two parts of the high seas and that the straits are used in international navigation.²⁵ Brown was of the view that the latter criterion was to be

¹⁹Ibid.

²⁰Ibid, 28-29.

²¹Ibid, 29.

²²Ibid, 29.

²³E.D. Brown, *The International Law of the Sea: Volume I Introductory Manual* (1994) 78.

²⁴Ibid.

²⁵Corfu Channel (*United Kingdom v Albania*), above n 1, 28-29.

read *simpliciter* without any additional qualifications and referred to the Court's reluctance to decide the matter based on the importance, necessity or traffic volume in such straits to support this understanding.²⁶

4.3 The International Law Commission

The principles established in the Corfu Channel case had a significant impact on the International Law Commission's discussions on the same subject matter.²⁷ The Commission, established by the United Nations General Assembly via Resolution 174 (II) of 21 November 1947²⁸ with the task of promoting progressive development and codification of international law, selected the topic "regime of territorial waters" for codification in 1949.²⁹ At its fourth session, draft regulations consisting of 23 articles on the regime of the territorial sea were submitted by the then Special Rapporteur to this topic, Mr. J.P.A Francois.³⁰ Two draft articles were directly relevant to the issue of passage through straits, namely, Article 14 on the delimitation of the territorial sea in straits and paragraph 4 of Article 26 on the passage of warships in straits used for international navigation.³¹

²⁶Brown, above n 23, 78.

²⁷The Corfu Channel case had a particular impact in the discussions of the Commission pertaining to the topic of straits and the passage of warships. See *International Law Commission, Yearbook of the International Law Commission 1954: Summary Records of the Sixth Session Vol I 3 June – 28 July 1954*, 263rd mtg [33,35,39,41] and 272nd mtg [42] (1954).

²⁸*Establishment of the International Law Commission*, GA Res 174(II), 2nd sess, 123rd plen mtg, (1947).

²⁹*International Law Commission, Yearbook of the International Law Commission 1949: Summary Records and Documents of the First Session including the Report of the Commission to the General Assembly*, 5th mtg [j] (1949).

³⁰*International Law Commission, Yearbook of the International Law Commission 1952: Summary Records of the Fourth Session Vol I 4 June – 8 August 1952*, 164th mtg [3] (1952).

³¹*Yearbook of the International Law Commission 1954*, above n 27, 261st mtg [98] and 273rd mtg [42].

At the end of its eighth session, the Commission presented to the United Nations General Assembly a set of rules consisting of 73 articles together with commentaries pertaining to the high seas, the territorial sea, the contiguous zone, the continental shelf and the conservation of the living resources of the sea.³² Paragraph 4 of Article 17 and Article 24 relate to the question of passage through straits and are reproduced below:³³

SUBSECTION A. GENERAL RULES
Rights of protection of the coastal State
Article 17

- ...
4. There must be no suspension of the innocent passage of foreign ships through straits normally used for international navigation between two parts of the high seas.

SUBSECTION D. WARSHIPS
Passage
Article 24

The coastal State may make the passage of warships through the territorial sea subject to previous authorization or notification. Normally it shall grant innocent passage subject to the observance of the provisions of articles 17 and 18.

The Commission did not provide a lengthy elaboration of Paragraph 4 of Article 17 in its commentary. However, it did clarify that the expression “straits normally used for international navigation between two parts of the high seas” in the Article originated from the *Corfu Channel case*, noting that the addition of the word “normally” before the word “used” in the article, was in the Commission's view, in conformity with the Court's

³²*International Law Commission, Yearbook of the International Law Commission 1956: Documents of the Eighth Session including the Report of the Commission to the General Assembly Vol II, Document A/3159 [33] (1956).*

³³*Ibid.*

decision.³⁴ The Commission also explained that Article 17 is applicable to all vessels including warships.³⁵

In relation to Article 24, the Commission explained that the rights of the coastal State to restrict passage are more limited in the case of passage through straits (as compared to the rights of the State in its territorial waters) quoting the judgment in the *Corfu Channel case* which granted warships the right to transverse straits used for international navigation between two parts of the high seas.³⁶ The Commission also stated that since paragraph 4 of Article 17 applied to warships, a specific and separate article addressing the passage of warships through straits used for international navigation was unnecessary.³⁷ As such, Article 24 when read in line with paragraph 4 of Article 17 meant that the coastal State may not interfere in any manner, including by requesting for previous notification or authorisation, in the innocent passage of a warship through a strait used for international navigation between two parts of the high seas.³⁸

In the formulation of these articles, the Commission had noted the existence of straits which formed part of the territorial sea of one or more States which constituted the sole means of access to a port of another State. The Commission likened these straits to “a bay whose inner part and entrance from the high seas belong to different States” but did not proceed to discuss its position on the matter.³⁹

³⁴Ibid. Brown however was of the view that the addition of the word ‘normally’ in Paragraph 4 of Article 17 changed the emphasis of the Courts’ dictum. See Brown, above n 23, 78.

³⁵*International Law Commission, Yearbook of the International Law Commission 1956*, above n 32.

³⁶Ibid.

³⁷Ibid.

³⁸Ibid.

³⁹Ibid.

A number of pertinent observations were made on the straits regime by the members of the Commission. For instance, it was highlighted that the decision of the Court had been widely criticised by “many leading specialists” on the basis that, *inter alia*, the Court’s characterisation of an international strait should not be based solely on a strait’s geographical position, but rather by the importance of the international traffic using it.⁴⁰ The difficulty in drawing up a general definition of an “international strait” was recognised in the Commission. The problem was said to be compounded by the need to balance the interplay of three separate interests. The first, being the interest of strait States, the second, being that of the coastal States of a closed or semi-enclosed sea to which access was given by the strait States and the third being the interest of the maritime nations.⁴¹ An observation made in the International Law Commission that at that moment there was no uniform regime governing straits in international law, indicates the state of affairs at that time.⁴² The codification of paragraph 4 of Article 17 and of Article 24 by the Commission which were essentially based on the rules laid out in the *Corfu Channel case* was an important step towards establishing a legal structure to govern straits used for international navigation.

4.4 The First United Nations Conference on Law of the Sea

In 1957, the United Nations General Assembly, following a recommendation by the International Law Commission a year earlier,⁴³ decided in Resolution 1105(XI) to “convene an international conference on the law of the sea to examine the law of the sea, taking into account not only of the legal but also of the technical, biological, economic and

⁴⁰*International Law Commission, Yearbook of the International Law Commission 1955: Documents of the Seventh Session Vol I 2 May -8 July 1955*, 308th mtg [14] (1955).

⁴¹*International Law Commission, Yearbook of the International Law Commission 1955*, above n 40, [19].

⁴²*Ibid*, [31] (1955).

⁴³*International Law Commission, Yearbook of the International Law Commission 1956*, above n 32,[28].

political aspects of the problem, and to embody the results of its work in one or more international conventions or such other instruments as it may deem appropriate”.⁴⁴ The report of the eighth session of the International Law Commission was to be referred to the conference as a basis for consideration of the issues involved in the development and codification of the law of the sea.⁴⁵

The First United Nations Conference on the Law of the Sea (UNCLOS I) met in Geneva from 24 February - 27 April 1958. It had before it draft articles on the law of the sea prepared by the International Law Commission, including Articles 17 and 24 which were relevant to the question of straits used for international navigation. The First Committee of UNCLOS I which was in charge of the articles on the territorial sea and contiguous zone was tasked with considering Articles 17 and 24.⁴⁶

A joint proposal from the Governments of the United Kingdom, Portugal and the Netherlands, supported by the United States, was put forth during UNCLOS I to replace paragraph 4 of Article 17 of the Commission’s draft.⁴⁷ The proposal read as follows:

There shall be no suspension of the innocent passage of foreign ships through straits or other sea lanes which are used for international navigation between one part of the high seas and another part of the high seas or the territorial waters of a foreign State.

In introducing the proposal, the sponsors explained that the reference to “straits or other sea lanes” in paragraph 4 was added as the term ‘straits’ on its own was “somewhat difficult to

⁴⁴*International Conference of Plenipotentiaries to Examine the Law of the Sea*, GA Res 1105(XI), 11th sess, 658th plen mtg, (1957).

⁴⁵*Ibid.*

⁴⁶*Straits Used for International Navigation: Legislative History of Part III of the United Nations Convention on the Law of the Sea Volume I* (1992) 15.

⁴⁷*Official Records of the United Nations Conference on the Law of the Sea Volume III*, Doc A/CONF.13/C.1/L.71 (1958).

define”.⁴⁸ It was maintained that the new proposal “emphasized that it was insufficient to declare the high seas open to traffic without also guaranteeing the right of entry into seaports. If the right of access to ports was to be assured to land-locked States, *a fortiori*, it should be guaranteed to the maritime countries.”⁴⁹ In addition, it was explained that the words “or the territorial waters of a foreign State” reflected “existing usage safeguarding the right to use straits linking the high seas with the territorial sea of a State”.⁵⁰ However, the addition of these words, was opposed by Indonesia and Saudi Arabia on the basis that international law did not provide for the right of innocent passage through straits connecting the high seas with the territorial sea of a particular State.⁵¹

The word ‘normally’ was also deleted from paragraph 4 of Article 17 as it was the sponsors’ view that, in addition to being vague, future friction might arise as to what constituted the ‘normal’ use of a strait.⁵² It was their view that this paragraph should apply to sea lanes actually being used for international navigation.⁵³ Apart from two minor amendments, paragraph 4 of Article 17 was subsequently adopted by a vote of 31 to 30 with 10 abstentions.⁵⁴

In relation to Article 24 of the International Law Commission’s draft, the Government of the United Kingdom had proposed that a new paragraph 2 be added. This paragraph would make explicit that part of the *Corfu Channel case* and the International Law Commission’s

⁴⁸*Ibid*, 1st Comm, 30th mtg [16].

⁴⁹*Ibid*.

⁵⁰*Ibid*, 1st Comm, 32nd mtg [16].

⁵¹*Ibid*, 1st Comm, [9 and 14].

⁵²*Ibid*, 1st Comm, 32nd mtg [36].

⁵³*Ibid*, 1st Comm, [16].

⁵⁴*Ibid*, 1st Comm, 34th mtg [21].

commentary which provided that the right of warships to innocent passage through straits used for international navigation between two parts of the high seas should not be made subject to any prior authorisation or notification.⁵⁵ This proposal, however, was rejected by the First Committee.⁵⁶ Subsequently, Article 24 as a whole failed to garner the two-thirds majority required for adoption.⁵⁷

The conclusion of UNCLOS I was marked with the adoption of the 1958 Convention on the Territorial Sea and Contiguous Zone.⁵⁸ In its final form, paragraph 4 of Article 17 (renumbered as paragraph 4 of Article 16 in the Convention) reads as follows:

Article 16

...

4. There shall be no suspension of the innocent passage of foreign ships through straits which are used for international navigation between one part of the high seas and another part of the high seas or the territorial sea of a foreign State.⁵⁹

Although the issue of the breadth of the territorial sea was not settled, UNCLOS I successfully codified the bulk of customary international law on the sea as it existed at that time.⁶⁰ More importantly, the Convention succeeded establishing a legal regime over an area which had previously been void of a uniform legal system. In straits used for international navigation, the Convention had at the very least made clear four important points. First, the Convention provides for the regime of innocent passage to be applied in straits used for international navigation. Second, the Convention provides that innocent

⁵⁵Ibid, Doc A/CONF.13/C.1/L.37/Corr.2.

⁵⁶Ibid, 1st Comm, 42nd mtg [29].

⁵⁷*Official Records of the United Nations Conference on the Law of the Sea Volume II*, 20th plen mtg [46] (1958).

⁵⁸*Convention on the Territorial Sea and Contiguous Zone*, opened for signature 29 April 1958, 516 UNTS 205 (entered into force 10 September 1964).

⁵⁹Ibid.

⁶⁰Dinah Shelton and Gary Rose, 'Freedom of Navigation: The Emerging International Regime' (1977) 17 *Santa Clara Law Review*, 525.

passage exercised in straits used for international navigation cannot be suspended. Third, Paragraph 4 of Article 16 of the Convention extended the law in the *Corfu Channel case* by providing for the right of innocent passage in straits used for international navigation between one part of the high seas and the territorial sea of a foreign State. Fourth, the right of innocent passage in straits used for international navigation was expressly granted to all categories of vessels, merchant vessels and warships alike.

4.5 The Third United Nations Conference on the Law of the Sea

After the failure of the discussions in the Second United Nations Convention on the Law of the Sea (UNCLOS II) in 1960,⁶¹ the Third United Nations Convention on the Law of the Sea (UNCLOS III) was convened.⁶² The negotiation process of UNCLOS III was long, taking place over a period of nine years, with its first session in 1973 being devoted solely to organisational matters.⁶³ Three main committees were established during UNCLOS III with the Second Committee elected to handle the question of straits used for international navigation.⁶⁴ No preparatory document was available at the commencement of the session that could be used as a basis for negotiations.⁶⁵ This partially hindered negotiations,

⁶¹See the discussion on UNCLOS II in D.W. Bowett, 'The Second United Nations Conference on the Law of the Sea' (1960) 9 *International & Comparative Law Quarterly* 415.

⁶²*Reservation Exclusively for Peaceful Purposes of the Sea-Bed And the Ocean Floor, and the Subsoil thereof, Underlying the High Seas Beyond the Limits of Present National Jurisdiction and Use of Their Resources in the Interests of Mankind, and Covening of the Third United Nations Conference on the Law of the Sea*, GA Res 3067(XXVIII), 28th sess, 2169th plen mtg, (1973).

⁶³*Straits Used for International Navigation: Legislative History of Part III of the United Nations Convention on the Law of the Sea Volume II* (1992) 1.

⁶⁴*Ibid.*

⁶⁵Tommy T.B. Koh and Shanmugam Jayakumar, 'The Negotiating Process of the Third United Nation on the Law of the Sea' in Myron H. Nordquist (ed), *United Nations Convention on the Law of the Sea 1982: A Commentary Vol. 1* (1985) 29, 50-51.

particularly in the Second Committee, and partially contributed towards the long negotiating period.⁶⁶

4.5.1 The 12 Nautical Mile Territorial Sea Limit

From the very beginning, it was clear that the question of straits used for international navigation would be one of the more crucial issues in the revision of the law of the sea, especially in light of developments pertaining to the extension of the breadth of the territorial sea to a 12 nautical mile limit. By the time UNCLOS III was convened a number of States had claimed a 12 nautical mile or more territorial sea.⁶⁷ The extension to a 12 nautical mile limit would mean that straits with a breadth of 24 nautical miles or less would fall wholly within the territorial sea of a coastal State. In fact, it was estimated that around 116 straits worldwide would become full territorial sea straits.⁶⁸ This list would include the Strait of Dover, the Strait of Gibraltar, the Hormuz Strait, the Bering Straits and the Straits of Malacca and Singapore, all of which are important commercial and military transportation links.⁶⁹

With a territorial sea extension to a 12 nautical mile limit seemingly inevitable, concerns were raised over the impact that such an action would have on the regime of passage. Under the system prior to the LOSC 1982, passage through parts of straits beyond the then

⁶⁶Ibid.

⁶⁷Richard B. McNees, 'Freedom of Transit through International Straits' (1974-1975) 6 *Journal of Maritime Law and Commerce* 175, 182; Richard G. Darman, 'The Law of the Sea: Rethinking U.S. Interests' (1978) *Foreign Affairs* 373, 375.

⁶⁸U.S. Dept. of State, Office of the Geographer, Map of World Straits Affected by a 12-Mile Territorial Sea No. 564375, Dec., 1974. See also Morris F. Maduro, 'Passage Through International Straits: the Prospects Emerging from the Third United Nations Conference on the Law of the Sea' (1980) 12, *Journal of Maritime Law and Commerce* 65, 69. Elliot L. Richardson, 'Power, Mobility and the Law of the Sea' (1979-1980) 58 *Foreign Affairs* 902, 905.

⁶⁹McNees, above n 67, 184.

generally accepted 3 nautical mile territorial sea limit was subject to the regime of the high seas and therefore beyond the jurisdiction of any one State.⁷⁰ However, with an expansion to a 12 nautical mile territorial sea, the same would be under the regime of non-suspendable innocent passage as provided by Article 16 of the 1958 Convention on the Territorial Sea and Contiguous Zone.⁷¹

4.5.2 The Interests at Stake

The positions of two competing groups of States, the first, consisting of coastal States bordering straits⁷² and the second consisting of maritime States,⁷³ on the question of passage through straits were obvious in the years prior to UNCLOS III. On one side, there were strait States favouring a 12 nautical mile territorial sea limit with the regime of innocent passage applicable throughout, including within straits used for international navigation, and, on the other side, maritime States, composed of States such as the United States and the Soviet Union, who favoured complete freedom of passage through straits used for international navigation.⁷⁴ The position of these maritime States was clearly

⁷⁰Horace B. Robertson Jr., 'Passage Through International Straits: A Right Preserved in the United Nations Conference on the Law of the Sea' (1979-1980) 20 *Virginia Journal of International Law* 801, 804; Shelton and Rose, above n 60, 533.

⁷¹Myron H. Nordquist (ed), *United Nations Convention on the Law of the Sea 1982: A Commentary Vol. II* (1993) 282.

⁷²For purposes of the thesis, the term 'States bordering straits' would be used interchangeably with the term 'strait States' and where appropriate with the term 'coastal States'.

⁷³McNees defines the term 'maritime States' to mean "states whose merchant and naval ships make more than localized use of the seas". Whilst it is admitted that a strict categorisation of States into maritime States and coastal States may not be possible as many maritime States also fall within the category of coastal and strait States, for purposes of the thesis, the definition adopted by McNees is the preferred understanding of this term. See McNees, above n 67, 187.

⁷⁴S.N. Nandan, 'The Provisions on Straits Used for International Navigation in the 1982 United Nations Convention on the Law of the Sea' (1998) 2 *Singapore Journal of International & Comparative Law* 393, 394; Maduro, above n 68, 69; Jon M. Van Dyke, 'Legal and Practical Problems Governing International Straits' (Paper presented at the Workshop on the Strait of Malacca, Kuala Lumpur, 24-25 January 1995) 190. For a comprehensive elaboration of the fundamental basis for the protection of the freedom of navigation as advanced by the United States and Soviet Union and other maritime States, see John Norton Moore, 'The Regime of Straits and the Third United Nations Conference on the Law of the Sea' (1980) *American Journal*

reflected in the policy stand taken by the United States, when President Nixon in a 1970 address on oceans policy, called for a new treaty on the oceans that “would establish a 12 mile limit for territorial seas and provide for free transit through international straits.”⁷⁵ Similarly, the Soviet Union in 1972 expressed the view that “it is necessary to preserve in...[such straits] the freedom of passage which existed before the extension of the territorial sea.”⁷⁶

So strong was the desire for unimpeded passage in straits used for international navigation, that during the negotiation process of UNCLOS III, the maritime States hinged their acceptance of a 12 nautical mile territorial sea and adoption of the concept of the exclusive economic zone, to receiving a favourable outcome on the request for unrestricted passage through such straits.⁷⁷ This *quid pro quo* approach was outlined as early as 1967 when, in response to a query by the Soviet Union on the holding of UNCLOS III to decide the breadth of the territorial sea, the United States adopted the position that the United States’ support for such a proposal would be subject to States agreeing to the introduction of rules on unrestricted passage through and over international straits.⁷⁸

Apart from viewing any limitation to passage through straits used for international navigation as affecting their economic, political and military interests, the maritime States were concerned that a declaration of a 12 nautical mile territorial sea would open them to

of International Law 77, 79-82. See also Ann L. Hollick, *U.S. Foreign Policy and the Law of the Sea* (1981) 15-17.

⁷⁵Statements Concerning Oceans’ Policy of the United States (1970) 9 International Legal Materials 806, 809.

⁷⁶Asian African Legal Consultative Committee, Report of the Thirteenth Session, Lagos, January 1982, 298 as quoted in Brown, above n 23, 82.

⁷⁷Nandan, above n 74, 394.

⁷⁸José A. de Yturriaga, *Straits Used for International Navigation: A Spanish Perspective* (1991) 42-43.

restrictive and discriminatory regimes in sea areas previously free of navigational restrictions.⁷⁹ These States were particularly cautious of the fact that, with the imposition of innocent passage in straits used for international navigation, strait States would be empowered to restrict passage on the sole basis of its ‘innocence’.⁸⁰ The discriminate exercise of such power was in fact possible, for instance, by strait States declaring a passage to be non-innocent on the pretext of the nationality or type of cargo of a vessel.⁸¹ The maritime States were also critical of the requirement for surface navigation for submarines and the absence of a right of innocent passage for aircrafts through the airspace above the territorial sea.⁸² In short, the maritime States were of the view that the regime of innocent passage if applied in straits used for international navigation was insufficient to fully protect their interests.⁸³

The strait States stood at the other end of the spectrum. These States were concerned with a large number of issues, including the potential pollution, resource utilisation and security problems that would be brought about by allowing traffic to pass so close to their shores. Strait States were particularly mindful of the impact that pollution incidences and vessel

⁷⁹Edward J. Frank, ‘UNCLOS III and the Straits Passage Issue: the Maritime Powers’ Perspective on Transit Passage’ (1981-1982) 3 *New York Law School Journal of International & Comparative Law* 243, 251-252; McNees, above n 67, 183-184.

⁸⁰McNees, above n 67, 184; Karin M. Burke and Deborah A. DeLeo ‘Innocent Passage and Transit Passage in the United Nations Convention on the Law of the Sea’ (1982 – 1983) 9 *Yale Journal of World Public Order* 389, 400; W. Michael Reisman, ‘The Regime of Straits and National Security: An Appraisal of International Lawmaking’ (1980) 74 *American Journal of International Law* 48, 60-65; Frank, above n 79, 252; Nordquist, above n 71, 284.

⁸¹Brown, above n 23, 82. See also Charles Pirtle, ‘Transit Rights and U.S. Security Interests in International Straits: The “Straits Debate” Revisited’ (1978) 5 *Ocean Development & International Law* 477, 481; Moore, above n 74, 80-82.

⁸²Brown, above n 23, 82. See also Nordquist, above n 71, 284; Moore, above n 74, 80-82.

⁸³Shelton and Rose, above n 60, 533.

accidents would have on their coastal economy and towards resource utilisation in straits.⁸⁴

A possible decrease in safety and security was also a major concern. Strait State's also feared that navigational freedom, if granted too close to their coasts, might expose them to actual, or the threat of, attacks, infiltration, or military intelligence activities.⁸⁵ These States argued that the protection of their territorial waters and coastlines, preservation of their maritime and coastal environments and the security of their fiscal and economic integrity were legitimate interests that should not be ignored.⁸⁶

Spain adequately summarised the position of the strait States on this matter, when in 1973 it observed that the question of straits used for international navigation should not be separated from that of the territorial sea as the latter formed an integral part of the former, and that any attempt to set up separate regimes for the two would violate the fundamental principle of the sovereignty of the coastal State over its territorial sea.⁸⁷ During the 1973 United Nations Sea Bed Committee session, Cyprus, Greece, Indonesia, Malaysia, Morocco, Philippines, Spain and Yemen⁸⁸ proposed draft articles on passage through

⁸⁴W. George Grandison & Virginia J. Meyer, 'International Straits, Global Communications and the Evolving Law of the Sea' (1974-1975) 8 *Vanderbilt Journal of Transnational Law* 393, 421- 422. See for example the statement by the representative of Malaysia during the 1971 Session of the Work of the Committee on the Peaceful Uses of the Seabed and Ocean Floor Beyond the Limits of National jurisdiction in *Straits Used for International Navigation Legislative History of Part III of the United Nations Convention on the Law of the Sea Volume I*, above n 46, 36. See also the statement by the representative of Indonesia during the 1971 Session of the Work of the Committee on the Peaceful Uses of the Seabed and Ocean Floor Beyond the Limits of National Jurisdiction in *Straits Used for International Navigation Legislative History of Part III of the United Nations Convention on the Law of the Sea Volume I*, above n 46, 37.

⁸⁵Frank Nolte, 'Passage Through International Straits: Free or Innocent? The Interests at Stake' (1973-1974) 11 *San Diego Law Review* 815, 828. See for example the statement made by the representative of Indonesia before the 1972 Session of the Work of the Committee on the Peaceful Uses of the Seabed and Ocean Floor Beyond the Limits of National Jurisdiction on the passage of warships through straits in *Straits Used for International Navigation Legislative History of Part III of the United Nations Convention on the Law of the Sea*, above n 46, 55.

⁸⁶Nordquist, above n 71, 283.

⁸⁷*Ibid*, 285.

⁸⁸These group of States were also known as the 'Straits States Group' during the negotiations in UNCLOS III and had the initial common interest to ensure that the convention to be adopted had a single regime of

straits, also known as the Eight Power Proposal.⁸⁹ In introducing this proposal, the representative of the Philippines highlighted that the said proposal was anchored on the principles of innocent passage, and reiterated Spain's position that navigation through the territorial sea and straits used for international navigation should be dealt with together, since such straits formed part of the territorial seas.⁹⁰ It was also argued that the principle of innocent passage, being the basis of the traditional regime for navigation through the territorial sea, if applied in straits used for international navigation, would serve a satisfactory balance between the interests of the coastal States and the general interests of the international maritime community.⁹¹

Paragraph 4 of draft article 5 of the proposal reflected the above position and reads as follows:⁹²

Subject to the provisions of articles 8, 22, paragraph 3 and 23, there shall be no suspension of the innocent passage of foreign ships through straits used for international navigation which form part of the territorial sea.

According to Brown, the proposal was unacceptable to the maritime States as it failed to recognise the importance of these straits to the freedom of navigation for the international community.⁹³ In addition, paragraph 4 of draft article 5 envisaged a regime of innocent passage that was even more limited than the provisions of the 1958 Convention on the

innocent passage for passage through the territorial sea and through straits forming part of the territorial sea. Subsequently, when it was clear that there was going to be a distinction made between the passage through the territorial sea and passage through straits, their common interest became twofold, first, to oppose the transit passage concept and second to seek amendments to the transit passage articles to accommodate their concern over coastal State concern. See Koh and Jayakumar, above n 65, 77.

⁸⁹*Straits Used for International Navigation Legislative History of Part III of the United Nations Convention on the Law of the Sea Volume I*, above n 46, 75-82.

⁹⁰*Ibid*, 83.

⁹¹*Ibid*.

⁹²*Ibid*, 77.

⁹³Brown, above n 23, 85.

Territorial Sea and Contiguous Zone.⁹⁴ Not only did paragraph 4 of draft article 5 attempt to make non-suspendable innocent passage in straits used for international navigation subject to provisions on compulsory sea lanes and traffic separation schemes, it also attempted to make the passage of warships in Straits subject to regulations set by the coastal State.⁹⁵

4.5.3 The Private Working Group on Straits Used for International Navigation

The conflicting positions of the two groups of States continued throughout the early negotiation process of UNCLOS III. In 1975, the Informal Private Working Group on Straits used for International Navigation led by Fiji and the United Kingdom⁹⁶ submitted draft articles described as a compromise between the two extreme positions.⁹⁷ The draft proposed by the Private Working Group was largely based on an earlier proposal submitted by the United Kingdom entitled “Draft Articles on the Territorial Sea and Straits” which incorporated the freedoms of navigation and overflight in straits, which were sought by the maritime States, and the safeguards which were thought to be appropriate for the protection of the interests of the strait States.⁹⁸ The United Kingdom’s proposal for passage through straits used for international navigation was based on a 12 mile limit territorial sea, and had three essential elements to it, namely, a new regime of transit passage in straits used for

⁹⁴Ibid.

⁹⁵Paragraph 4 of draft article 5, was made subject to 3 articles. First, draft article 8 dealt with the designation of compulsory sea lanes and traffic separation schemes by the coastal State which only took into account recommendations by the competent international organisations, second, paragraph 3 of draft article 22 dealt with the possibility that warships exercising innocent passage may be required to take sea lanes designated by the coastal State and third, draft article 23 which provided that a warship may be required to leave the territorial sea of a coastal State in the event of a non compliance with a regulation set by the coastal State.

⁹⁶For an explanation on the composition of the Informal Private Working Group on Straits, see Koh and Jayakumar, above n 65, 107.

⁹⁷Nordquist, above n 71, 288. See also Moore, above n 74, 77; S.N. Nandan and D.H. Anderson, ‘Straits Used for International Navigation: A Commentary on Part III of the United Nations Convention on the Law of the Sea 1982’ (1989) 60 *British Yearbook of International Law* 159.

⁹⁸Nordquist, above n 71, 287. See also Frank, above n 79, 247.

international navigation, a right of non-suspendable innocent passage in certain straits excluded from transit passage, and provisions to protect the interests of strait States.⁹⁹ The proposal had in fact officially introduced the term “transit passage” in the text of the negotiations of UNCLOS III.¹⁰⁰

The provisions on straits used for international navigation as proposed by the Private Working Group were divided into three major sections. Section I sets out the general provisions on straits, Section II, sets out the regime of transit passage and Section III, consists of one article covering non-suspendable innocent passage.¹⁰¹ The greater part of the proposal was subsequently included in Part II of the Informal Single Negotiating Text.¹⁰² Except for some modifications, the basic structure of the proposal remained more or less unchanged throughout the negotiation process of UNCLOS III.¹⁰³

4.5.4 The Adoption of LOSC 1982

It would be simplifying the issue to conclude that everything went smoothly from thereon. Even as late as 1978, a number of States considered that the provisions on straits used for international navigation were insufficient to address all the issues raised during the negotiations. For example, Spain still found the provisions to be unacceptable and was of the view that the articles did not constitute a compromise in its truest sense, as they had not incorporated the interest of all those concerned.¹⁰⁴ Egypt, whilst supporting the Spanish

⁹⁹Nordquist, above n 71, 287-288. See also Nandan and Anderson, above n 97, 164-165.

¹⁰⁰Nordquist, above n 71, 288.

¹⁰¹Nandan and Anderson, above n 97, 165.

¹⁰²Nordquist, above n 71, 288.

¹⁰³*Ibid.*

¹⁰⁴*Official Records of the Third United Nations Conference on the Law of the Sea Volume IX*, 104th plen mtg [39] (1978).

position, added that stronger guarantees should be put in place to protect strait State rights.¹⁰⁵ Recognising this, during the 10th session of UNCLOS III in 1981, the Chairman of the Second Committee stated the following in his report to the plenary:

(a) There is virtual consensus in the fact that it is not desirable or practical to reopen discussion on the basic Committee issues, which, while they do not in all cases represent a consensus, are the formula that come closest to commanding general agreement and that have been arrived through long and arduous negotiations.

...

(c) Although some of the draft articles, as now worded, present difficulties of various kinds for some delegations, the draft as a whole is acceptable to the great majority of delegations. There are actually, in the view of significant number of delegations, very few questions that require further discussions and negotiation.¹⁰⁶

At this session also, the official draft of the convention on the law of the sea was formulated. This contained the provisions on straits used for international navigation as they were drafted at the 9th Session of UNCLOS III.¹⁰⁷ Coming into the 11th and final session of UNCLOS III, discontentment over these provisions continued. Spain in particular, staunchly maintained that the regime established by the *Corfu Channel case* was adequate to safeguard the interests of the maritime and strait States, and remained opposed to the articles granting freedom of overflight over straits used for international navigation.¹⁰⁸ Opposing this point, the United States maintained that the provisions on straits used for international navigation dealing with navigation and overflight served the interest of the international community and was a reflection of prevailing international practice.¹⁰⁹

¹⁰⁵Ibid, [61].

¹⁰⁶*Official Records of the Third United Nations Conference on the Law of the Sea Volume XV, DOCUMENT A/CONF.62 L.69 [8 (a) and (c)] (1981).*

¹⁰⁷Ibid, DOCUMENT A/CONF.62/L.

¹⁰⁸See for example, Spain's statement in *Official Records of the Third United Nations Conference on the Law of the Sea Volume XIV, DOCUMENT A/CONF.62/WS/12 (1980).*

¹⁰⁹*Official Records of the Third United Nations Conference on the Law of the Sea Volume XVII, 192nd plen mtg [3] (1982).*

Overall however, States found the provisions on straits used for international navigation acceptable and found they constituted “a balanced solution to the problem”.¹¹⁰ The LOSC 1982, including Part III on straits used for international navigation, was adopted by the plenary of UNCLOS III on 30 April 1982.¹¹¹ As of 4 April 2007, 155 States have become parties to LOSC 1982.¹¹²

4.5.5 The Littoral States of the Straits of Malacca and Singapore

During the negotiations that took place in the United Nations Sea Bed Committee sessions preceding UNCLOS III Malaysia and Indonesia were strong proponents of the regime of innocent passage in straits used for international navigation. Both States were supporters of the Eight Power proposal on passage through straits.¹¹³ Malaysia and Indonesia held the view, that the issue of navigation, in straits used for international navigation falling within the 12 nautical mile territorial waters limit of a State, should be treated as a matter of passage through territorial waters, and as such included in the innocent passage regime.¹¹⁴

Malaysia and Indonesia were also particularly concerned with the issue of vessel-source pollution in the Straits of Malacca and Singapore. The Malaysian representative very clearly emphasised this problem at the United Nations Sea Bed Committee, particularly the

¹¹⁰See for example the statement made by the representative of Denmark in *Official Records of the Third United Nations Conference on the Law of the Sea Volume XVI*, 163rd plen mtg [37] (1982).

¹¹¹*Official Records of the Third United Nations Conference on the Law of the Sea Volume XVI*, 182nd mtg [28] (1982).

¹¹²See *Chronological Lists of Ratifications of, Accessions and Successions to the Convention and the Related Agreements as at 4 June 2007*, Division for Ocean Affairs and the Law of the Sea <http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm#The%20United%20Nations%20Convention%20on%20the%20Law%20of%20the%20Sea> at 4 July 2007.

¹¹³*Straits Used for International Navigation Legislative History of Part III of the United Nations Convention on the Law of the Sea Volume I*, above n 46, 75.

¹¹⁴*Ibid*, 93 and 95.

fact that pollution was already taking place in the Straits from oil spills and operational discharges as a result of the passage of oil tankers.¹¹⁵ Both States called for a redefinition of the regime of innocent passage to accommodate the concerns of strait States on security and environmental protection.¹¹⁶ However, Singapore did not entirely share the position of Malaysia and Indonesia due to its economic dependence on vessels transiting through the Straits of Malacca and Singapore. This meant Singapore supported navigational freedom in straits used for international navigation, while still supporting Malaysia's and Indonesia's concern over the problem of pollution from vessels.¹¹⁷

The above trend continued well into the initial stages of UNCLOS III. Malaysia¹¹⁸ and Indonesia¹¹⁹ continued to support the implementation of the innocent passage regime in straits used for international navigation and the proposals contained in the Eight Power draft. Meanwhile, Singapore proceeded to emphasise the importance of free passage through straits used for international navigation, supporting the idea of a separate but objective regime to govern passage through such straits.¹²⁰ However, the position of Malaysia and Indonesia slowly began to change with the tabling of the draft articles by the Private Working Group. This successfully drew together the gap between the freedoms sought by the maritime States and the safeguards sought by the strait States, in straits used for international navigation.

¹¹⁵Ibid, 36.

¹¹⁶Ibid, 93 and 95.

¹¹⁷Ibid, 44.

¹¹⁸*Official Records of the Third United Nations Conference on the Law of the Sea Volume I*, 35th plen mtg [27] (1974).

¹¹⁹*Ibid*, 42nd mtg [68].

¹²⁰*Official Records of the Third United Nations Conference on the Law of the Sea Volume II*, 14th plen mtg [14-16] (1974).

Malaysia's concern over the maritime environment of the Straits of Malacca and Singapore from vessel-source pollution was addressed with the formulation and subsequent inclusion of Article 233 in the LOSC 1982.¹²¹ This granted the right of enforcement to strait States in the event of a serious pollution incident or threat. During UNCLOS III, the littoral States of the Straits of Malacca and Singapore reached a common understanding with the major users of the Straits, regarding the purpose and meaning of Article 233 of the LOSC 1982. Malaysia, on behalf of the other littoral States of the Straits issued a statement to the President of UNCLOS III containing an annex, considered to be an "important interpretation of article 233".¹²² This annex clarified that for the Straits of Malacca and Singapore, the prevention of passage constituted a legitimate enforcement measure for a vessel violation of the 3.5 minimum under-keel clearance limit in the Straits. The annex, amongst other things, reads as follows.

"ANNEX

Statement relating to article 233 of the draft convention on the law of the sea in its application to the Straits of Malacca and Singapore

Following consultations held among the delegations of States concerned, a common understanding regarding the purpose and meaning of article 233 of the draft convention on the law of the sea in its application to the Straits of Malacca and Singapore has been confirmed.

This understanding, which takes cognizance of the peculiar geographic and traffic conditions in the Straits, and which recognizes the need to promote safety of navigation and to protect and preserve the marine environment in the Straits, is as follows:

1. Laws and regulations enacted by States bordering Straits under article 42, paragraph 1(a) of the convention, refer to the laws and regulations relating to

¹²¹*Straits Used for International Navigation: Legislative History of Part III of the United Nations Convention on the Law of the Sea Volume II*, above n 63, 105. See *Official Records of the Third United Nations Conference on the Law of the Sea Volume VIII*, DOCUMENT A/CONF.62/WP.10 (1979).

¹²²Myron H. Nordquist (ed), *United Nations Convention on the Law of the Sea 1982: A Commentary Vol. IV* (1990) 388.

- traffic separation schemes, including the determination of under keel clearance for the Straits provided in article 41.
2. Accordingly, a violation of the provision of resolution A375 (X), by the Inter-Governmental Maritime Consultative Organization adopted on 14 November 1977, whereby the vessels referred to therein shall allow for an under keel clearance of at least 3.5 metres during passage through the Straits of Malacca and Singapore, shall be deemed, in view of the peculiar geographic and traffic conditions of the Straits, to be a violation within the meaning of article 233. The States bordering the Straits may take appropriate enforcement measures, as provided for in article 233. Such measures may include preventing a vessel violating the required under keel clearance from proceeding. Such action shall not constitute denying, hampering, impairing or spending the right of transit passage in breach of articles 42, paragraph 2 or 44 of the draft convention.
 3. States bordering the Straits may take appropriate enforcement measures in accordance with article 233, against vessels violating the laws and regulations referred to in article 42, paragraph 1 (a) and (b) causing or threatening major damage to the marine environment of the Straits.”¹²³

The contents of the statement together with the accompanying annex received confirmation from Indonesia,¹²⁴ Singapore¹²⁵ and the major user States of the Straits of Malacca and Singapore.¹²⁶ According to Molenaar, the Malaysian acceptance of the transit passage regime was in fact conditional upon receiving such confirmation from the user States of the Straits.¹²⁷ Nevertheless, he notes that there is no indication that the littoral States of the Straits have enacted legislation to provide a basis for the enforcement powers entailed in Article 233 of the LOSC 1982.¹²⁸ Indonesia, Singapore and Malaysia subsequently voted in support of the adoption of LOSC 1982.¹²⁹ Indonesia, Singapore and Malaysia became

¹²³ *Official Records of the Third United Nations Conference on the Law of the Sea Volume XVI*, DOCUMENT A/CONF.62/L.145 (1982).

¹²⁴ Ibid, DOCUMENT A/CONF.62/L.145/ADD.1(1982).

¹²⁵ Ibid, DOCUMENT A/CONF.62/L.145/ADD.2(1982).

¹²⁶ Ibid, DOCUMENT A/CONF.62/L.145/ADD.3, DOCUMENT A/CONF.62/L.145/ADD.4, DOCUMENT A/CONF.62/L.145/ADD.5, DOCUMENT A/CONF.62/L.145/ADD.6, DOCUMENT A/CONF.62/L.145/ADD.7 and DOCUMENT A/CONF.62/L.145/ADD.8 (1982).

¹²⁷ Erik Jaap Molenaar, *Coastal Jurisdiction over Vessel-Source Pollution* (1998), 317.

¹²⁸ Ibid, 320.

¹²⁹ Above n 110, 182nd mtg [28] (1982).

parties to the LOSC 1982 on 3 February 1986, 17 November 1994 and 14 October 1996 respectively.¹³⁰

4.6 Part III of the LOSC 1982

Provisions governing straits used for international navigation are contained in Part III of the LOSC 1982. Part III not only established a new regime of transit passage through straits used for international navigation, but it also reaffirmed the right of non-suspendable innocent passage in certain categories of straits.¹³¹ Part III consists of Articles 34 to 45 which are divided into three main sections. Section 1 consists of general provisions applicable to the whole of that Part. Section 2 of Part III provides for the regime of transit passage and related matters, and includes provisions relating to the duties of ships and aircraft during transit passage and the competence of strait States to adopt laws and regulations in straits used for international navigation. Section 3 defines the application of non-suspendable innocent passage through straits used for international navigation.

Part III of the LOSC 1982 establishes six categories of straits used for international navigation. In the first category, Part III recognises a strait which has a high seas or exclusive economic zone route running through the middle. In this regard, Article 36 of the LOSC 1982 recognises “straits used for international navigation where there exists through the strait a route through the high seas or through an exclusive economic zone of similar convenience with respect to navigational and hydrographical characteristics.”¹³² The

¹³⁰ Above n 112.

¹³¹ *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, (entered into force 16 November 1994).

¹³² *Ibid*, art 36.

provisions of Part III do not apply to such straits, rather passage and overflight are governed by the provisions of the LOSC 1982 relevant to the high seas and the exclusive economic zone.¹³³ The second category of straits is “straits which are used for international navigation between one part of the high seas or exclusive economic zone and another part of the high seas and exclusive economic zone”.¹³⁴ The regime of transit passage applies to such straits.¹³⁵ The third category of straits recognised in Part III of the LOSC 1982 is a strait situated between an island and the mainland.¹³⁶ Transit passage does not apply in such a strait if there exists seaward of the island, a route through the high seas or exclusive economic zone of similar convenience.¹³⁷ Passage through the strait is one of non-suspendable innocent passage under Article 45 of the LOSC 1982.¹³⁸ The fourth category of straits recognised under Part III of the LOSC 1982 are those straits subject to a long standing convention. Paragraph (c) of Article 35 of the LOSC 1982, recognises straits used for international navigation where “passage is regulated in whole or in part by long-standing international conventions in force specifically relating to such straits”.¹³⁹ Part III of the LOSC 1982 does not apply to such straits.¹⁴⁰ The fifth category of straits recognised in Part III is one situated between one part of the high seas or an exclusive economic zone and the territorial sea of a foreign State.¹⁴¹ Non-suspendable innocent passage is applicable in such a strait.¹⁴² Lastly, paragraph (a) of Article 35 of the LOSC 1982 recognises a sixth category of strait which as a result of the “establishment of a straight baseline” is enclosed

¹³³Ibid.

¹³⁴Ibid, art 37.

¹³⁵Ibid, art 38 para 1.

¹³⁶Ibid.

¹³⁷Ibid.

¹³⁸Ibid, art 45 para 1.

¹³⁹Ibid, art 35 para (c).

¹⁴⁰Ibid.

¹⁴¹Ibid, art 45.

¹⁴²Ibid.

as internal waters although it was previously not considered as such.¹⁴³ The provisions of Part III of the LOSC 1982 do not apply to such straits.¹⁴⁴

An essential point to note in relation to Part III of the LOSC 1982, is that it was introduced only to govern the navigation of vessels in straits used for international navigation and matters related thereto.¹⁴⁵ In establishing the regime of passage (i.e. transit passage and non-suspendable innocent passage) for straits used for international navigation, Part III does not “in other respects” affect the legal status of the waters forming such straits or the exercise by the strait States of their sovereignty or their jurisdiction over such waters, their air space, sea bed and subsoil.¹⁴⁶ Article 34 of the LOSC 1982 emphasises this point clearly, but provides that the exercise of the sovereignty and jurisdiction of a strait State over the straits is subject to the provisions contained in this Part and to other rules of international law.¹⁴⁷ Further, paragraph 3 of Article 38 establishes that any activity that is not in exercise of transit passage remains governed by the other provisions of the LOSC 1982. The inclusion of these provisions was an essential element in the balance that was reached on Part III of the LOSC 1982.

4.7 The Transit Passage Regime under the LOSC 1982

As discussed earlier, the regime of transit passage was established by UNCLOS III amidst concern by maritime powers that the adoption of a 12 nautical mile territorial sea would have the effect of hindering the freedom of navigation in straits which form vital global

¹⁴³Ibid, art 35 (a).

¹⁴⁴Ibid.

¹⁴⁵Ibid, art 34.

¹⁴⁶Ibid.

¹⁴⁷Ibid.

shipping links. An overview of the main provisions on the transit passage regime as provided in Part III of the LOSC 1982 is provided.

Transit passage is defined by Article 38 of the LOSC 1982 as “the exercise in accordance with this Part of the freedom of navigation and overflight solely for the purpose of continuous and expeditious transit of the strait between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone.”¹⁴⁸ This right is granted to all ships and aircraft in straits used for international navigation situated between one part of the high seas and an exclusive economic zone and another part of the high seas or an exclusive economic zone.¹⁴⁹ However, an exception arises where the strait “is formed by an island of a State bordering the Strait and its mainland” and if there exist a route “of similar convenience with respect to navigational and hydrographical characteristics” seaward of the island through the high seas or the exclusive economic zone.¹⁵⁰

Article 38 of LOSC 1982 is the central provision of Part III. Amongst the fundamental principles established in Part III is that, all ships and aircrafts enjoy the right of unimpeded transit passage. The Article establishes that transit passage is a right enjoyed without discrimination as to the nationality or type of a ship or aircraft. This means that passage could be exercised by a warship, or merchant ship, or vessel and overflight by a civil or State aircraft regardless of the width or length of a strait.¹⁵¹ This may be the most essential

¹⁴⁸Ibid, art 38 para 2.

¹⁴⁹Ibid, art 37 and art 38 para 1.

¹⁵⁰Ibid, art 25 para 2.

¹⁵¹Nordquist, above n 71, 328.

distinction between the regime of transit passage and that of innocent passage. Under the latter regime, strait States are granted the right of prevention or suspension of passage, for instance, on the grounds that the passage was not innocent.¹⁵² Other differences between the two relate to the freedom of overflight,¹⁵³ the right of submerged passage for submarines¹⁵⁴ and the powers of strait States to adopt laws and regulations to govern activities of vessels in transit passage.¹⁵⁵

The right of unimpeded transit passage in Article 38 of the LOSC 1982 is strengthened by Article 44 of the LOSC 1982 which provides that “States bordering straits shall not hamper transit passage” and that there “shall be no suspension of transit passage”.¹⁵⁶ The right of unimpeded passage is also underlined by paragraph 2 of Article 42 of the LOSC 1982. The Article imposes on strait States the requirement that the application of laws and regulations adopted relating to transit passage shall not have the practical effect of “denying, hampering or impairing” the right of transit passage.¹⁵⁷

It is clear that the essence of transit passage, as distinct from innocent passage, lies in the freedom of navigation and overflight that it grants. This right is akin to that of the freedoms

¹⁵²*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 25.

¹⁵³*Ibid*, art 17 and art 38. Aircrafts, whether civil or military, are granted the freedom of overflight in straits used for international navigation pursuant to art 38. In contrast, art 17 does not grant the automatic right of overflight to aircrafts in the territorial sea of a State.

¹⁵⁴*Ibid*, art 20. In the territorial sea of a State, submarines are required to navigate on the surface and to show their flag. There is no such requirement for submarines in straits used for international navigation. In light of this, arguments have been put forth that submarines may navigate submerged. See discussion on submerged transit rights for submarines in Moore, above n 74, 95-102. See also William T. Burke, ‘Submerged Passage through Straits: Interpretations of the Proposed Law of the Sea Treaty Text, (1978) 52 *Washington Law Review*, 193.

¹⁵⁵*Ibid*, art 21 and art 42.

¹⁵⁶*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 44.

¹⁵⁷*Ibid*, art 42.

of passage and overflight granted in the exclusive economic zone and the high seas. In fact, Article 58 and Article 87 of LOSC 1982 correspond in language and meaning to Article 38 in regard to these freedoms.¹⁵⁸ Although the right of transit passage is one analogous to that of the freedom of the high seas, the distinction between the two lie in the requirement that transit passage must be exercised continuously and expeditiously. In here lies the difference - where the exercise of overflight and navigational freedom in the high seas is made subject only to States having due regard to the interests of other States and to activities in the Area, the freedom in straits used for international navigation has been described as being subject to a “number of limiting rules designed to protect the interests of the coastal State and promote safety of navigation.”¹⁵⁹ The requirement for continuous and expeditious transit is an essential element of the right of transit passage, with similar language also being used in the regime of innocent passage.¹⁶⁰ Paragraph 1(a) of Article 39 further stresses the requirement for continuous and expeditious journey by requiring ships and aircrafts to “proceed without delay through or over straits.”¹⁶¹

The provisions of Part III are silent as to when and where transit passage begins and ends. However, Article 35 of the LOSC 1982 clearly provides that Part III does not in any way affect the “legal status of the waters beyond the territorial seas of States bordering straits as exclusive economic zones or high seas”¹⁶² nor the area of internal waters within a strait.¹⁶³ Nordquist observed that paragraph (b) of Article 35 “establishes that for straits wide

¹⁵⁸Nordquist, above n 71, 329.

¹⁵⁹Brown, above n 23, 89.

¹⁶⁰*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 18 para, 2.

¹⁶¹*Ibid*, art 39.

¹⁶²*Ibid*, art 35 para (b).

¹⁶³*Ibid*, art 35 para (a).

enough to have a corridor of high seas or exclusive economic zone between the territorial seas of the opposite States(s), the corridor remains high seas or exclusive economic zone, and the freedom of navigation according to articles 58 and 87 applies in that corridor.”¹⁶⁴ This observation is in line with the general recognition that the regime of transit passage applies only to the parts of straits which lie wholly or partly within the territorial waters of a strait State.¹⁶⁵

An example of strait having a corridor of exclusive economic zone between the territorial seas of the opposite States is the Straits of Malacca and Singapore. Here, the regime of transit passage only applies to areas of the Straits which lie wholly or partly within the territorial waters of the littoral States.¹⁶⁶ Accordingly, the provisions of Part III of the LOSC 1982 are not applicable to the other maritime zones in the Straits of Malacca and Singapore, including in the internal waters or exclusive economic zone area of the littoral States of the Straits. For instance, in the Malaysian exclusive economic zone area in the Straits of Malacca and Singapore, Malaysia is granted sovereign rights in accordance with the provisions of the LOSC 1982, including the right to exploit, conserve and manage

¹⁶⁴Nordquist, above n 71, 307.

¹⁶⁵Nandan and Anderson, above n 97, 175, clarified that “The Chairman of the of the Second Committee included in his ISNT similar wording as Article 36(b); but he also made clear that the ‘pockets’ of EEZ were equally not affected by the provisions about straits. Subject to changes made in the Drafting Committee (notably the insertion of the word ‘legal’ before ‘status’ in the interests of consistency), his approach was accepted.” See also Erik Jaap Molenaar, *Coastal Jurisdiction over Vessel-Source Pollution* (1998), 285; Bing Bing Jia, *The Regime of Straits in International Law* (1998) 9. Langdon however argues that as a result of the ambiguity in the LOSC 1982 and for reasons of practicality and navigational safety, transit passage regimes must extend out into the approaches to international straits, to the extent that it is necessary to allow a vessel to navigate safely in its normal mode and cannot be confined to the area of water where an international strait is entirely enclosed by the adjacent territorial sea. See J.B.R.L. Langdon, ‘The Extent of Transit Passage Some Practical Anomalies’ (1990) 14 *Marine Policy* 130, 130. See also William L. Schachte and J. Peter A. Bernhardt, ‘International Straits and Navigational Freedoms’ (1992-1993) 33 *Virginia Journal of International Law* 527, 536 on the United States’ position on this issue.

¹⁶⁶See Sam Bateman, Catherine Zara Raymond and Joshua Ho, *Safety and Security in the Malacca and Singapore Straits* (2006) 11 and 12.

living and non-living resources in the zone.¹⁶⁷ On the other hand, foreign vessels and aircrafts enjoy within this area the freedoms of navigation and overflight, akin to those in the high seas.¹⁶⁸

4.7.1 The Right of Transit Passage and the Issue of Vessel-Source Pollution

The problem of pollution from vessels in straits used for international navigation is dealt with specifically under Articles 39, 42 and 43 of the LOSC 1982, albeit from different perspectives. Article 39 of the LOSC 1982 imposes an obligation on vessels to comply with generally accepted international regulations, procedures and practices for the prevention, reduction and control of pollution from vessels when in straits used for international navigation, whilst Article 42 deals with the problem of vessel-source pollution by empowering strait States to adopt domestic legislation in conformity with international regulations to control the “discharge of oil, oily wastes and other noxious substance” from vessels.¹⁶⁹ The Article also empowers strait States to designate traffic separation schemes and sea lanes for purposes of the safety and the regulation of maritime traffic.¹⁷⁰ Article 43 of the LOSC 1982 supplements these regulatory provisions from the context of a cooperative framework. The Article encourages strait States and user States of a strait used for international navigation, to enter into agreements to cooperate, *inter alia*, for the prevention, reduction and control of pollution from vessels.¹⁷¹ All three articles and their

¹⁶⁷*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, above n 125, art 56.

¹⁶⁸*Ibid*, arts 58 and 87.

¹⁶⁹*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 42 para 1(b).

¹⁷⁰*Ibid*, art 42 para 1(a).

¹⁷¹*Ibid*, art 43.

application in straits used for international navigation, particularly in the Straits of Malacca and Singapore will be discussed in greater detail in Chapters 5, 6 and 7.

4.8 The Straits of Malacca and Singapore as Straits Used for International Navigation

The Straits of Malacca and Singapore are recognised as a strait used for international navigation falling within the scope of Part III of the LOSC 1982. Based on the legal definition contained in Article 37 of the LOSC 1982, the transit passage regime is *prima facie* applicable in the Straits. As parties to the LOSC 1982, it follows that the littoral States of the Straits are legally bound to give effect to its provisions, in particular, Part III of the LOSC 1982. Indonesia has in fact recognised the right of transit passage for vessels in the Straits by virtue of the Act on Indonesian Waters.¹⁷² In 2005, the Deputy Prime Minister of Malaysia recognised the application of transit passage in the Straits of Malacca and Singapore.¹⁷³

It is, nevertheless, essential to note that Malaysia and Indonesia consistently maintain that the Straits of Malacca and Singapore, whilst being a strait used for international navigation, does not constitute an ‘international strait’. During the negotiations at UNCLOS III, the appropriate phraseology to be utilised for Part III of the LOSC 1982, whether it be “international straits” or “straits used for international navigation” was discussed.¹⁷⁴ The argument put forth against the use of the term “international straits” in the LOSC 1982 was that it indicated that the straits belonged to the international community at large rather than

¹⁷²See Indonesian Act No. 6 of 8 August 1996 regarding Indonesian Waters.

¹⁷³Dato' Sri Mohd Najib Tun Haji Abd Razak, ‘Enhancing Maritime Security Cooperation’ (Speech delivered at the 2005 IISS Shangri-La Dialogue, Singapore, 5 June 2005).

¹⁷⁴Hasjim Djalal, ‘The Law of the Sea Convention and Navigational Freedoms’ in Donald R. Rothwell and Sam Bateman (eds), *Navigational Rights and Freedoms and the New Law of the Sea* (2000) 3.

to the coastal States of the straits.¹⁷⁵ In the context of the Straits of Malacca and Singapore, Indonesia's 1971 statement to the International Maritime Consultative Organization (IMCO) Sub-Committee on the Safety of Navigation addressed this point.¹⁷⁶ In the statement, Indonesia expressed its discontentment against any attempts to internationalise the Straits by other States, referring specifically to acts which take away "the right to control and to supervise the strait" from the littoral States.¹⁷⁷ This statement, which received the unequivocal support of Malaysia, was in fact made in response to Japan's proposal to the IMCO for there to be international action in the Straits to ensure the safe navigation of vessels.¹⁷⁸ The terminology of "straits used for international navigation" was eventually preferred for the LOSC 1982 as it identified the function of the particular strait rather than its ownership or sovereignty.¹⁷⁹

Malaysia and Indonesia's position on the status of the Straits of Malacca and Singapore was clearly stipulated even prior to the adoption of the LOSC 1982 in a Joint Statement issued on 16 November 1971.¹⁸⁰ The Statement, reads as follows:

- (1) The three Governments agreed that the safety of navigation in the Straits of Malacca and Singapore is the responsibility of the coastal states concerned;
- (2) The three Governments agreed on the need for tripartite co-operation on the safety of navigation in the two straits;
- (3) The three Governments agreed that a body for cooperation to co-ordinate efforts for the safety of navigation in the Straits of Malacca and Singapore be established as soon as possible and that such body should be composed of only the three coastal states concerned;

¹⁷⁵Ibid.

¹⁷⁶Michael Leifer, *Malacca, Singapore and Indonesia* (1978), 46.

¹⁷⁷Ibid.

¹⁷⁸Ibid, 37.

¹⁷⁹Djalal, above n 174, 3.

¹⁸⁰Indonesia, Malaysia, Singapore: Statement on the Malacca Straits, November 16, 1971' in Hamzah Ahmad (ed), *Malaysia and the United Nations Conference on the Law of the Sea: Selected Documents* (1983).

- (4) The three Governments also agreed that the problem of the safety of navigation and the question of internationalization of the straits are two separate issues;
- (5) The Governments of the Republic of Indonesia and of Malaysia agreed that the Straits of Malacca and Singapore are not international straits while fully recognizing their use for international shipping in accordance with the principle of innocent passage. The Government of Singapore takes note of the position of the Governments of the Republic of Indonesia and Malaysia on this point;
- (vi) On the basis of this understanding the three governments approved the continuation on the hydrographic survey.

Apart from establishing that safe navigation in the Straits was a matter that the littoral States considered to be within their control, the Joint Statement more importantly reflected the differing positions of the littoral States of the Straits of Malacca and Singapore on issues pertaining to the sovereignty over the Straits of Malacca and Singapore, and freedom of passage in the Straits. Singapore, in having only taken note of Malaysia and Indonesia's position that the Straits did not constitute international straits, made very clear its stand-alone policy. Singapore's Foreign Minister in justifying Singapore's position a year later expressly stated that the status of the Straits could not be considered in isolation but in conjunction with the other straits in the world which form vital links for international sea communications. As such, it supported "unimpeded passage of all ships of all nations through the Straits."¹⁸¹ The underlying economic implications for Singapore in keeping the Straits open to all are obvious.¹⁸² Vessel accessibility to the Straits of Malacca and Singapore is vital for Singapore's survival as a nation and for the survival of its multi billion dollar port and oil refinery industry.

¹⁸¹Nadaisan Logaraj, 'Navigational Safety, Oil Pollution and Passage in the Straits of Malacca'(1978) 20 Mal. L.R. 287, 289-290.

¹⁸² Ibid, 293.

Malaysia and Indonesia's opposition towards the idea of internationalising the Straits stems from the notion of loss of sovereignty.¹⁸³ Both States considers the Straits as forming part of their respective territorial waters and as such were only prepared to grant the right of innocent passage to vessels passing through the Straits of Malacca and Singapore.¹⁸⁴ This position was clearly spelled out in the 1971 Joint Statement. Indonesia's reluctance in granting the freedom of passage to vessels in the Straits was particularly attributable to its fear that granting the freedom of passage to warships and submarines in the Straits could turn the area into a zone of conflict and confrontation.¹⁸⁵ Malaysia supported this position and together with Indonesia insisted that the passage of warships through the Straits be made subject to notification and prior authorisation.¹⁸⁶ Apart from security concerns, both States were anxious of the threat of pollution in the Straits brought about by shipping. In particular, Malaysia and Indonesia were concerned of the impact that vessel pollution would have on their respective fishing industries.¹⁸⁷ Post-LOSC 1982 however, both Malaysia and Indonesia have recognised the Straits as a strait used for international navigation in accordance with the provision of the LOSC 1982 and are therefore obliged to grant the right of transit passage for vessels utilising the Straits of Malacca and Singapore.

4.9 Conclusion

This chapter discussed the development of the international legal framework governing straits used for international navigation and the issue of vessel passage rights in such straits.

¹⁸³Ibid, 290-291. See also Hasjim Djalal, 'Funding and Managing International Partnership for the Malacca and Singapore Straits Consonant with Article 43 of the UNCLOS, 1982' (1999) *Singapore Journal of International & Comparative Law* 457, 458.

¹⁸⁴See section 4.5.5.

¹⁸⁵See the statement made by the representative of Indonesia before the 1972 Session of the United Nations Sea Bed Committee, above n 84.

¹⁸⁶K.L. Koh, *Straits in International Navigation Contemporary Issues* (1982) 60.

¹⁸⁷Ibid, 62.

An overview of events leading to the adoption of Part III of the LOSC 1982 and the provisions of the regime of transit passage in straits used for international navigation were provided. This chapter has established that the Straits of Malacca and Singapore is a strait used for international navigation in accordance with Part III of the LOSC 1982. It has also established the application of the regime of transit passage to govern vessel passage in the Straits. In this regard, the positions and concerns of the littoral States of the Straits of Malacca and Singapore prior to and during the negotiations in UNCLOS III were discussed, especially in relation to the problem of pollution in straits resulting from the passage of vessels. This chapter has also identified the relevant provisions of Part III of the LOSC 1982 dealing with the prevention, reduction and control of pollution from vessels in straits used for international navigation. Article 42 of the LOSC 1982 is the main Article in Part III of the LOSC 1982 governing a strait State's regulatory competence over activities undertaken by vessels exercising transit passage in straits used for international navigation. As such, the succeeding chapter is primarily aimed at examining the provisions for the prevention, reduction and control of pollution from vessels in straits used for international navigation under Article 42 of the LOSC 1982.

CHAPTER 5

THE REGULATORY POWERS OF STRAIT STATES TO ADDRESS VESSEL-SOURCE POLLUTION UNDER THE 1982 UNITED NATIONS CONVENTION ON THE LAW OF THE SEA

5.1 Introduction

This chapter continues the previous chapter's discussion on the provisions of Part III of the LOSC 1982. Unlike the preceding chapter, which generally reviewed the background to and provisions of Part III of the LOSC 1982, this chapter will specifically analyse the law pertaining to vessel-source pollution in straits used for international navigation as contained in the LOSC 1982. The main purpose of this chapter is to examine a strait State's regulatory and enforcement competence under Article 42 and Article 233 of the LOSC 1982 to address vessel-source pollution in straits used for international navigation. This chapter will also analyse the obligations imposed on vessels exercising transit passage in straits used for international navigation by Article 39 of the LOSC 1982 to comply with generally accepted international regulations, procedures and practices to prevent, reduce and control pollution from vessels. It is noted at the outset that Articles 42 and 39 have approached the problem of pollution from vessels in straits used for international navigation from two different angles, the former through a State's prescriptive powers over vessel activities relating to transit passage, and the latter through the direct imposition of certain obligations on vessels exercising the right of transit passage.

5.2 Strait States' Power under the LOSC 1982 to Regulate the Activities of Vessels in Transit Passage

Article 42 of the LOSC 1982 is the only provision in Part III of the LOSC 1982 which authorises strait States to adopt laws and regulations in straits used for international navigation. Paragraph 1 of Article 42 enumerates four activities relating to transit passage which may be made subject to the laws and regulations of strait States. The Article empowers strait States to prescribe regulations for, first, activities pertaining to the safety of navigation and the regulation of maritime traffic;¹ second, for the prevention, reduction and control of pollution from vessels;² third, in respect of fishing vessels and the prevention of fishing including the stowage of fishing gear;³ and last, for the loading and unloading of any commodity, currency, or person which contravenes the custom, fiscal, immigration or sanitary laws and regulations of the strait States.⁴

In contrast with the regulatory powers of the coastal States over vessels exercising innocent passage under Article 21 of the LOSC 1982, a strait State's prescriptive jurisdiction over vessels exercising transit passage in straits used for international navigation is much more limited.⁵ This means that strait States may not extend the application of domestic laws and regulations to any other activities undertaken by vessels exercising transit passage, save for

¹*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 42 para 1(a) (entered into force 16 November 1994).

²*Ibid*, art 42 para 1(b).

³*Ibid*, art 42 para 1(c).

⁴*Ibid*, art 42 para 1(d).

⁵Apart from prescriptive powers over activities similar to that contained in Article 42, coastal States under Article 21 of the LOSC 1982 can also regulate matters such as the protection of navigational aids and facilities or other installations, the protection of cables and pipelines and the conservation of living resources of the sea.

those listed.⁶ The activities in which strait States may regulate in straits used for international navigation pursuant to Article 42 of the LOSC 1982 are regarded as exhaustive. This approach is evidenced by the refusal of UNCLOS III to include proposals made by Malaysia, Morocco, Greece and Spain to include additional activities within the ambit of Article 42 of the LOSC 1982.⁷ Moore credited this rigid approach to the fact that the Article was negotiated with the shortcomings of the innocent passage regime in mind.⁸ He referred particularly to what he termed as the “vague and overly broad coastal state regulatory competence” which he argued could result in conflict and the impairment of navigation if applied to straits used for international navigation.⁹

5.2.1 Strait States and Vessel Obligations under Article 42 of the LOSC 1982

Vessels exercising transit passage are required under paragraph 4 of Article 42 of the LOSC 1982 to comply with the laws and regulations adopted by a strait State.¹⁰ Nevertheless, limitations to the strait State’s prescriptive competence have been introduced throughout Article 42 of the LOSC 1982 as demonstrated below.

⁶R.R. Churchill and A.V. Lowe, *The Law of the Sea* (3rd ed, 1999) 108.

⁷Myron H. Nordquist (ed), *United Nations Convention on the Law of the Sea 1982: A Commentary Vol. II* (1993) 373-374.

⁸John Norton Moore, ‘The Regime of Straits and the Third United Nations Conference on the Law of the Sea’ (1980) *American Journal of International Law* 77,108. Pirtle argues that the regime of innocent passage was deemed unacceptable to the maritime powers for three major weaknesses, which were, “(1)The lack of precision with respect to interpretation and application of coastal-state rights; (2) the application of the right to only specific forms of transit; (3) the fact that the right had been withdrawn periodically by coastal states in support of political objectives.” See Charles Pirtle, ‘Transit Passage Rights and U.S. Security Interests in International Straits: The “Straits Debate Revisited” (1978) *Ocean Development & International Law Journal*, 477, 481.

⁹Moore, above n 8, 108.

¹⁰*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 42 para 4. This obligation is further reinforced by paragraph 1(d) of Article 39 which requires vessels in transit passage to comply with the provisions of Part III of the Convention.

Paragraph 2 of Article 42 of the LOSC 1982 reemphasises the guarantee of navigational freedom in straits used for international navigation, by prohibiting strait States from imposing on vessels exercising transit passage, laws and regulations that would “have the practical effect of denying, hampering or impairing the right of transit passage”.¹¹ The Article also prohibits the discriminatory application of the laws and regulations amongst foreign vessels.¹² Accordingly, vessels undertaking transit passage may not be made subject to any form of control by a strait State, which may pose an impediment to their right of transit passage.¹³ Article 44 of the LOSC 1982 reiterates this condition by calling for strait States not to hamper transit passage and in stating that transit passage cannot be suspended in straits used for international navigation.¹⁴

Recourse for damages caused to strait States by a vessel violation of the laws and regulations adopted pursuant to paragraph 1 of Article 42 is provided. Paragraph 5 of Article 42 provides for there to be State responsibility for vessel acts, where these acts are contrary to the laws and regulations adopted by the strait State and which results in loss or damage to the strait State.¹⁵ In such circumstances, State responsibility would arise on the part of a vessel’s flag State or the State of registry for a vessel or aircraft entitled to sovereign immunity.¹⁶

¹¹*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 42 para 2.

¹²*Ibid.* It is noted that the non-discrimination requirement against foreign vessels in the Article does not extend to discrimination between foreign and local vessels. However, as noted in Nordquist, this distinction is of less importance in practice as transit passage is designed to govern the rights and obligations of foreign vessels in transit and the relationship of these vessels with strait States. See Nordquist, above n 7, 377.

¹³Nordquist, above n 7, 377.

¹⁴*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 44.

¹⁵*Ibid.*, art 44 para 5.

¹⁶*Ibid.*

5.2.2 The Prevention, Reduction and Control of Pollution from Vessels under Article 42 of the LOSC 1982

A strait State's authority to address pollution problems originating from vessel operational discharge, in straits used for international navigation, is dealt with under paragraph 1(b) of Article 42 of the LOSC 1982. The Article empowers strait States to adopt laws and regulations relating to the prevention, reduction and control of pollution in straits used for international navigation. Paragraph 1(b) of Article 42 of the LOSC 1982 reads as follows:

Subject to the provisions of this section, States bordering straits may adopt laws and regulations relating to transit passage through straits, in respect of all or any of the following:

...

(b) the prevention, reduction and control of pollution, by giving effect to applicable international regulations regarding the discharge of oil, oily wastes and other noxious substances in the strait;¹⁷

This provision attempts to achieve balance between the interests of strait States and maritime States. The adoption of paragraph 1(b) of Article 42 of the LOSC 1982 was of particular importance to strait States as many were concerned that the discharge of oil and other pollutants from vessels exercising transit passage would have an adverse impact on the coastal area adjacent to the straits.¹⁸ Although authorising strait States to adopt laws to govern vessel-source pollution, the paragraph also subjects such adoption to certain conditions as a measure to avoid passage impairment through the imposition of unreasonable pollution control regulations.¹⁹ Strait States' powers to adopt laws and regulations for the prevention, reduction and control of pollution from vessels exercising transit passage is subject to two limitations. The first limitation is that strait States can only

¹⁷Ibid, art 42 para 1(b).

¹⁸Nordquist, above n 7, 375. See also discussion in sections 4.5.2 and 4.5.5 of Chapter 4 of the thesis.

¹⁹Nordquist, above n 7, 375.

adopt laws and regulations in straits used for international navigation by giving effect to “applicable international regulations”.²⁰ Such a requirement effectively rules out any domestic standard setting by strait States and avoids the potential problem of vessels being made subject to differing and possibly inconsistent sets of laws as they pass through the waters of different States. This also means that strait States would not be free to impose laws and regulations on discharge standards, which are, in substance, inconsistent, different, or more stringent than those provided for internationally.²¹ The second limitation in Article 42 limits the coverage of the laws and regulations to “the discharge of oil, oily wastes and other noxious substances” only.²² This means that in straits used for international navigation, strait States are not empowered to govern other forms of pollution from vessels, such as garbage pollution and atmospheric pollution. This paragraph also effectively excludes any form of control by a strait State regarding the design, construction and manning of a vessel including the type of equipment carried on board.²³ However, these limitations do not extend to the ability of strait States to exercise their jurisdiction over vessels in port pursuant to Articles 218 and 220 of the LOSC 1982.²⁴

5.2.2.1 The International Convention for the Prevention of Pollution from Ships, 1973 as Modified by the Protocol of 1978 (MARPOL 73/78)

The requirement that strait States regulate pollution from vessels in straits used for international navigation, by giving effect to “applicable international regulations regarding

²⁰*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 42 para 1(b).

²¹Nordquist, above n 7, 375.

²²*Ibid.*

²³Moore, above n 8, 105; Erik Jaap Molenaar, *Coastal State Jurisdiction over Vessel-Source Pollution* (1998) 291.

²⁴See *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, arts 218 and 220.

the discharge of oil, oily wastes and other noxious substances” limits their prescriptive powers to governing substances such as those covered in MARPOL 73/78.²⁵ It is reasonable to conclude that paragraph 1(b) of Article 42 of the LOSC 1982 directly implements the provisions of MARPOL 73/78. This is because, apart from being the main international legal instrument governing the prevention of pollution of the marine environment by vessels from operational or accidental causes, MARPOL 73/78 is the only instrument to date specifying vessel discharge standards of the substances covered by Article 42 of the LOSC 1982.

However, it is arguable that only the compulsory Annex I and Annex II of MARPOL 73/78 are directly relevant to paragraph 1(b) of Article 42 of the LOSC 1982, as they specifically deal with the prevention of pollution by oil and by noxious liquid substances from vessels.²⁶ Annexes III, IV, V and VI of MARPOL 73/78 are irrelevant in straits used for international navigation, as these Annexes do not address the specific problem of the discharge of oil, oily wastes and noxious substances.²⁷ Rather, they focus on the problem of pollution by harmful substances in packaged form, pollution by sewage, pollution by

²⁵International Convention for the Prevention of Pollution from Ships 1973, opened for signature 15 January 1974, 12 International Legal Materials 1319; Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973, opened for signature 1 June 1978, 17 International Legal Materials 546 (entered into force 2 October 1983). Collectively, the 1973 Convention and the 1978 Protocol are referred to as MARPOL 73/78. The text of MARPOL 73/78 is also found in International Maritime Organization, *MARPOL Consolidated Edition 2006: Articles, Protocols, Annexes Unified Interpretations of the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto* (2006). See S.N. Nandan and D.H. Anderson, ‘Straits Used for International Navigation: A Commentary on Part III of the United Nations Convention on the Law of the Sea 1982’ (1989) 60 *British Yearbook of International Law* 159, 191; Molenaar, above n 23, 29; R. Douglas Brubaker, ‘Straits in the Russian Arctic’ (2001) *Ocean Development & International Law* 263, 268.

²⁶MARPOL 73/78, above n 25, Annex I and II. See Nandan and Anderson, above n 25, 191.

²⁷MARPOL 73/78, above n 25. See Robert C. Beckman, ‘The International Legal Regime Governing the Safety of Navigation and the Prevention of Pollution in International Straits’ (1998) *Singapore Journal of International & Comparative Law* 350, 375.

garbage and pollution by air.²⁸ If this understanding is correct, these forms of pollution cannot be regulated by strait States in straits used for international navigation.

Nevertheless, Molenaar argued that the accurateness of applying MARPOL 73/78 discharge standards in paragraph 1(b) of Article 42 of the LOSC 1982 would depend on the meaning granted to the term ‘applicable’ in the Article.²⁹ Molenaar stated that by using the term ‘applicable’, strait States would be limited to only applying laws and regulations which reflect the “customary law and treaty provisions which are applicable” between the strait State and the flag State of a vessel.³⁰ As such, a strictly literal interpretation of the term would exclude the application of MARPOL 73/78 provisions on vessels flying the flag of a non-State party.³¹ In expressing his aversion for this approach, Molenaar proposed that it would be more logical to read ‘applicable’ as ‘generally accepted’.³² Molenaar states that this term, which generally indicates a situation where an instrument or rule has garnered widespread and representative acceptance by the international community, is the more common terminology used for provisions granting prescriptive powers to strait States.³³ The use of ‘generally accepted’ in place of ‘applicable’ indicated that once a strait State adopts the necessary domestic laws and regulations to implement paragraph 1(b) of Article 42, the relevant provisions of MARPOL 73/78 would be applicable to all vessels exercising transit passage even in cases where the flag State of a vessel has yet to become a State party

²⁸MARPOL 73/78, above n 25.

²⁹Molenaar, above n 23, 291.

³⁰Ibid. According to Molenaar, this interpretation, would conflict with para 2 of art 39 of the LOSC 1982 which speaks of a vessel’s obligation to comply with “generally accepted international regulations, procedures and practices” for the safety at sea and for the prevention, reduction and control of pollution from vessels whilst exercising transit passage in straits used for international navigation.

³¹Ibid.

³²Ibid.

³³Ibid.

to MARPOL 73/78.³⁴ He nevertheless admitted that this issue is purely for academic discussion as participation in MARPOL 73/78 is almost global.³⁵ As of May 2007, 144 States had become parties to MARPOL 73/78 which amounts to 98.04 per cent of the overall tonnage of vessels worldwide.³⁶

5.2.2.1.1 The Discharge Standards in MARPOL 73/78

Annex I of MARPOL 73/78 contains regulations for the prevention of pollution by oil.³⁷ It specifically prohibits the operational discharge into the sea of oil³⁸ or oily mixtures³⁹ from all ships unless certain conditions are met.⁴⁰ These conditions vary according to the discharge area and tonnage of ships. For instance, in all areas outside the Antarctica area, ships less than 400 gross tonnage are required to retain all oil and oily mixtures on board for discharge in reception facilities.⁴¹ In such areas, discharges may only take place where, first, the ship is proceeding en route (not stagnant), second, the ship has operation equipment to ensure that the oil content of the undiluted effluent does not exceed 15 parts per million, third, the oily mixture does not originate from cargo pump-room bilges on oil

³⁴See Nandan and Anderson, above n 25, 191.

³⁵Molenaar, above n 23, 292.

³⁶*Summary of Conventions as at 31 May 2007*, International Maritime Organization <<http://www.imo.org/>> at 27 July 2007.

³⁷MARPOL 73/78, above n 25, 45.

³⁸*Ibid.* ‘Oil’ is defined in Annex I of MARPOL 73/78 to mean “petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products (other than those petrochemicals which are subject to the provisions of Annex II of the present Convention) and, without limiting the generality of the foregoing, includes the substances listed in appendix I to this Annex.” See MARPOL 73/78, above n 25, annex I regulation 1 para 1.

³⁹‘Oily mixture’ is defined in Annex I of MARPOL 73/78 to mean “a mixture with any oil content”. See MARPOL 73/78, above n 25, annex I regulation 1 para 3.

⁴⁰MARPOL 73/78, above n 25, annex I regulation 15 para 1.

⁴¹*Ibid.*, regulation 15 para 6.

tankers and fourth, the oily mixture, in case of oil tankers, is not mixed with oil cargo residues.⁴²

In areas outside special areas, ships of 400 gross tonnage and above are prohibited from discharging oil or oily mixtures into the sea unless five conditions are met. The first condition that must be met is that the ship must be proceeding en route (not stagnant), the second, that the oily mixture is processed through an oil filtering equipment, third, that the oil content of the undiluted effluent does not exceed 15 parts per million, fourth, that the oily mixture does not originate from cargo pump-room bilges on oil tankers, and last, that the oily mixture, in case of oil tankers, is not mixed with oil cargo residues.⁴³

Under Regulation 15 of Annex I, ships are also required to ensure that discharges do not contain “chemicals or other substances in quantities or concentrations which are hazardous to the marine environment or chemicals or other substances introduced for the purpose of circumventing the conditions of discharge specified in this regulation.”⁴⁴ There is also a general obligation under this Regulation for ships to retain on board oil residues which cannot be discharged into the sea, for subsequent disposal at reception facilities.⁴⁵ Regulation 15 of Annex I also prohibits the discharge of oil and oily mixtures from ships of 400 gross tonnage and above in a special area, unless conditions similar to the above are met.⁴⁶

⁴²Ibid, regulation 15 paras 6.1, 6.2, 6.3 and 6.4.

⁴³Ibid, regulation 15 paras 2.1, 2.2, 2.3, 2.4 and 2.5.

⁴⁴Ibid, regulation 15 para 8.

⁴⁵Ibid, regulation 15 para 9.

⁴⁶Ibid, regulation 15 para 3.

The standards for operational discharges of oil from the cargo areas of oil tankers are provided under Regulation 34 of Annex I.⁴⁷ This Regulation prohibits the discharge into the sea of oil or oily mixtures from the cargo area of an oil tanker, unless certain conditions are met.⁴⁸ These conditions consist of, *inter alia*, that the tanker is not within a special area, that the tanker is more than 50 nautical miles from the nearest land, that the tanker is proceeding en route and that the instantaneous rate of discharge of oil content does not exceed 30 litres per nautical mile.⁴⁹

Under this Regulation, oil tankers of less than 150 gross tonnage are exempted from complying with requirements for slop tanks,⁵⁰ oil discharge monitoring and control systems⁵¹ and oil/water interface detectors⁵² established under Annex I. As such, oil tankers falling within this category are required to retain oil on board and subsequently discharge all contaminated washings at reception facilities.⁵³ An exception applies only where “adequate arrangements are made to ensure that any effluent which is allowed to be discharged into the sea is effectively monitored to ensure that the provisions of this regulation are complied with.”⁵⁴

Regulation 34 also completely prohibits the discharge of oil or oily mixture from the cargo area of an oil tanker whilst in a special area.⁵⁵ Similar to Regulation 15, Regulation 34

⁴⁷Ibid, regulation 34.

⁴⁸Ibid, regulation 34 para 1.

⁴⁹Ibid, regulation 34 paras 1.1, 1.2 1.3 and 1.4.

⁵⁰Ibid, regulation 29.

⁵¹Ibid, regulation 31.

⁵²Ibid, regulation 32.

⁵³Ibid, regulation 34 para 6.

⁵⁴Ibid.

⁵⁵Ibid, regulation 34 para 3.

contains requirements on the general duty of ships to ensure that discharges do not contain chemicals or substances hazardous to the marine environment, and for ships to retain on board oil residues which cannot be discharged into the sea, for subsequent disposal at reception facilities.⁵⁶ A number of exceptions are available against the application of Regulations 15 and 34 of Annex I, including that the discharge into the sea of oil or oily mixture was necessary for the purpose of securing the safety of a ship or for saving a life.⁵⁷

Annex II of MARPOL 73/78 contains regulations on the control of pollution from vessels by noxious liquid substances in bulk. Regulation 13 of Annex II prohibits the discharge into the sea of residues of noxious liquid substances category X, Y and Z⁵⁸ or of ballast water,⁵⁹ tank washings or other mixtures containing such substances unless in compliance with specified conditions and procedures.⁶⁰ Where the discharge of these substances is allowed under Regulation 13, the general discharge conditions that are to be met include, first, that the ship is proceeding en route at a speed of at least 7 knots for a self-propelled ship and 4 knots for a ship not self-propelled, second, that the discharge is made below the waterline through the underwater discharge outlets without exceeding the maximum rate for which the outlets were designed for, and third, that the discharge is made at a distance of not less than 12 nautical miles from the nearest land and in a minimum depth of water of 25

⁵⁶Ibid, regulation 34 paras 8 and 9.

⁵⁷Ibid, regulation 4.

⁵⁸For the definition of noxious liquid substances category X, Y and Z, see MARPOL 73/78, above n 25, annex II, regulation 6.

⁵⁹For the definition of 'ballast water', see MARPOL 73/78, above n 25, annex II, regulation 1.

⁶⁰MARPOL 73/78, above n 25, annex II regulation 13 para 1.

metres.⁶¹ Regulation 13 does not affect the discharge of clean or segregated ballast into the sea.⁶²

In this respect, it is noted that the term “discharge” in MARPOL 73/78 has been defined in relation to the release of harmful substances or effluents containing such substances from a ship, including through an escape, disposal, spilling, leaking, pumping, emitting or emptying.⁶³ In addition, MARPOL 73/78 has defined the term ‘ship’ to mean any type of vessel operating in the marine environment.⁶⁴

5.2.3 The Safety of Navigation and the Regulation of Maritime Traffic under Article 42 of the LOSC 1982

By specifically limiting strait States’ prescriptive jurisdiction in straits used for international navigation to their implementation of international regulations on the discharge standards of oil, oily wastes and other noxious substances, paragraph 1(b) of Article 42 of the LOSC 1982 fails not only to address in straits used for international navigation the problem of pollution from other sources, it also does not address the problem of pollution from vessels as a result of accidents.

This issue is nevertheless partly addressed by paragraph 1(a) of Article 42 of the LOSC 1982, in the form of preventative measures. The paragraph authorises strait States to adopt laws and regulations to govern the safety of navigation and the regulation of maritime

⁶¹Ibid, regulation 13 paras 2.1.1, 2.1.2 and 2.1.3.

⁶²Ibid, regulation 13 para 7.2.3.

⁶³International Convention for the Prevention of Pollution from Ships 1973, opened for signature 15 January 1974, 12 International Legal Materials 1319, art 2.

⁶⁴Ibid.

traffic in straits used for international navigation. However, the exercise of this authority is linked to the provisions of Article 41 of the LOSC 1982 which deals with the designation of sea lanes and the prescription of traffic separation schemes in straits used for international navigation and for matters related thereto.

The linkage of paragraph 1(a) of Article 42 to Article 41 of the LOSC 1982 indicates that the prescriptive powers of strait States under this paragraph can only be exercised through two methods, namely, the designation of sea lanes and the prescription of traffic separation schemes. Apart from this, no unilateral action on the part of a strait State is envisioned in this area. In addition, Article 41 of the LOSC 1982 makes the designation and prescription of sea lanes and traffic separation schemes in such straits conditional upon their adoption by the “competent international organization”, in this case being the IMO. Article 41 of the LOSC 1982 also makes it necessary that the designated lanes and schemes comply with “generally accepted international regulations”.⁶⁵ However, the consent of the strait States is sought prior to the adoption of a particular sea lane or traffic separation scheme for a strait.⁶⁶ This supports the position that the legal status of a strait used for international navigation does not change under the transit passage regime; rather strait States continue to exercise their sovereignty over such waters in all aspects except for navigation.⁶⁷

⁶⁵*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 41 para 3.

⁶⁶*Ibid*, art 41 para 4.

⁶⁷*Ibid*, art 34.

5.2.4 Enforcement against a Vessel in Breach of Paragraphs 1(a) and (b) of Article 42 of the LOSC 1982

One of the more controversial aspects of Part III of the LOSC 1982 pertains to the issue of a strait State's enforcement powers against a vessel which violates the laws and regulations adopted pursuant to paragraph 1 of Article 42 of the LOSC 1982. Article 233 of the LOSC 1982 was promulgated to partly address this issue. It provides for strait States' redress in respect of a breach of the laws and regulations adopted pursuant to paragraph 1(a) and (b) of Article 42 of the LOSC 1982. In this respect, strait States are granted a certain amount of enforcement capacity in relation to vessel violations of the laws and regulations adopted for the prevention, reduction and control of pollution pursuant to paragraphs 1(a) and (b) of Article 42 of the LOSC 1982. Article 233 of the LOSC 1982 reads as follows:

Nothing in section 5, 6, 7 affects the legal regime of straits used for international navigation. However, if a foreign ship other than those referred to in section 10 has committed a violation of the laws and regulations referred to in article 42, paragraph 1(a) and (b), causing or threatening major damage to the marine environment of the straits, the States bordering the strait may take appropriate enforcement measures and if so shall respect *mutatis mutandis* the provisions of this section.⁶⁸

5.2.4.1 Appropriate Enforcement Measures

Article 233 of the LOSC 1982 essentially provides that appropriate enforcement measures may be taken against vessels exercising transit passage in straits used for international navigation, in cases where a violation causes or threatens to cause major damage to the marine environment of the straits. However, the implementation of Article 233 is made difficult as a result of a number of interpretational issues.⁶⁹ The meaning of the phrase

⁶⁸United Nations Convention on the Law of the Sea, opened for signature 10 December 1982, 1833 UNTS 3, art 233.

⁶⁹Tullio Scovazzi, 'Management Regimes and Responsibility for International Straits' (1995) 19 *Marine Policy* 137, 141.

‘appropriate enforcement measures’ is unclear.⁷⁰ What constitutes an appropriate enforcement measure in straits used for international navigation? No precise definition is provided in the LOSC 1982.

The term could include a range of possible enforcement actions. Tan for example, was of the view that ‘appropriate enforcement measures’ for violations threatening or causing major damage to the marine environment in a strait used for international navigation, should, at the very least, include boarding and detention powers as provided in Article 220 of LOSC 1982.⁷¹ For offences actually causing major damage to the marine environment of a strait, Tan argued that a strait State should be able to go a step further and expel the offending vessel from the straits.⁷²

George opined that the fact that Article 233 excludes the application of Sections 5, 6 and 7 of the LOSC 1982, all of which are provisions on coastal State enforcement for marine pollution under the LOSC 1982, to straits used for international navigation infers that ‘appropriate enforcement measures’ under Article 233 may not include those which would

⁷⁰Hollick has contended that the treaty framers purposely resorted to ambiguous language when faced with strongly contested issues that could not otherwise be resolved. Hollick states that “the merit of ambiguity is that it leaves it to the State practice to determine the evolution of customary international law and the interpretation of the treaty”. See Ann L. Hollick, *U.S. Foreign Policy and the Law of the Sea* (1981) 15.

⁷¹Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (2006) 210.

⁷²*Ibid.* See also Scovazzi, above n 69, 141; José A. de Yturriaga, *Straits Used for International Navigation A Spanish Perspective* (1991) 182. Yturriaga also highlights the contradicting view held by Tulio Treves, that Strait States cannot impede the passage of vessels in cases of the violation of paragraph 1(b) of Article 42 of the LOSC 1982. Koh, on the other hand, argues that a general rule prohibiting passage through straits used for international navigation was *ultra vires* of paragraph 2 of Article 42 but argued that where a vessel was in breach of para 1(a) and (b) of Article 42 of the LOSC 1982, strait States in taking enforcement measures could deny, impair or hamper passage as the “seriousness of the damage or threatened damage justifies a departure from the general rule.” K.L. Koh, *Straits in International Navigation Contemporary Issues* (1982) 162.

interfere with the exercise of transit passage.⁷³ Caminos and Yturriaga oppose this view. They were both of the opinion that a textual examination of Article 233 demonstrates that, first, the authority exercised under the Article is an exception to the general rule of prohibition of passage impediment in paragraph 2 of Article 42, and second, that the safeguards contained in Article 233 is also to be exercised as an exception to sections 5, 6 and 7 of the LOSC 1982.⁷⁴ Further, while George's understanding of the Article may be consistent with the principle of the freedom of navigation in straits used for international navigation, a possible flaw to this approach lies in the fact that any act of enforcement, even the act of requesting information or boarding a vessel, could potentially be regarded as interfering with the exercise of the right of transit passage. Based strictly on this understanding, it is likely that no enforcement measure whatsoever could be exercised in straits used for international navigation for fear of 'interfering' with a vessel's right to transit passage.

The measure adopted by the littoral States of the Straits of Malacca and Singapore is a good example of State practice to this effect, although it is noted that the measure in question relates primarily to violation of a navigational safety requirement rather than a vessel discharge standard requirement. In this instance, the littoral States of the Straits of Malacca and Singapore regarded the prevention of passage through the Straits, by vessels failing the 1977 IMO adopted under-keel clearance limit of at least 3.5 metres in the Straits as a

⁷³Mary George, 'Transit Passage and Pollution Control in Straits under the 1982 Law of the Sea Convention' (2002) *Ocean Development & International Law* 189, 201.

⁷⁴On the second point, Caminos and Yturriaga argue that "whilst the opening sentence of article 233 states that 'nothing in sections 5,6 and 7 affects the legal regime of straits used for international navigation', the word 'however', which qualifies the second sentence, confirms that the safeguards contained therein are an exception to the first sentence." See Yturriaga, above n 72, 182.

legitimate enforcement measure under Article 233 of the LOSC 1982.⁷⁵ According to the Statement issued by Malaysia to the President of UNCLOS III on 28 April 1982, the prevention of passage did not constitute a denial, hampering, impairment or suspension of the right of transit passage in the Straits, and such a measure was not in breach of paragraph 2 of Article 42 or Article 44 of LOSC 1982.⁷⁶ The implementation of this measure in the Straits of Malacca and Singapore subsequently received confirmation from Indonesia and Singapore and the then major user States of the Straits.⁷⁷ With the issuance of the Statement and the acknowledgement of its contents by the main user States of the Straits, Molenaar observes that the requirement of the under-keel clearance limit in the Straits of Malacca and Singapore has been brought directly under the provisions of the LOSC 1982 and within the scope of Article 41 and paragraph 1(a) of Article 42 of the LOSC 1982.⁷⁸

The said measure has been criticised as first, going beyond the enforcement powers granted under Articles 216, 218 and 220 of the LOSC 1982 and second, for ignoring the requirement of proof of damage under Article 233, as it seems to allow for the prevention of passage solely because of a vessel's violation of the under-keel clearance limit.⁷⁹ However, in the latter case, it is arguable that a violation of the said under-keel clearance requirements could constitute a *threat* of major damage to the marine environment of the Straits, with particular emphasis on its navigational and geographical characteristics and as such, proof of damage as such would be unnecessary. In the absence of any other strait

⁷⁵Letter from the Head of the Malaysian Delegation to the Chairman of UNCLOS III dated 28 April 1982. See *Official Records of the Third United Nations Conference on the Law of the Sea Volume XVI*, DOCUMENT A/CONF.62/L.145 (1982).

⁷⁶*Ibid.*

⁷⁷See *Official Records of the Third United Nations Conference on the Law of the Sea Volume XVI*, DOCUMENT A/CONF.62/L.145/Add.1 to 8 (1982).

⁷⁸Molenaar, above n 23, 318.

⁷⁹Bing Bing Jia, *The Regime of Straits in International Law* (1998) 162.

State practice, the existing arrangement in the Straits of Malacca and Singapore may constitute an isolated case as the compliance of an under-keel clearance limit is not a general condition for the exercise of transit passage.⁸⁰

In reality, the lack of a definition to the term “appropriate enforcement measures” in Article 233 allows a strait State to interpret the provision as and how it deems appropriate, and as such to enforce against a violating vessel, any measure deemed to be suitable in light of the circumstances. These measures may in fact range from boarding the vessel, to conducting physical inspection, detention and the institution of proceedings.⁸¹ The only other consideration that is relevant in this instance is for the strait State to be able to justify the ‘appropriateness’ of the measure if challenged.⁸²

5.2.4.2 The Definition of the Term ‘Major Damage’

Article 233 of the LOSC 1982 also clearly provides that enforcement action can only be pursued, if a vessel violation of the laws and regulations adopted by a strait State pursuant to paragraph 1(a) and (b) of Article 42 of the LOSC 1982, threatens to cause or causes major damage to the marine environment of a strait.⁸³ As in the case of the term ‘appropriate enforcement measures’, what constitutes ‘major damage’ under Article 233 has not been defined in the LOSC 1982. This causes difficulty when attempts are made to implement the Article.

⁸⁰Ibid.

⁸¹Molenaar, above n 23, 296.

⁸²Parties to the LOSC 1982 may refer disputes on the interpretation or application of the provisions of the LOSC 1982 to a number of dispute settlement bodies under Part XV of the LOSC 1982. See *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, Part XV.

⁸³*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 233.

Koh was of the view that the test to be applied for a decision on what would constitute ‘major damage’ should be based on an “odds-on possibility that major damage is likely to occur”.⁸⁴ He proposed that the term be determined in light of two factors, first, the occurrence of accidents in the particular strait as a result of a breach to the rules of navigation and second the extent of damage that occurred, based on the type of vessel and the goods carried.⁸⁵ However, Nordquist took a more basic approach, by referring to the term ‘major damage’ as it is used in the context of Article 220 of the LOSC 1982.⁸⁶ It was highlighted that the legislative history of Article 220 suggested that the term ‘major damage’ should be considered in light of the *Amoco Cadiz* incident and that it was illustrative of a problem of a similar magnitude.⁸⁷

5.2.4.3 Strait States to Adopt Laws and Regulations before Enforcement Action can be Pursued

Enforcement action can only take place under Article 233 of the LOSC 1982 when strait States incorporate the provisions of paragraph 1(a) and (b) of Article 42 of the LOSC 1982 into their domestic law. This means that strait States would have to adopt relevant domestic legislation pertaining to the prescription of sea lanes and traffic separation schemes, and for the discharge of oil, oily wastes and other noxious substance, before enforcement under Article 233 of the LOSC 1982 can be considered. Article 233 clearly provides that enforcement action can only be taken against a vessel for a breach of paragraph 1(a) and (b) of Article 42 of the LOSC 1982. Both paragraphs in turn grant rights to strait States to

⁸⁴Koh, above n 72, 159-161.

⁸⁵Ibid, 162-163.

⁸⁶Myron H. Nordquist, *United Nations Convention on the Law of the Sea 1982 A Commentary Volume IV* (1990) 391.

⁸⁷Ibid, 301.

adopt schemes, laws and regulations on the safety of navigation and vessel-source pollution in straits used for international navigation. It only follows that until and unless strait States adopt such schemes, laws and regulations, no offence by vessels against paragraphs 1(a) and (b) of Article 42 of the LOSC 1982 could occur, and as such, no enforcement measure can be taken pursuant to Article 233.

Churchill observed that, although the duty for a vessel to comply with the international obligations of its flag State is independent of strait States' legislation, the advantage in implementing international law into domestic law is then these laws and regulations become directly enforceable by the authorities of the State as a matter of domestic law.⁸⁸ This point is especially relevant for violations of the rules and regulations adopted by a strait State in straits used for international navigation, since a strait State can only exercise enforcement powers under Article 233 of the LOSC 1982 once it has incorporated the necessary laws and regulations into its domestic law. Where a strait State fails to do so, enforcement via Article 233 is no longer an option. Instead, the violation can only be addressed through diplomatic channels or through flag State enforcement.

5.2.5 Paragraphs 1(c) and (d) of Article 42 of the LOSC 1982

No international standard has been developed for the implementation of paragraphs 1(c) and (d) of Article 42 of the LOSC 1982. As such, strait States should be able to adopt domestic regulatory standards in straits used for international navigation in respect of fishing vessels. These regulatory standards should also apply to the prevention of fishing and the loading and unloading of commodities, currency, or persons in such straits.

⁸⁸Churchill and Lowe, above n 6, 108.

However, implementation of Article 42 as a whole is still subject to the other transit passage provisions in Part III of LOSC 1982 and as such, the requirements that passage of vessels not be hampered or impaired, amongst other things, must be taken into account by strait States when implementing paragraphs 1(c) and (d) of Article 42.⁸⁹

The LOSC 1982 is silent on the enforcement powers regarding vessel violations of paragraphs 1(c) and (d) of Article 42. Churchill observed that the general territorial sea rules would apply in such circumstances, pursuant to Article 34 of the LOSC 1982, but cautioned that enforcement should be exercised, as the case in the territorial sea, only when the good order of the strait or the strait State is disrupted, or when assistance is requested from the flag State of the vessel.⁹⁰

5.3 Strait States' Practice

The implementation by strait States of Article 42 and Article 233 of the LOSC 1982 in straits used for international navigation is varied, especially in light of the interpretational issues surrounding these Articles.⁹¹ Apart from the example of the Straits of Malacca and Singapore above, the measures adopted by Australia in the Torres Strait provide another good example of a strait State's implementation of Articles 42 and 233 of the LOSC 1982. As will become apparent below, this example highlights some important issues in relation to the competing interests between strait States' rights to safeguard their marine

⁸⁹Ibid.

⁹⁰Ibid, 108-109.

⁹¹Molenaar has discussed some of the State practice in straits used for international navigation. See Molenaar, above n 23, 299-338.

environment, and the rights of vessels to freedom of passage in straits used for international navigation.

5.3.1 The Torres Strait

The Torres Strait is a strait used for international navigation, situated between Australia and Papua New Guinea. Its navigable channels are located primarily in the internal waters and territorial waters of Australia and in the territorial waters of Papua New Guinea.⁹² The regime of transit passage as set out in Part III of the LOSC 1982 is applicable to the Torres Strait.⁹³ Following a 2003 application by Australia and Papua New Guinea, the Torres Strait was designated as a Particularly Sensitive Sea Area (PSSA) at the 53rd Session of the IMO's Marine Environment Protection Committee (MPEC).⁹⁴ In their application, Australia and Papua New Guinea proposed two Associated Protective Measures (APM) for the Straits, the first being the creation of a two-way route in the Torres Straits and the second, more controversial one, the extension of the compulsory pilotage regime in the Great Barrier Reef to the Straits.⁹⁵ At the time of the PSSA application, the Torres Strait was already subject to a mandatory ship reporting system and voluntary pilotage regime.⁹⁶

5.3.1.1 The Compulsory Pilotage Regime

In support of their proposal that a compulsory pilotage regime be introduced in the Torres Strait as an APM under the PSSA, Australia and Papua New Guinea argued that neither the LOSC 1982 (in particular, Part III of the LOSC 1982) nor its *travaux preparatoires*

⁹²Stuart B. Kaye, *The Torres Strait* (1997) 1.

⁹³Julian Roberts, 'Compulsory Pilotage in International Straits: The Torres Strait PSSA Proposal' (2006) *Ocean Development & International Law* 93, 98.

⁹⁴*Ibid*, 93.

⁹⁵*Ibid*.

⁹⁶*Ibid*, 101.

prohibited such a measure.⁹⁷ Both States supported their proposal on a number of grounds, including that the LOSC 1982 allows for strait States to establish a special need to protect a particular international strait over which they exercise sovereignty and jurisdiction, and that tailored measures undertaken to give that protection can be implemented after the approval of the IMO. It was also argued that the system of compulsory pilotage was a necessary addition to the sea lanes prescribed by the IMO in the Torres Straits to ensure safety of navigation.⁹⁸

Australia and Papua New Guinea further argued that since paragraph 6 of Article 211 of the LOSC 1982 allows for coastal States to undertake special mandatory measures for the prevention of pollution from vessels in respect of their exclusive economic zone, an area of which a State does not have sovereignty over, the same special mandatory measures should therefore be available in particularly sensitive sea areas which are subject to the sovereignty of Australia and Papua New Guinea.⁹⁹ Thus, based on this understanding, the introduction of a compulsory pilotage system in the Torres Straits, with the approval of the IMO would be justified. Both States also highlighted that the purpose and effect of the compulsory pilotage system is to promote safe transit passage in the Torres Strait rather than to inhibit it.¹⁰⁰

⁹⁷*Torres Strait PSSA Associated Protective Measure-Compulsory Pilotage*, LEG 89/15 (2004).

⁹⁸*Ibid.*

⁹⁹*Ibid.*

¹⁰⁰*Ibid.*

States opposing the imposition of compulsory pilotage in the Torres Strait were of the view that the scheme was against Article 38 of LOSC 1982.¹⁰¹ According to Roberts these States considered the introduction of the compulsory pilotage scheme was in itself an impediment to transit passage and the compulsory nature of it implied that sanctions would be imposed on vessels failing to comply with the scheme.¹⁰²

Nevertheless, a compromise was reached between the two factions on the matter. Resolution MEPC.133(53) was subsequently adopted in July 2005 and included the following essential points.¹⁰³ First, the Torres Strait was identified as a Particularly Sensitive Sea Area (PSSA) and second, an extension of the existing associated protective measure of a system of pilotage within the Great Barrier Reef to include the Torres Strait was adopted.¹⁰⁴ The United States and a number of other States clarified that their support for the adoption of the resolution was conditional upon the pilotage scheme being recommendatory only.¹⁰⁵ In addition, according to Roberts, the States noted that the resolution cannot be used as a basis for the application of mandatory pilotage for vessels transiting the Torres Strait or any other straits used for international navigation.¹⁰⁶

Australia went ahead with its plans to implement the compulsory pilotage scheme in the Torres Strait by publishing Marine Notice 8/2006 entitled “Revised Pilotage Requirements

¹⁰¹Roberts, above n 93, 103. Article 38 of the LOSC 1982 guarantees the unimpeded freedom of passage for vessels exercising transit passage through straits used for international navigation. See *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 38.

¹⁰²Roberts, above n 93, 103.

¹⁰³*Designation of the Torres Strait as an Extension of the Great Barrier Reef Particularly Sensitive Sea Area*, Resolution MEPC.133(53) (2005).

¹⁰⁴Roberts, above n 93, 104.

¹⁰⁵*Ibid.*

¹⁰⁶*Ibid.*

for Torres Strait” in 2006, which made it necessary for vessels transiting the Torres Strait to have a pilot on board.¹⁰⁷ A new compulsory pilotage area for the Torres Strait was also specified in the Marine Orders-Part 54, No.10 of 2006.¹⁰⁸ Failure to engage a pilot in the Strait is a strict liability offence under the Commonwealth Navigation Act 1912 by the master and owner of the vessel.¹⁰⁹ In response, the International Chamber of Shipping (ICS), Baltic and the International Maritime Council (BIMCO), the International Association of Dry Cargo Shipowners (INTERCARGO) and the International Association of Independent Tanker Owners (INTERTANKO) tabled a document during the 55th Session of the MEPC in 2006 endorsing the recommendatory nature of Resolution MEPC.133(53).¹¹⁰ It was also the view of these bodies that the “imposition of compulsory pilotage for ships transiting a strait used for international navigation would have the ‘practical effect of denying, hampering or impairing the right of transit passage’ and thus be in contravention of UNCLOS Article 42(2).”¹¹¹

The legality of Australia’s actions is questionable on a number of grounds. Beckman argues that Resolution MEPC.133(53) “does not purport to make the compulsory pilotage scheme in the Torres Strait mandatory, as it uses recommendatory language only”, and since delegations had made it very clear that the adoption of the resolution was conditional upon the pilotage scheme being recommendatory.¹¹² In addition, even if IMO intended to adopt a compulsory pilotage scheme for the Torres Strait, Australia may find it difficult to justify

¹⁰⁷*Revised Pilotage Requirements for Torres Strait*, Marine Notice 8/2006.

¹⁰⁸Marine Orders-Part 54, Issue 4 (Order No. 10 of 2006).

¹⁰⁹Navigation Act 1912 (Cth) s 186 I.

¹¹⁰*Identification and Protection of Special Areas and Particularly Sensitive Areas*, MEPC 55/8/3 (2006).

¹¹¹*Ibid.*

¹¹²Robert Beckman, ‘Australia’s Pilotage System in the Torres Strait: A Threat to Transit Passage?’ (2007) 153 *Maritime Studies* 2; Roberts, above n 92, 104.

the prescription of such a measure under Part III of the LOSC 1982. Paragraphs 1(a) and (b) of Article 42 of the LOSC 1982 do not seem to allow the implementation of such a system in straits used for international navigation, whether as a measure to ensure the safety of navigation in the Strait or as a measure to prevent, reduce and control pollution from vessels.¹¹³ This is because the former only speaks of the designation of sea-lanes and the prescription of traffic separation schemes, whilst the latter only recognises the giving effect of applicable international regulations for vessel discharges of oil, oily wastes and other noxious substances.¹¹⁴

Further, Article 233 of the LOSC 1982, being the only Article, which specifically allows enforcement measures to be taken in straits used for international navigation, relates specifically to a breach of the laws and regulations adopted pursuant to paragraphs 1(a) and (b) of Article 42 of the LOSC 1982. Australia would have to prove that the compulsory pilotage scheme was indeed implemented pursuant to one of these paragraphs before it could claim any enforcement capacity pursuant to Article 233. Further, even if the IMO succeeded in establishing a system of compulsory pilotage, Beckman is of the view that enforcement would lie with the flag State of the vessels as the LOSC 1982 does not provide a basis for which vessels exercising transit passage are forced to take on a pilot.¹¹⁵

In any event, for enforcement powers to be exercised under Article 233, it would need to be proven that the failure to carry a pilot by a vessel in transit had caused or would threaten to

¹¹³Kaye, above n 92, 85. See *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 42 paras 1(a) and (b).

¹¹⁴*Ibid.*

¹¹⁵Beckman, above n 112, 2.

cause major damage to the marine environment. In this respect, Roberts argues that although no definition to the term ‘major damage’ is provided in LOSC 1982, “it cannot be conceived to apply to a vessel that, while failing to take on a pilot, proceeds through the strait otherwise presenting no threat or real danger to the marine environment.”¹¹⁶ Otherwise, unless a vessel enters into port, Australia would not be able to exercise enforcement powers against a vessel which does not carry a pilot whilst in transit passage in the Torres Strait. In addition, it would be arguable whether Australia could depend on paragraph 6 of Article 211, which specifically relates to the exclusive economic zone, to modify in straits used for international navigation the applicable and specific provisions of Part III of the LOSC 1982.

5.4 Article 39 of the LOSC 1982 and the Duties of Vessels Exercising Transit Passage

Apart from Article 42 of the LOSC 1982, the problem of pollution from vessels in straits used for international navigation is also addressed through Article 39 of the LOSC 1982. Article 39 of the LOSC 1982 deals with the general duties of vessels and aircraft whilst in straits used for international navigation. Four duties are envisaged by the Article consisting of: (i) that vessels and aircraft proceed without delay through or over straits,¹¹⁷ (ii) that they are to refrain from any threat or use of force against the sovereignty, territorial integrity or political independence” of strait States, (iii) that they are to “refrain from any activities other than those incident to their normal modes of continuous and expeditious transit”,¹¹⁸

¹¹⁶Roberts, above n 93, 105.

¹¹⁷*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 39 para 1.

¹¹⁸*Ibid.*

(iv) that vessels and aircraft “comply with other relevant provisions” of Part III of the LOSC 1982.¹¹⁹

However, more importantly, paragraph 2 of Article 39 of the LOSC 1982 imposes two additional requirements on vessels exercising transit passage in straits used for international navigation, namely, to comply with generally accepted international regulations, procedures and practices for safety at sea and for the prevention, reduction and control of pollution from vessels.¹²⁰ The obligations laid out Paragraph 2 of Article 39 of the LOSC 1982 reads more precisely as follows:

Ships in transit passage shall:

- (a) comply with generally accepted international regulations, procedures and practices for safety at sea, including the International Regulations for Preventing Collisions at Sea;
- (b) comply with generally accepted international regulations, procedures and practices for the prevention, reduction and control of pollution from ships.

Whilst paragraph 1(a) and (b) of Article 42 of the LOSC 1982 deal with the problem of vessel pollution through a strait State’s prescriptive powers in straits used for international navigation, paragraph 2 of Article 39 of the LOSC 1982 deals with this problem through the direct imposition of obligations on vessels in transit to comply with generally accepted international regulations, procedures and practices on pollution from vessels. In comparison with the provisions of Article 42 of the LOSC 1982, paragraph 2 of Article 39 uses more general terms and implies the application of broader international law in straits used for

¹¹⁹Ibid. This paragraph in effect requires compliance by vessels and aircraft engaged in transit passage of the relevant duties of vessels and aircraft laid out in Articles 40, 41 and 42 of Part III of the LOSC 1982. See Nordquist, above n 7, 343.

¹²⁰*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 39 para 2.

international navigation. Nandan in fact observed that this provision indicates a vessel's general duty in straits used for international navigation, to comply with general international conventions on the safety of navigation and pollution that have secured acceptance by the international community, such as those conventions adopted by the IMO.¹²¹ In addition, the composition of paragraph 2 of the Article indicates that all vessels flying the flags of State parties to the LOSC 1982 are automatically subject to its provisions, regardless of whether their flag States are parties or non-parties to the instruments referred to in the paragraph.¹²²

5.4.1 The Prevention, Reduction and Control of Pollution from Vessels under Article 39 of the LOSC 1982

Paragraph 2(b) of Article 39 of the LOSC 1982 sets out the duty of vessels to comply with generally accepted international regulations, procedures and practices for the prevention, reduction and control of pollution whilst in straits used for international navigation. The obligation contained therein is understood to refer primarily to the relevant IMO Conventions on pollution from vessels, in particular, the provisions of MARPOL 73/78.¹²³ As of March 2007, 143 States have become parties to MARPOL 73/78 together with compulsory Annexes I and II, accounting for nearly 98 per cent of the overall tonnage of vessels worldwide.¹²⁴ These figures indicate the overall global acceptance of MARPOL 73/78 and imply that it has fulfilled the requirement of the Article of being “generally

¹²¹Nandan and Anderson were of the view that the obligation under this paragraph also includes the obligation for vessels to comply with the subsidiary and related instruments of an international convention falling within the scope of the paragraph. The authors were also of the view that the additional requirement for vessels to comply with “procedures and practices” refers to compliance with procedures and practices normally followed by mariners. See Nandan and Anderson, above n 25, 184-185. See also Jia, above n 78, 153.

¹²²Jia, above n 79, 154.

¹²³Beckman, above n 27, 373; Nandan and Anderson, above n 25, 185; Jia, above n 79, 153.

¹²⁴Above n 36.

accepted”. It is to be noted that paragraph 2(b) of Article 39 requires vessel compliance to the whole of MARPOL 73/78, and unlike paragraph 1(b) of Article 42 of the LOSC 1982, this would include compliance not only to discharge standards contained therein, but also to provisions aimed at ensuring the safety of vessels.

5.4.2 Navigational Safety under Article 39 of the LOSC 1982

The objectives of paragraph 2(b) of Article 39 of the LOSC 1982 in relation to the prevention, reduction and control of pollution from vessels is also indirectly supported by paragraph 2(a) of Article 39 of the LOSC 1982 which requires vessels in transit passage to comply with international regulations, procedures and practices for the safety at sea. Apart from the Convention on the International Regulations for Preventing Collisions at Sea (1972 COLREG), paragraph 2(a) of Article 39 of the LOSC 1982 has been drafted widely enough to include the requirement for vessels to comply with other major international conventions on navigational safety, including the IMO-adopted International Convention on Load Lines 1966 (Load Lines 1966), the International Convention for the Safety of Life at Sea 1974 (SOLAS 1974) and the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978 (STCW 1978).¹²⁵ As of March 2007, 158 States have become parties to the SOLAS 1974, 151 States to the 1972 COLREG, 158 States to the Load Lines 1966 and 150 States to the STCW 1978.¹²⁶ State participation in each of these Conventions accounts to more than 98 per cent of the overall worldwide tonnage of vessels.¹²⁷

¹²⁵Beckman, above n 27, 372.

¹²⁶Above n 36.

¹²⁷Ibid.

5.4.3 Prescriptive and Enforcement Powers under Article 39 of the LOSC 1982

Unlike the rights granted under paragraph 1 of Article 42 and Article 233, the LOSC 1982 does not contain any provisions which specifically grant strait States the right to prescribe for or enforce the duties of vessels in Article 39 of the LOSC 1982. However, it is difficult to picture a situation where strait States are left completely powerless to address vessel violations of paragraph 2 of Article 39 of the LOSC 1982 which could have potential harmful consequences towards that State.¹²⁸

Apart from referral to diplomatic channels and third party dispute settlement mechanisms as suggested by Moore,¹²⁹ a vessel violation of the duties contained in paragraph 2 of Article 39 of the LOSC 1982 could be considered in light of two other possible options. The first option entails a referral to paragraph 3 of Article 38 of the LOSC 1982. This paragraph which deals with non-transit passage vessel activities provides that “any activity which is not in exercise of the right of transit passage through a strait remains subject to the other applicable provisions of this convention”.¹³⁰ Paragraph 3 of Article 38 of the LOSC 1982 is made up of three pivotal points, firstly, a vessel can lose its right of transit passage whilst in straits used for international navigation, secondly, the right is lost as a result of the commission of an activity not considered as an exercise of transit passage and thirdly,

¹²⁸Reisman stated that since the Article speaks of user State duties, it must necessarily import coastal State rights. He argued that article 39 must be construed as allowing coastal States broad prescriptive and applicative competence “unless we are to assume that ‘duties’ are no more than moral imprecation.” See W. Michael Reisman, ‘The Regime of Straits and National Security: An Appraisal of International Lawmaking’ (1980) *The American Journal of International Law* 48, 69. *Contra* Moore, who was of the view that that strait State rights under article 39 of the LOSC 1982 only goes as far as diplomatic settlement or the right of referral to a third party dispute settlement. See Moore, above n 8, 103 and 107.

¹²⁹Moore, above n 8, 103 and 107.

¹³⁰*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 38 para 3.

the vessel becomes subject to the other provisions of the LOSC 1982 upon the loss of the right of transit passage.

Paragraph 3 of Article 38 of the LOSC 1982 clearly provides that only the carrying out of an *activity* by a vessel can bring about the loss of the right of transit passage.¹³¹ However, the LOSC 1982 neither lists, identifies nor describes the activities that could potentially fall within this category. It is nevertheless possible that a violation by a vessel of its obligations under paragraph 2 of Article 39 of the LOSC 1982, could constitute the commission of an activity within the meaning of paragraph 3 of Article 38 of the LOSC 1982.¹³² For instance, is a vessel violation of the discharge standards set by MARPOL 73/78 an activity that is not in exercise of the right of transit passage? If the answer is in the affirmative, the vessel could then be within the purview of paragraph 3 of Article 38 and as a result be governed by the regime of innocent passage.¹³³ In circumstances such as this, it has been argued that the loss of innocence would usually be implied and coastal State enforcement powers under Article 25 of the LOSC 1982 would be exercisable against the vessel, including the right to expel the vessel from the strait.¹³⁴

¹³¹Molenaar, above n 23, 289; Churchill and Lowe, above n 6, 107.

¹³²Ibid. Molenaar observed that taken literally, the non-compliance of the obligations under art 39 para 2 cannot be regarded as the exercise of transit passage. However, he subjected this observation on the consequences of the loss of transit passage. If it would result in the strengthening of the strait State powers in straits used for international navigation, Molenaar observed that this would be in conflict with the overall nature of the transit passage regime. Further, he emphasised that article 38 para 3 refers to the commission of *activities* whilst art 39 para 2 focused on static requirements in the form of CDEM standards. Based on these reasons, he concluded that it would be arguable whether transit passage ends with the non-compliance of art 39 para 2 by a vessel. See also Moore, above n 8, 103-104.

¹³³Tan, above n 71, 210. See also Jia, above n 79, 154.

¹³⁴Tan, above n 71, 210. Erik Franckx (ed), *Vessel Source Pollution and Coastal State Jurisdiction: The Work of the ILA Committee on Coastal State Jurisdiction Relating to Marine Pollution (1999-2000)* (2001) 91.

In this regard, in its work to address the jurisdictional questions relating to vessel-source pollution, the Committee on Coastal State Jurisdiction Relating to Marine Pollution of the International Law Association were of the view that any act of wilful and serious pollution contrary to LOSC 1982, committed in the areas wherein the regime of transit passage applied, led to the loss of transit passage.¹³⁵ The Committee supported this position by using the example of Article 233 of the LOSC 1982 which conferred enforcement powers to strait States in situations which were less serious.¹³⁶

The second available option for action against an offending vessel of paragraph 2 of Article 39 of the LOSC 1982 is for the strait State to pursue flag State enforcement action against the vessel.¹³⁷ This entails treating the violation by a vessel of its obligations under paragraph 2 of Article 39 of the LOSC 1982 as a direct violation of the relevant international regulations, procedures and practices themselves. For instance, since paragraph 2(b) of Article 39 of the LOSC 1982 primarily refers to the provisions contained in MARPOL 73/78, a violation of the discharge standards set in MARPOL 73/78 in straits used for international navigation, is also a violation by that vessel of the provisions of MARPOL 73/78.¹³⁸ However, this option only allows enforcement against an offending

¹³⁵Franckx, above n 134, 91. Yturriaga however takes the position that where a “ship in transit proceeds to engage in an act of wilful and serious pollution, even though the ship would be exercising the right of transit passage within the meaning of article 38, the State bordering the strait may take appropriate enforcement measures against the non-conforming activity and the resulting damage to the environment.” See Yturriaga, above n 72, 188-189.

¹³⁶Franckx, above n 134, 91.

¹³⁷*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 217.

¹³⁸Article 4 of the 1973 Convention deals with a violation of the provisions of the Convention. It requires sanctions to be established by States to address vessel violations of MARPOL 73/78. The Article provides that where a flag State of a vessel is informed of a violation, and there is enough evidence to enable proceedings to be brought against the violation, Article 4 requires that the flag State cause such proceedings to be taken as soon as possible, in accordance with the law. See International Convention for the Prevention

vessel to be taken by the flag State of that vessel and not directly by any affected strait State.

5.5 Conclusion

This chapter has discussed the framework governing a strait State's regulatory and enforcement competence under Article 42 and Article 233 of the LOSC 1982 to address vessel-source pollution in straits used for international navigation. This chapter has established that the powers of strait States to address the problem of pollution from vessels in straits used for international navigation is very limited. Even where the adoption of laws and regulations are permitted under Article 42 of LOSC 1982, the condition that international rules and standards be the yardstick for these laws and regulations' implementation, curbs the authority of strait States. In this regard, this chapter has established that paragraph 1(b) of Article 42 of the LOSC 1982 in particular, confines a straits State's prescriptive powers to the adoption of MARPOL 73/78 discharge standards.

Apart from limited prescriptive powers, strait States are also presented with unclear enforcement authority in straits used for international navigation pursuant to Article 233 of the LOSC 1982. This chapter has shown that even where enforcement may be justified, implementation is difficult and made problematic due to a number of interpretational issues. The possible conflict between a vessel's right to unhampered transit passage under Part III of the LOSC 1982, and the right of strait States to take appropriate enforcement measures where major damage is threatened or caused to the marine environment of the

of Pollution from Ships 1973, opened for signature 15 January 1974, 12 International Legal Materials 1319, art 4.

Straits is also a compounding problem. The examples of measures adopted in the Straits of Malacca and Singapore and the Torres Straits clearly demonstrates this conflict, and the difficulty faced by strait States in trying to safeguard their marine environment in straits used for international navigation.

This chapter has also highlighted paragraph 2 of Article 39 of the LOSC 1982, which imposes an obligation on vessels exercising transit passage to comply with generally accepted international regulations, procedures and practices for the prevention, reduction and control of pollution from vessels, and for the safety of vessels at sea. Although generally imposing wider environmental protection obligations upon vessels exercising transit passage in straits used for international navigation, paragraph 2 of Article 39 is void of any express enforcement mechanism. This makes the obligations contained therein appear weaker than the provisions of Articles 42 and 233 of the LOSC 1982. To illustrate the overall implementation of Articles 42 and 233 of the LOSC 1982 in straits used for international navigation, the succeeding chapter will analyse the regulatory framework set up by the littoral States of the Straits of Malacca and Singapore. In particular, it will focus on the framework implemented by Malaysia in the Malaysian part of the Strait of Malacca, to address the problem of vessel pollution in the Strait.

CHAPTER 6

THE REGULATION OF VESSEL-SOURCE POLLUTION IN THE STRAIT OF MALACCA: A CASE STUDY OF MALAYSIA'S APPROACH

6.1 Introduction

The previous chapters have not only established the existence of the problem of vessel-source pollution in the Straits of Malacca and Singapore, resulting from the use of the waterway for international maritime transportation of oil and goods, but also have analysed the international law framework under Part III of the LOSC 1982 to address the problem of pollution from vessels in straits used for international navigation. In particular, chapter 5 discussed strait States' prescriptive and enforcement competence in straits used for international navigation to prevent, reduce and control pollution from vessels and established that these powers are confined to the limits specified under Article 42 and Article 233 of the LOSC 1982.

The purpose of this chapter is to analyse the implementation of Articles 42 and 233 of the LOSC 1982 by undertaking a case study of the Malaysian regulatory framework in the Malaysian territorial sea of the Strait of Malacca. This chapter will show that Malaysia's overall legislative framework relating to marine pollution does not address the specific problem of vessel-source pollution in the Malaysian territorial sea of the Strait of Malacca. In this regard, it is noted that Malaysia has yet to adopt the necessary domestic legislation to implement paragraph 1(a) of Article 42 of the LOSC 1982, which specifically speaks of the designation of sea lanes and traffic separation schemes in straits used for international

navigation in accordance with the provisions of Article 41 of the LOSC 1982.¹ Nevertheless a Routeing System is in place within the Malaysian territorial sea of the Strait of Malacca consisting of, amongst other things, a traffic separation scheme, a minimum under-keel clearance limit of 3.5 metres and rules for vessels navigating through the Strait.²

In regard to Malaysia's implementation of paragraph 1(b) of Article 42 of the LOSC 1982 in the Malaysian territorial sea of the Strait of Malacca, a number of domestic laws are relevant. The analysis of Malaysia's implementation of paragraph 1(b) of Article 42 will be divided into three parts. The first part highlights the different maritime zones of the Malaysian part of the Strait of Malacca, with particular emphasis on the Malaysian territorial sea of the Strait of Malacca and the regime of transit passage applicable therein. The second part examines the Malaysian legislative framework relevant to the regulation of vessel-source pollution in the Malaysian territorial sea of the Strait of Malacca. The third part consists of recommendations that may be implemented by Malaysia to address the gaps in the legislative framework applicable within the Strait.

6.2 The Malaysian part of the Strait of Malacca

The Malaysian part of the Strait of Malacca consist of three different maritime zones, namely, the Malaysian internal waters, the Malaysian territorial sea and the Malaysian

¹Personal Communication with Nur Fauzah Mokhtar of the International Affairs Division of the Attorney General's Chambers of Malaysia has clarified that these measures are being implemented administratively in Malaysia.

²See *Navigation Through the Straits of Malacca and Singapore*, Res. A.375(X) (1977); *Navigation Through the Straits of Malacca and Singapore*, Res. A.476(XII) (1981). In addition, Malaysia has prescribed these measures as part of the Merchant Shipping (Collision Regulations) Order 1984 [P.U.(A) 438/84] and in the in the Merchant Shipping (Collision Regulations) (Rules for Vessels Navigating through the Straits of Malacca and Singapore) Order 2000 [P.U.(A)105/2002] pursuant to the Convention on the Regulations for Preventing Collisions at Sea 1972 (COLREG 72). See *Convention on the Regulations for Preventing Collisions at Sea 1972*, opened for signature 20 October 1972, 1050 UNTS 16 (entered into force 15 July 1977).

exclusive economic zone.³ As a strait used for international navigation, pursuant to Article 37 of the LOSC 1982, passage through the different maritime zones of the Strait is governed by Part III of the LOSC 1982, in particular, the provisions on the regime of transit passage.⁴ As has been established in section 4.7, the transit passage regime is only applicable in areas of a strait used for international navigation which lie wholly or partly within the territorial sea of a strait State.⁵

The Malaysian territorial sea of the Strait of Malacca can be subsumed under two broad categories. First, in areas of the Strait measuring 24 nautical miles or more, the waters within 12 nautical miles from which the Malaysian baseline is measured.⁶ Second, in areas of the Strait measuring less than 24 nautical miles, the waters within the territorial sea boundary line agreed with Indonesia.⁷ A traffic separation scheme has been designated within the latter area, restricting the passage of vessels through this area within the said scheme.

An essential point to note in relation to the application of the regime of transit passage in the Malaysian territorial sea of the Strait of Malacca, is that the regime does not in any

³See Director of National Mapping Malaysia, 1979, Map showing the Territorial Waters and Continental Shelf Boundaries of Malaysia, Sheet 1.

⁴*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, (entered into force 16 November 1994).

⁵*Ibid*, art 35. Article 35 of the LOSC 1982 generally provides that Part III does not affect first, any areas of internal waters within a strait except where the method of straight baseline has the effect of enclosing as internal waters areas which had not been previously considered as such, second, the legal status of the exclusive economic zone and the high seas, and third, the passage in straits which is regulated in whole or in part by long-standing conventions.

⁶Malaysia has declared a 12 nautical mile territorial water limit. See Emergency (Essential Powers) Ordinance, No. 7 1969 [P.U.(A) 307A/69]. See also Director of National Mapping Malaysia, above n 3.

⁷See *Treaty between the Republic of Indonesia and Malaysia on Determination of Boundary Lines of Territorial Waters of the Two Nations at the Strait of Malacca*, 17 March 1970, Indonesia-Malaysia (entered into force 8 October 1971). See also Director of National Mapping Malaysia, above n 3.

other way affect the legal status of the waters of the Strait itself.⁸ This means that Malaysia can exercise its sovereignty and jurisdiction over such waters, their airspace, bed and subsoil in all other matters, except for those matters prescribed under Part III of the LOSC 1982 dealing with transit passage.⁹

The transit passage regime is not applicable in the Malaysian internal waters and exclusive economic zone of the Strait of Malacca.¹⁰ Article 35 of the LOSC 1982 clearly provides that Part III of the LOSC 1982 does not affect first, any areas of internal waters within a strait, except where the method of straight baseline has the effect of enclosing as internal waters, areas which had not been previously considered as such, and second, the legal status of the exclusive economic zone and the high seas.¹¹ Although Malaysia exercises full sovereignty over its internal waters in the Strait of Malacca, the Malaysian exclusive economic zone in the Strait is governed by Part V of the LOSC 1982.¹² Malaysia's rights and obligations in terms of domestic law implementation and enforcement in this area should be in compliance with Part V of the LOSC 1982.¹³ For example, Article 58 of the LOSC 1982, grants foreign States in the zone, amongst other things, the freedom of navigation and overflight similar to that of the high seas.¹⁴ The regulation of vessel-source

⁸*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 34.

⁹*Ibid.*

¹⁰See discussion in section 4.7 of chapter 4 of the thesis. See also *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 35.

¹¹*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 35.

¹²See discussion in section 4.7 of chapter 4 of the thesis. See also *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 35 and part V.

¹³*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, part V.

¹⁴*Ibid.*, art 58 and art 87.

pollution in the Malaysian exclusive economic zone is specifically governed by Part XII of the LOSC 1982, in particular by the provisions of Article 211 and 220 of the LOSC 1982.¹⁵

6.3 The Regulation of Vessel-Source Pollution in the Malaysian Territorial Sea in the Strait of Malacca

Paragraph 1 of Article 42 of the LOSC 1982 authorises Malaysia to adopt laws and regulations to govern vessel activities relating to the exercise of transit passage in the Malaysian territorial sea of the Strait of Malacca.¹⁶ The Article sets narrow limits on what activities in the Strait can and cannot be made subject to Malaysia's jurisdiction. Paragraph 1(b) of Article 42 allows Malaysia to adopt laws and regulations within its territorial sea of the Strait only for the specific purpose of preventing, reducing and controlling pollution from vessels by "giving effect to applicable international regulations regarding the discharge of oil, oily wastes and other noxious substances".¹⁷ As such, Malaysia can only regulate the discharge of oil, oily wastes and other noxious substances in the Malaysian territorial sea of the Strait based on the standards set internationally.¹⁸ This effectively rules out first, the regulation by Malaysia of any other types of vessel-source pollution in the Strait, for instance, pollution by dumping or noise pollution, and, second, the application of any Malaysian domestic laws which are not compatible with the provisions of paragraph 1(b) of Article 42 of the LOSC 1982.¹⁹

¹⁵Ibid, art 211 and art 220.

¹⁶Ibid, art 42 para 1.

¹⁷Ibid, art 42 para 1(b). See discussion in section 5.22 of chapter 5 of the thesis.

¹⁸*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 42 para 1(b).

¹⁹See discussion in section 5.2.2 of chapter 5 of the thesis.

As had been demonstrated in section 5.2.2, paragraph 1(b) of Article 42 limits a strait State's jurisdiction to addressing the problem of vessel-source pollution, in straits used for international navigation, to the implementation of the discharge standards under MARPOL 73/78.²⁰ The paragraph effectively limits a strait State's jurisdiction to the regulation of substances such as those covered under MARPOL 73/78.²¹ Since there is at present no other specific instruments which directly regulate the discharge of "oil, oily wastes and other noxious substances" internationally, the "discharge standards" referred to in Paragraph 1(b) of Article 42 must necessarily mean the standards set out in MARPOL 73/78, and in particular, those set out in Annex I and Annex II of MARPOL 73/78.²² A point to note is that paragraph 1 of Article 42 of the LOSC 1982 leaves it to the discretion of the strait States on whether or not to regulate the discharge of "oil, oily wastes and other noxious substances" from vessels engaged in transit passage.²³ However, in the event that States choose to do so, it must be done in accordance with paragraph 1(b) of Article 42 of the LOSC 1982 and in compliance with the discharge provisions set out in Annex I and Annex II of MARPOL 73/78.

Malaysia became a party to MARPOL 73/78 and its accompanying Annex I and Annex II, on 31 January 1997.²⁴ However, the adoption of laws specifically to implement Malaysia's rights and obligations under MARPOL 73/78 has yet to be carried out.²⁵ However, in the

²⁰See the discussion in section 5.2.2 of chapter 5 of the thesis.

²¹Ibid.

²²Ibid.

²³See *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 42 para 1.

²⁴See *Status of Conventions*, International Maritime Organization <www.imo.org> at 31 August 2006.

²⁵See Mohd Nizam Basiron, *Developing an Ocean Policy for Malaysia: Areas for Consideration in Environmental Management*, Maritime Institute of Malaysia <<http://www.mima.gov.my/mima/htmls/papers/pdf/MNB/ocean-policy.pdf>> at 20 May 2007. Personal

context of the Malaysian territorial sea of the Strait of Malacca, the requirement for Malaysia to implement the discharge standards contained in Annexes I and II of MARPOL 73/78 stems directly from paragraph 1(b) of Article 42 of the LOSC 1982 rather than the general obligation under MARPOL 73/78 for member States to implement its provisions.²⁶ In the absence of such legislation, the problem of vessel-source pollution in the Malaysian territorial sea of the Strait, and in particular, the problem of vessel discharge of “oil, oily wastes and other noxious substances” has been brought under the purview of the Environmental Quality Act 1974 (EQA 1974).²⁷

6.3.1 The Malaysian Domestic Legislative Framework Governing Marine Pollution in the Malaysian Territorial Sea

A number of domestic laws are relevant in the analysis of the marine pollution regulation in the Malaysian territorial sea, namely, the Merchant Shipping Ordinance 1952 (MSO 1952),²⁸ the Merchant Shipping (Oil Pollution) Act 1994 (MSA 1994)²⁹ and the EQA 1974.³⁰ A brief discussion of these pieces of legislation and their relevance to the problem of vessel discharge in the territorial sea of the Strait of Malacca is provided.

communication with Nur Fauzah Mokhtar of the International Affairs Division of the Attorney General's Chambers of Malaysia has clarified that the provisions of MARPOL 73/78 are being implemented administratively in Malaysia.

²⁶*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 42 para 1(b).

²⁷Environmental Quality Act 1974 (Act 127) (EQA 1974). Some general observations have been made as to the applicability of the EQA 1974 in the Strait of Malacca. See Mary George, 'Adequacy of Strait States Laws for the Control of Marine Pollution in the Straits of Malacca and Singapore' (2001) 6 *Asia Pacific Journal of Environmental Law* 239, 274; Abdul Haseeb Ansari and Nik Ahmad Kamal, 'Prevention, Abatement and Control of Pollution of Straits: An Appraisal with Special Reference to the Straits of Malacca' (2005) 3 *The Malayan Law Journal Articles* 37, 48.

²⁸Merchant Shipping Ordinance 1952 (ORD 70/1952) (MSO 1952).

²⁹Merchant Shipping (Oil Pollution) Act 1994 (Act 515) (MSA 1994).

³⁰EQA 1974, above n 27.

6.3.1.1 The Merchant Shipping Ordinance 1952

The MSO 1952 is the most comprehensive Malaysian legislation on merchant shipping. It implements the International Convention on Load Lines 1966³¹ and the International Convention for the Safety of Life at Sea 1974.³² Part VA of the MSO 1952 deals with pollution from vessels,³³ and includes provisions relating to the escape of oil³⁴ and harmful substances.³⁵ This Part is applicable to, *inter alia*, registered Malaysian vessels, and, foreign vessels whilst in Malaysian waters.³⁶ However, the MSO 1952 does not specifically contain discharge standards for the release of oil or harmful substances into Malaysian waters. It provides for measures that can be taken against a vessel in the event of an escape of oil or harmful substance into Malaysian waters, any part of the Malaysian coasts or any Malaysian reef.³⁷ For example, where the Director of Marine is satisfied that oil or harmful substance is escaping, or is likely to escape from a vessel, a notice may be issued, to the vessel owner to prevent or reduce the extent of the pollution or pollution likely to be caused to Malaysian waters, coast or any Malaysian reef.³⁸ The notice may require that the owner of the vessel take a particular action in relation to the vessel or its cargo.³⁹ This may include requiring the vessel owner to prevent the escape of oil or harmful substance, to

³¹*International Convention on Load Lines*, opened for signature 5 April 1966, 640 UNTS 133 (entered into force 21 July 1968).

³²*International Convention for the Safety of Life at Sea*, opened for signature 1 November 1974, 1184 UNTS 3 (entered into force 25 May 1980).

³³MSO 1952, above n 28, ss 306B and 306H.

³⁴The term ‘oil’ is defined in the MSO 1952 to mean “any persistent or non-persistent hydrocarbon mineral oil in any form, including any mixture with any oil content, whether carried on board a ship as cargo in bulk or in the bunkers of the ship.” *Ibid*, s 2.

³⁵The term ‘harmful substances’ is defined in the MSO 1952 to mean “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.” MSO 1952, above n 28, s 2.

³⁶MSO 1952, above n 28, s 306B. The term ‘Malaysian Waters’ is defined in the MSO 1952 to mean “the territorial waters of Malaysia”. See MSO 1952, above n 28, s 306C.

³⁷MSO 1952, above n 28.

³⁸*Ibid*, s 306D. According to s 306D also, the Director of Marine may only issue the notice after consultations with the Director-General of the Department of Environment Malaysia.

³⁹*Ibid*,

remove oil or the harmful substance from the vessel or to remove the vessel to a specified place.⁴⁰

An essential element to note in the application of the MSO 1952, is the requirement that any escape of oil or harmful substance must be identified as belonging to a particular vessel.⁴¹ An exception only applies in a case involving two or more vessels where identification is not reasonably practicable, then all the oil or harmful substance that has escaped is then deemed to have escaped from each of those vessels.⁴²

6.3.1.2 The Merchant Shipping (Oil Pollution) Act 1994

The MSA 1994 was enacted to make provisions with respect to civil liability for oil pollution by merchant ships and related matters.⁴³ It gives effect to the 1969 International Convention on Civil Liability for Oil Pollution Damage (CLC 1969)⁴⁴ and the 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND Convention 1971).⁴⁵ The MSA 1994 is applicable in the Malaysian territorial sea and exclusive economic zone.⁴⁶

⁴⁰Ibid, s 306D. A penalty of RM\$ 50 000 (approximately USD\$14,253 at an exchange rate of RM\$ 3.5080 for every USD\$1) could be imposed for non-compliance of any notice issued by the Director of Marine. See MSO 1952, above n 28, s 306F.

⁴¹MSO 1952, above n 28, s 306H.

⁴²Ibid.

⁴³MSA 1994, above n 29, preamble.

⁴⁴*The International Convention on Civil Liability for Oil Pollution Damage*, opened for signature 29 November 1969, 9 International Legal Materials 45 (entered into force 19 June 1975). Malaysia has become a party to the 1992 Protocol to amend the International Convention on Civil Liability for Oil Pollution Damage 1969 (1992 CLC) and deposited its instrument of denunciation to the 1969 CLC on 7 June 2004. The 1992 CLC entered into force for Malaysia as of 9 June 2005. The necessary amendments to the MSA 1994 following this latest development have been made.

⁴⁵*The International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage*, opened for signature 18 December 1971, 1110 UNTS 57 (entered into force 16 October 1978).

⁴⁶MSA 1994, above n 29, s 2.

Under the MSA 1994, the owner of a vessel⁴⁷ is responsible for any pollution damage caused by their vessel in the Malaysian territorial sea or exclusive economic zone.⁴⁸ If an incident involving two or more vessels occurs and results in pollution damage, the Act provides for joint and several liabilities between vessel owners in relation to pollution damage which is not reasonably separable.⁴⁹ Vessel owner liability for pollution damage under the Act covers any loss or damage caused by contamination from the discharge or escape of oil from the vessel and to the costs involved in taking preventive measures.⁵⁰ The liability would also extend to any further loss or damage caused by such preventive measures.⁵¹ However, the MSA 1994 does not contain discharge standards for the release of any type of substances into Malaysian territorial sea. Thus, the MSA 1994 is not directly relevant to the analysis of the application of paragraph 1(b) of the LOSC 1982 in the Malaysian territorial sea of the Strait of Malacca.

6.3.1.3 The Environmental Quality Act 1974

The EQA 1974 is the main Malaysian legislation that addresses the problem of pollution in the Malaysian seas. The EQA 1974 applies to the whole of Malaysia⁵² and generally provides for the prevention, abatement and the control of pollution, and, for the

⁴⁷‘Owner’ is defined in the MSA 1994 as the “person registered as the owner of the ship, or, in the absence of registration, the person or persons owning the ship, except that in relation to a ship owned by a State and operated by a company which in that State is registered as the ship’s operator, ‘owner’ shall mean such company”. See MSA 1994, above n 29, s 2.

⁴⁸MSA 1994, above n 29, s 3.

⁴⁹Ibid.

⁵⁰MSA 1994, above n 29, ss 2 and 3.

⁵¹Ibid, s 2.

⁵²EQA 1974, above n 27, s 1.

enhancement of the environment.⁵³ Certain parts of the EQA 1974 implement Malaysia's MARPOL 73/78 obligations, for instance, the requirement for certain wastes, including oil-tanker sludge and oil-water mixture such as ballast water, to be treated and disposed of at prescribed premises.⁵⁴ However, the Act as a whole does not purport to be the domestic law implementing MARPOL 73/78 provisions in Malaysia. In fact, the provisions of the EQA 1974 differ quite substantially from that of MARPOL 73/78 in terms of the regulation of discharge standards from vessels.

Part IV of the EQA 1974 deals with the prohibition and control of pollution in 'Malaysian waters'.⁵⁵ 'Malaysian waters' has been defined in the Act by a reference to the Malaysian Emergency (Essential Powers) Ordinance, No. 7 1969. This Ordinance defines the extent of the breadth of the Malaysian territorial sea to be 12 nautical miles from the point on which the baselines are measured.⁵⁶ Section 27 of Part IV of the EQA 1974 expressly prohibits the discharge⁵⁷ or spill⁵⁸ of any oil⁵⁹ or mixture containing oil⁶⁰ into Malaysian waters by a person⁶¹ in the absence of 'acceptable conditions' specified under the Act.⁶² The Minister⁶³

⁵³Ibid, preamble.

⁵⁴See Environmental Quality (Scheduled Wastes) Regulations 2005 [P.U.A.(A) 294/2005]; Environmental Quality (Prescribed Premises) (Scheduled Wastes Treatment and Disposal Facilities) Order 1989 [P.U.(A) 140/89]; Environmental Quality (Prescribed Premises) (Scheduled Wastes Treatment and Disposal Facilities) Regulations 1989 [P.U.(A)141/89]. In a nutshell, these regulations categorise the types of substances falling within the meaning of 'scheduled wastes' and details out the licensing regulations for premises designated as wastes treatment and disposal facilities. See also Noor Apandi Osnin, *Waste Reception Facilities Under MARPOL 73/78 in Malaysia: 2004 Update*, Maritime Institute of Malaysia <<http://www.mima.gov.my/mima/htmls/papers/pdf/apandi/waste2004.pdf>> at 22 May 2007.

⁵⁵EQA 1974, above n 27, part IV.

⁵⁶See Emergency (Essential Powers) Ordinance, No. 7 1969, above n 3, s 3.

⁵⁷The term 'discharge' is not defined in the EQA 1974. See EQA 1974, above n 27, s 2.

⁵⁸The term 'spill' is not defined in the EQA 1974. See EQA 1974, above n 27, s 2.

⁵⁹The term 'Oil' is defined in the EQA 1974 as "any crude oil, diesel oil, fuel oil and lubricating oil and any other description of oil which may be prescribed by the Minister". See EQA 1974, above n 27, s 2.

⁶⁰'Mixture containing oil' is defined in the EQA 1974 to mean "a mixture with such oil content as may be specified by the Minister or, if such oil content is not specified, a mixture with an oil content of one hundred parts or more in one million parts of the mixture." See EQA 1974, above n 27, s 2.

⁶¹The term 'person' is not defined in the EQA 1974. See EQA 1974, above n 27, s 2.

is granted discretionary powers under Section 21 of the EQA 1974, which include the power to specify by regulation, acceptable conditions for the emission, discharge or deposit of environmentally hazardous substances,⁶⁴ pollutants⁶⁵ or wastes⁶⁶ into the environment.⁶⁷ Section 29 of the EQA 1974 prohibits the discharge of “environmentally hazardous substances, pollutants or wastes” into Malaysian waters.⁶⁸ Similar to Section 27, the Minister may, by regulations, specify conditions where the emission, discharge or deposit of substances under Article 29 becomes acceptable.⁶⁹ No regulations have been adopted relating to the Malaysian territorial sea of the Strait of Malacca.⁷⁰

The contravention of Section 27 of the EQA 1974 is an offence punishable with a fine not exceeding RM\$ 500,000 (approximately USD\$ 140,000)⁷¹ or imprisonment for a period not exceeding 5 years, or both.⁷² However, a number of defences are available for a charge against Section 27, including that the discharge or spillage was caused for the purpose of

⁶²See EQA 1974, above n 27, s 21.

⁶³The term ‘Minister’ in s 21 of the EQA 1974 refers to the Minister at the Malaysian Ministry of Natural Resources and Environment.

⁶⁴‘Environmentally hazardous substances’ is defined in the EQA 1974 to mean any “natural or artificial substances including any raw material, whether in a solid, semi-solid or liquid form, or in the form of gas or vapour, or in a mixture of at least two of these substances, or any living organism intended for any environmental protection, conservation and control activity, which can cause pollution”. See EQA 1974, above n 27, s 2.

⁶⁵‘Pollutants’ is defined in the EQA 1974 as “any natural or artificial substances, whether in a solid, semi-solid or liquid form, or in the form of gas or vapour, or in a mixture of at least two of these substances, or any objectionable odour or noise or heat emitted, discharged or deposited or is likely to be emitted, discharged or deposited from any source which can directly or indirectly cause pollution and includes any environmentally hazardous substances”. See EQA 1974, above n 27, s 2.

⁶⁶‘Waste’ is defined in the EQA 1974 to include “any matter prescribed to be scheduled waste, or any matter whether is a solid, semi-solid or liquid form, or in the form of gas or vapour which is entitled, discharged or deposited in the environment in such volume, composition or manner as to cause pollution”. See EQA 1974, above n 27, s 2.

⁶⁷EQA 1974, above n 27, s 21.

⁶⁸Ibid, s 29.

⁶⁹Ibid, s 21.

⁷⁰EQA 1974, above n 27.

⁷¹The conversion is calculated at an exchange rate RM\$ 3.5080 for every USD\$ 1.

⁷²See EQA 1974, above n 27, s 27.

securing the safety of the vessel, or for the saving of a human life.⁷³ It is also a defence to show that the discharge or spillage was caused as a result of damage to the vessel and that all reasonable steps had been taken to prevent, stop or reduce the spillage.⁷⁴ Similarly, the contravention of Section 29 of the EQA 1974 also entails the commission of an offence liable to a fine not exceeding RM\$ 500,000, or to imprisonment not exceeding five years, or both.⁷⁵

Section 6.3.1 has shown that except for the provisions of the EQA 1974, no other Malaysian legislation contains discharge standards that would be relevant for the Malaysian territorial sea of the Strait of Malacca. However, the complete prohibition of the discharge of oil, mixture containing oil, environmentally hazardous substances, pollutants or wastes by Sections 27 and 29 of the EQA 1974 is inconsistent with the provisions of paragraph 1(b) of Article 42 of the LOSC 1982, which applies the discharge standards of Annexes I and II of MARPOL 73/78 in straits used for international navigation.⁷⁶ As had been established in section 5.2.2.1.1 both Annexes allow for the discharge of “oil, oily wastes and other noxious substances” into the marine environment, subject to certain conditions being met. Due to such inconsistencies, it is submitted that the application of Sections 27 and 29 of the EQA 1974 in the Malaysian territorial sea of the Strait of Malacca would cause Malaysia to be in breach of paragraph 1(b) of Article 42 of the LOSC 1982.

⁷³Ibid, s 28.

⁷⁴Ibid.

⁷⁵See EQA 1974, above n 27, s 29.

⁷⁶See discussion in section 5.2.2 of chapter 5 of the thesis.

Molenaar has suggested that a strait State could avoid being in breach of this international obligation under the LOSC 1982 by choosing not to enforce the provisions of its domestic law in a strait used for international navigation. This argument is based on the rationale that such inconsistencies are only significant when actual enforcement is being undertaken.⁷⁷ Applying this understanding, Malaysia may restrain itself from enforcing Section 27 and 29 of the EQA 1974 in the Malaysian territorial sea of the Strait of Malacca to avoid being in breach of paragraph 1(b) of Article 42 of the LOSC 1982. However, such omission would result in the Malaysian territorial sea of the Strait of Malacca being void of any domestic legal mechanism regulating vessel-source pollution.⁷⁸

The gaps in the EQA 1974 will make enforcement action against delinquent vessels in the Strait difficult. Chapter 5 has established that Strait States may, pursuant to Article 233 of the LOSC 1982, take appropriate enforcement measures against a foreign vessel, which causes or threatens to cause major damage to the marine environment of a strait, in violation of the laws and regulations referred to in paragraphs 1(a) and (b) of Article 42.⁷⁹ In the context of the discussions on paragraph 1(b) of Article 42 of the LOSC 1982, this means that where a vessel violates a regulation adopted by a strait State which gives effect to discharge standard on oil, oily wastes or other noxious substances as contained in Annex I or Annex II of MARPOL 73/78, causing or threatening to cause major damage to the

⁷⁷Erik Jaap Molenaar, *Coastal Jurisdiction over Vessel-Source Pollution* (1998) 329.

⁷⁸In this respect, it is to be noted that Malaysia practices a 'dualist' system where international law does not automatically become part of Malaysian domestic law until and unless the necessary corresponding domestic legislation has been drawn up and passed by the Malaysian Parliament.

⁷⁹See *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 233.

marine environment of a strait, the strait State can take appropriate enforcement action against the vessel pursuant to Article 233 of the LOSC 1982.⁸⁰

Article 233 of the LOSC 1982 is very specific in providing that enforcement measures be undertaken only for the violation by vessels “of the laws and regulations” adopted by strait States pursuant to paragraph 1(b) of Article 42, rather than just for a violation of paragraph 1(b) of Article 42 itself.⁸¹ In the context of the Malaysian territorial sea of the Strait of Malacca, this means that enforcement measures may only be taken for a violation by vessels of the Malaysian legislation which specifically implements the provisions of paragraph 1(b) of Article 42 of the LOSC 1982. A literal interpretation of Article 233 of the LOSC 1982 indicates that until and unless the necessary legislative provisions, corresponding to the requirements of paragraph 1(b) of Article 42, are adopted domestically, the Malaysian enforcement authorities would have no authority to undertake enforcement measures under Article 233 of the LOSC 1982 against vessels in transit passage in the Malaysian territorial sea of the Strait for the discharge of “oil, oily wastes and other noxious substances”.

Where the corresponding domestic legislation is absent, as in the case of Malaysia, the exercise of enforcement powers pursuant to Article 233 of the LOSC 1982 would be difficult to justify. This is because vessels cannot be held accountable for a breach of laws or regulations adopted pursuant to paragraph 1(b) of Article 42 of the LOSC 1982, if none are in fact being prescribed by Malaysia for the Malaysian territorial sea of the Strait of

⁸⁰Ibid.

⁸¹Ibid.

Malacca. This same argument applies to the implementation by Malaysia in the Malaysian territorial sea of the Strait of Malacca of paragraph 1(a) of Article 42 of the LOSC 1982. Alternatively, Malaysia may only exercise enforcement measures against a vessel in transit passage in the Strait of Malacca and Singapore if the vessel enters into any Malaysian ports.⁸²

Assuming that Malaysia brings its laws in line with the provisions of paragraph 1(b) of Article 42 of the LOSC 1982, the next question that requires determination is the enforcement measures that would be applicable against vessel violations of the laws in the Malaysian territorial sea of the Strait of Malacca.⁸³ Since Article 233 did not identify a list of measures deemed to be appropriate for violations of the laws adopted pursuant to paragraph 1(a) and (b) of Article 42 of the LOSC 1982, it is arguable that it would be up to the Malaysian authorities to decide on the measures enforceable. These would be according to the circumstances and degree of the violation, and the extent of the threat of damage or whether there was actual damage caused to the marine environment of a strait. The only other consideration that is relevant in this instance is for Malaysia to be able to justify the *appropriateness* of a measure if challenged.

⁸²Article 218 of the LOSC 1982 provides for port State enforcement powers against vessels voluntarily within a port or an offshore terminal of a State, in respect of any discharge from that vessel outside the internal waters, territorial sea or exclusive economic zone of that State, in violation of applicable international rules and standards established through the competent international organization or general diplomatic conference. See *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 218.

⁸³See section 5.2.4.1 of chapter 5 of the thesis on the prevention of passage as a legitimate enforcement measure in the Straits of Malacca and Singapore for a violation of the under-keel clearance limit prescribed in the Straits.

In this regard, it is noted that very broad enforcement powers are exercisable under the provisions of the EQA 1974 and the MSO 1952. The Director General of the Department of Environment is granted wide enforcement and investigative powers under the EQA 1974. These powers include the authority to stop, board and search a vessel, without a warrant, for purposes of investigating the possible commission by any person of an offence under the Act.⁸⁴ The inspection, examination, seizure or detention of equipment, substances, pollutants or wastes and the taking of samples from substances on board are all provided for under the Act.⁸⁵ Pending the outcome of any proceedings under the Act, the Director General is also granted the authority to seize any vessels used for transportation or disposal of wastes in contravention of the Act.⁸⁶ Apart from the EQA 1972, the MSO 1952 also grants broad enforcement powers to the Director of Marine in the event of an escape of oil or harmful substances from a vessel into Malaysian waters, any part of the Malaysian coasts or any Malaysian reef.⁸⁷

However, the powers prescribed in the EQA 1974 and the MSO 1952 may not necessarily be exercisable in the Malaysian territorial sea of the Strait, particularly in light of the discussion in chapter 5 on whether Article 233 of the LOSC 1982 is to be exercised subject to a vessel's right of unimpeded and unhampered transit passage in the Strait.⁸⁸ It must also be noted that enforcement action under Article 233 of the LOSC 1982 is subject to the

⁸⁴EQA 1974, above n 27, s 38.

⁸⁵Ibid. The Director General can delegate his powers to investigate offences under sections 27 and 29 of the EQA 1974 to, amongst others, any port officer and deputy port officer appointed under the MSO 1952, any fisheries officer appointed under the Fisheries Act 1985, any officer commanding a vessel of the Royal Malaysian Navy and any officer of customs commanding a vessel of the Customs and Excise Department. See Environmental Quality (Delegation of Power on Marine Pollution Control) Order 1993 [P.U.(A) 276/93].

⁸⁶EQA 1974, above n 27, s 47.

⁸⁷See MSO 1952, above n 28, ss 306D, 306E and 306G.

⁸⁸See section 5.2.4.1 of chapter 5 of the thesis.

condition that vessel violations must threaten to cause or have caused major damage to the marine environment of the Strait of Malacca.⁸⁹

6.4 Legislative Reform

Section 6.3.1.3 has clearly highlighted the gaps in the Malaysian legislative framework for the regulation of vessel-source pollution in the Malaysian territorial sea of the Strait of Malacca in relation to vessel discharge standards in the Strait. The major gaps identified include, first, that the EQA 1974 is inconsistent with the provisions of paragraph 1(b) of Article 42 of the LOSC 1982, second, that Malaysia's non-enforcement of the EQA 1974 in the Malaysian territorial sea of the Strait of Malacca to avoid breaching paragraph 1(b) of Article 42 of the LOSC 1982, would result in the area being void of any domestic legal mechanism regulating vessel-source pollution. The third is that the Malaysian enforcement authorities have no legal authority to undertake enforcement measures under Article 233 of the LOSC 1982 without the adoption of domestic legislative provisions corresponding to the requirements of paragraph 1(b) of article 42 of the LOSC 1982. In order to address these gaps, Malaysia must undertake the necessary legislative reforms to bring its marine pollution laws, particularly the EQA 1974, in line with the provisions of paragraph 1(b) of Article 42 of the LOSC 1982 and the provisions of Annexes I and II of MARPOL 73/78. Such action is essential for a number of reasons. First, to ensure that the laws and regulations prescribed to govern vessel discharge in the Strait complies with Malaysia's obligations under the LOSC 1982, second, to state and clarify the applicable law in relation

⁸⁹See *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 233.

to vessel discharges in the Strait and third, to give legal force to enforcement actions taken in the Malaysian territorial sea of the Strait of Malacca.

Two legislative reforms are recommended for immediate consideration. The first proposed reform would be the adoption by the Minister in charge of the EQA 1974 of a regulation under Article 21 of the EQA 1974, specifying acceptable conditions for the discharge of “oil, oily wastes and other noxious substances” into the Malaysian territorial sea of the Strait of Malacca, in line with the permissible discharge standards under Annex I and Annex II of MARPOL 73/78. The second reform would be the inclusion of a general savings clause in the EQA 1974 emphasising conformity with the provisions of the LOSC 1982.⁹⁰ The latter proposal would indirectly subject the legislation to the provisions of the LOSC 1982 when being applied to the Strait of Malacca.

As a measure to address the gaps on a more permanent basis, Malaysia would need to adopt the necessary domestic legislation to implement the provisions of MARPOL 73/78 in its territorial sea as a whole.⁹¹ However, for the Malaysian territorial sea of the Strait of Malacca, Malaysia would need to clarify that only the discharge standards contained in Annexes I and II are relevant for implementation in the Strait, consistent with the requirements contained in paragraph 1(b) of Article 42 of the LOSC 1982.

⁹⁰Molenaar, above n 77, 329.

⁹¹Malaysia has ratified Annexes I, II and V of MARPOL 73/78 and hence would need to adopt legislation to implement these provisions. See *Status of Conventions*, above n 24.

6.5 Conclusion

As one of the world's busiest shipping lanes, the Straits of Malacca and Singapore will continue to be exposed to vessel-source pollution, whether originating from vessel operational discharges or as a result of spills from vessel accidents. This chapter discussed the international legal framework to address the problem of vessel-source pollution by analysing the Malaysian implementation of paragraphs 1(a) and (b) of Article 42 and Article 233 of the LOSC 1982 in the Malaysian territorial sea of the Strait of Malacca. This chapter has shown, first, that Malaysian legislation does not contain discharge standards relevant to the Malaysian territorial sea of the Strait of Malacca, except for the EQA 1974. Second, the chapter has shown that the provisions of the EQA 1974 are inconsistent with the provisions of paragraph 1(b) of Article 42 of the LOSC 1982, which applies the discharge standards of Annexes I and II of MARPOL 73/78 in straits used for international navigation. Third, the chapter has established that as a result of such inconsistencies, the application of the EQA 1974 in the Malaysian territorial sea of the Strait of Malacca would cause Malaysia to be in breach of paragraph 1(b) of Article 42 of the LOSC 1982. This chapter has also shown that as a result of the failure to adopt the necessary domestic legislation pursuant to paragraph 1(a) and (b) of Article 42 of the LOSC 1982, Malaysia risks the possibility that the problem of vessel-source pollution in the Malaysian territorial sea of the Strait is left unregulated.

The failure to adopt the necessary domestic legislation to implement paragraph 1(a) and (b) of Article 42 of the LOSC 1982 also means that Malaysia cannot exercise enforcement measures pursuant to Article 233 of the LOSC 1982. This chapter argues that vessels cannot be held accountable under Article 233 for a breach of laws or regulations adopted

pursuant to paragraph 1(a) and (b) of Article 42 of the LOSC 1982 if none are in fact being prescribed by Malaysia. In light of these gaps, legislative reforms have been recommended in this chapter, to be undertaken by Malaysia on an immediate basis, and as a long term measure, so as to bring Malaysia's marine pollution laws in line with the provisions of paragraph 1(b) of Article 42 of the LOSC 1982. The reforms must also be undertaken so as to give legal force to enforcement action taken to combat vessel-source pollution in the Malaysian territorial sea of the Strait of Malacca.

CHAPTER 7

COOPERATIVE ARRANGEMENTS IN THE STRAITS OF MALACCA AND SINGAPORE TO ADDRESS VESSEL-SOURCE POLLUTION

7.1 Introduction

Chapter 5 and 6 illustrated and analysed the difficulties faced by straits States in addressing the problem of vessel-source pollution in straits used for international navigation under the provisions of the LOSC 1982. However, apart from the adoption of legislation in accordance with Article 42 of the LOSC 1982, strait States can also address this problem by entering into cooperation with user States of a strait used for international navigation, pursuant to Article 43 of Part III of the LOSC 1982. The Article, which generally calls for user States and strait States to cooperate by agreement in the establishment, maintenance and improvement of navigational and safety aids, and in the prevention, reduction and control of pollution from vessels. This provides an alternative method by which strait States can regulate and control accidental and operational vessel discharge in a strait.

The cooperative arrangements in the Straits of Malacca and Singapore have been pursued at four different levels. The first level of cooperation is entered on a more global basis through organisations such as the IMO. The second level of cooperation is at the user States-littoral States level. The third level of cooperation is entered on a regional level, for instance through arrangements under the Association of Southeast Asian Nations (ASEAN), and the fourth level of cooperation is entered between the littoral States of the Straits with each other. Apart from analysing the implementation of Article 43 of the LOSC 1982 in the Straits of Malacca and Singapore, the chapter

discusses the cooperative arrangements entered in the Straits between the littoral States of the Straits and as part of the wider IMO and ASEAN initiatives. As such, the chapter is divided into four main sections, in accordance to the four different levels of cooperation mentioned earlier.

7.2 Cooperation as a Basis for Strait State Regulation of Activities in Straits Used for International Navigation

Article 43 of LOSC 1982 provides a framework for cooperation between strait States and user States of a strait used for international navigation. The Article calls for strait States and user States to cooperate by agreement, firstly, under paragraph (a) of the Article, for the “establishment and maintenance in a strait of necessary navigational and safety aids or other improvements in aid of international navigation” and secondly, under paragraph (b) of the Article, for the “prevention, reduction and control of pollution from ships”.¹

Article 43 of the LOSC 1982 generated little controversy during UNCLOS III² and was adopted with particular consideration of straits such as the Straits of Malacca and Singapore.³ In fact, the Article was proposed as a response to the request by Malaysia that it be allowed to seek compensation for costs incurred in maintaining the safe navigation of vessels through the Straits of Malacca.⁴

¹*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, (entered into force 16 November 1994).

²S.N. Nandan and D.H. Anderson, 'Straits Used for International Navigation: A Commentary on Part III of the United Nations Convention on the Law of the Sea 1982' (1989) 60 *British Yearbook of International Law* 159,193.

³S.N. Nandan, 'The Management of Straits Used for International Navigation: International Cooperation in the Malacca and Singapore Straits' (1999) 3 *Singapore Journal of International & Comparative Law*, 429, 435. See also Nandan and Anderson, above n 2, 193.

⁴*Ibid.*

The language of Article 43 of the LOSC 1982 is recommendatory in nature. The Article imposes no obligation upon user States to partake in a strait State's efforts to establish and maintain navigational aids, or to prevent, reduce and control pollution from vessels in straits used for international navigation.⁵ There is no enforcement mechanism for Article 43 save for the general right of member States of the LOSC 1982 to refer any dispute regarding interpretation and application of Article 43 to the provisions on dispute settlement under Part XV of LOSC 1982.⁶

Nevertheless, the language of Article 43 of the LOSC 1982 does entail, at the very minimum, an obligation for both the user States and strait States to *agree* to cooperate.⁷ The use of the term 'should' rather than 'may' in the Article supports this interpretation.⁸ However, less emphasis should be placed on the rhetoric of Article 43 of the LOSC 1982, as the duty of States to cooperate to protect and preserve the marine environment from pollution from all sources, including accidents, is a core principle imbedded in the LOSC 1982.⁹ The good faith interpretation of Article 43 of the LOSC 1982 at the very least requires user States to enter into dialogue with strait States with the ultimate goal of reaching an agreement under the Article.¹⁰ The discussions taking

⁵*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 43.

⁶*Ibid*, art 280.

⁷Nandan, above n 3, 433; D. H. Anderson, 'Funding and Managing International Partnerships for the Malacca and Singapore Straits, Consonant with Article 43 of the UN Convention on the Law of the Sea' (1999) 3 *Singapore Journal of International & Comparative Law* 444, 447.

⁸Nandan, above n 3, 433. See also Bernard H. Oxman, 'Observations on the Interpretation and Application of Article 43 of UNCLOS with Particular Reference to the Straits of Malacca and Singapore' (1998) 3 *Singapore Journal of International & Comparative Law* 408, 410.

⁹Bernard H. Oxman, 'Sub-regional, Regional and International Co-operation in Responding to and Deterring Transboundary Marine Pollution' (1999) 3 *Singapore Journal of International & Comparative Law* 410, 425; Oxman, above n 8, 410-411.

¹⁰Nandan, above n 3, 433. See also Prof Tommy Koh 'Opening Remarks by Prof Tommy Koh, Chair of the IMO-IPS Conference on the Straits of Malacca and Singapore; and Ambassador-At-Large, Ministry of Foreign Affairs, Singapore' (Speech delivered at the 1999 IPS/IMO Conference on the Straits of Malacca and Singapore, Singapore, 1999). See also 'Opening Remarks by Prof Tommy Koh, Chair of the IMO-IPS Conference on the Straits of Malacca and Singapore; and Ambassador-At-Large, Ministry of Foreign Affairs, Singapore' (1999) 3 *Singapore Journal of International & Comparative Law* 293, 294.

place on the Straits of Malacca and Singapore, for instance, illustrate this point, as does the fact that the littoral States and user States of the Straits recognise their collective responsibility to address issues such as the safety of navigation and environmental protection in the Straits.¹¹

Part III of the LOSC 1982 does not oblige strait States to establish and maintain navigational aids in straits used for international navigation. The only duty in this regard is for strait States under Article 44 of the LOSC 1982 to give “appropriate publicity to any danger to navigation or overflight within or over the strait of which they have knowledge”.¹² User State cooperation could be encouraged on this basis, as strait States may refuse to establish or maintain navigational aids in straits used for international navigation in the event that no cooperation is received from the user States.¹³ However, the absence of navigational aids in straits used for international navigation, particularly, in navigationally challenging straits such as the Straits of Malacca and Singapore, could lead to potentially disastrous results for the littoral States of the Straits, due to a possible increase in vessel accidents and oil spill incidences.

7.2.1 The IMO and the Straits of Malacca and Singapore

The IMO has been involved in the general management of the Straits of Malacca and Singapore for more than thirty years. In particular, the IMO has been essential in the

¹¹Examples of meetings held to discuss issues relevant to the Straits of Malacca and Singapore include the 1996 IPS/IMO Conference on the Straits of Malacca and Singapore entitled Navigational Safety and the Control of Pollution-Modalities of International Cooperation, 2-3 September 1996, the 1999 IPS/IMO Conference on the Straits of Malacca and Singapore entitled Towards the Implementation of UNCLOS Article 43 for the Straits of Malacca and Singapore, 14-15 October 1999, the 2005 Jakarta Meeting on the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection, 7-8 September 2005 and the 2006 Kuala Lumpur Meeting on the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection, 18-20 September 2006.

¹²*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 44.

¹³Myron H. Nordquist (ed), *United Nations Convention on the Law of the Sea 1982 A Commentary* (1993), 383.

establishment of measures in the Straits to ensure the safe navigation of vessels. These measures include the establishment of a Routeing System in the Straits consisting of, amongst other things, a traffic separation scheme, a 3.5 metre minimum under-keel clearance limit and a mandatory ship reporting system (STRAITREP).¹⁴ The most recent IMO initiated project in the Straits of Malacca and Singapore is the Marine Electronic Highway (MEH) which includes participation from the World Bank, INTERTANKO and the International Hydrographic Organization (IHO).¹⁵

The MEH has been described as “the best proven of the new marine navigation technologies.”¹⁶ The MEH has been developed with a number of specific objectives in mind, including a reduction in number of ship collisions and to facilitate the monitoring of vessel operations.¹⁷ The overall objectives of the MEH are to “enhance maritime services, improve navigational safety and security and promote marine environment protection and the sustainable development and use of the coastal and marine resources” of the littoral States of the Straits of Malacca and Singapore.¹⁸ The MEH Demonstration Project has been initiated with the signing of a Memorandum of Understanding (MOU) between the Governments of Malaysia, Indonesia and Singapore on one hand and the

¹⁴See *Navigation Through the Straits of Malacca and Singapore*, Res. A.375 (X) (1977) for the adoption of the traffic separation scheme and the under-keel clearance limit in the Straits. See *Mandatory Ship Reporting Systems*, Resolution MSC.73(69) (1998) for the adoption of the STRAITREP in the Straits.

¹⁵*Project Appraisal Document on Two Proposed Grants from the Global Environment Facility Trust Fund to the International Maritime Organization in the Amount of US\$6.86 Million and to the Republic of Indonesia in the Amount of US\$1.44 Million for a Marine Electronic Highway Demonstration Project* (2006) International Maritime Organization <http://www.imo.org/includes/blastDataOnly.asp/data_id%3D14955/MEHPADMay2%2C2006.pdf> at 25 January 2007. For a brief background on the MEH, see Koji Sekemizu, Jean-Claude Sainlos and James N. Paw ‘The Marine Electronic Highway in the Straits of Malacca and Singapore-An Innovative Project for the Management of Highly Congested and Confined Waters’ (2001) *Tropical Coasts* 24.

¹⁶International Maritime Organization, above n 15, 2.

¹⁷*Ibid*, 4.

¹⁸*Marine Electronic Highway (MEH) Demonstration Project in the Straits of Malacca and Singapore*, International Maritime Organization <<http://www.imo.org>> at 25 September 2006.

IMO on the other on 8 September 2005.¹⁹ The initial cost of the Demonstration Project is estimated to be about USD\$ 17 million, of which USD\$ 8.3 million will be financed by the Global Environment Facility, USD\$ 6 million by private sector participants (vessel-owners), and USD\$ 2.7 million by the three littoral States of the Straits.²⁰

Thia-Eng and Ross describes the MEH as representing “the integration of electronic navigational charts (ENCs), electronic chart display and information systems (ECDIS), Geographic Information Systems (GIS) and telecommunications, coupled with real-time environmental information such as wind, temperature, waters and currents.”²¹ Ultimately, the project aims to link shore-based marine information and communication infrastructure with the corresponding navigational and communication facilities on board transiting vessels to provide them with accurate, real-time navigational information.²²

A Memorandum of Arrangement (MOA) to ensure that there are sufficient vessels fitted with ECDIS, Automatic Identification System (AIS) and internet connectivity to enable their participation in the Demonstration Project, was also signed on 8 September 2005 between the three littoral States on one hand and INTERTANKO, ICS and the IHO on the other.²³ It has been estimated that this component of the Demonstration Project will

¹⁹*Protection of Vital Shipping Lanes: The Jakarta Meeting Note by Secretary General*, C/ES.23/8 (2005) 3.

²⁰International Maritime Organization, above n 15, 35-37.

²¹Chua Thia-Eng, and S. Adrian Ross ‘The Marine Electronic Highway: Concepts and Challenges’ (1999) 3 *Singapore Journal of International & Comparative Law* 388, 392-393. See also Peter B. Marlow and Bernard M. Gardner, ‘The Marine Electronic Highway in the Straits of Malacca and Singapore-Assessment of Costs and Key Benefits’ (2006) *Marine Policy & Management* 187, 188.

²²International Maritime Organization, above n 15, 2.

²³International Maritime Organization, above n 15, 3.

be executed by the owners of at least 160 large oil tankers and container ships that regularly transit the Straits.²⁴

The MEH is a useful tool to reduce vessel accidents and would be essential in the detection of oil spill incidents and illegal discharge activities in the Straits of Malacca and Singapore.²⁵ However, the cost to implement a full scale MEH in the Straits of Malacca and Singapore has yet to be revealed. The littoral States, already being burdened with the current expenses of managing the Straits, are expected to highlight the issue of cost as a potential stumbling block in the implementation of a full scale MEH, particularly as there have been very few initiatives on the part of the user States of the Straits to share in the existing expenses for the aid of safe navigation in the Straits.²⁶ Nevertheless, some leeway has been achieved in terms of user State contribution towards the Demonstration Project, with the Republic of Korea pledging USD\$ 1 million for the first phase of the Project.²⁷ In any event, as the purpose of the Demonstration Project is to determine whether such an undertaking would be economically justifiable and financially feasible, the littoral States of the Straits and the international community would need to allow the Project to run its full course, before assessing the necessity and effectiveness of the MEH in the Straits.²⁸

²⁴Ibid, 6.

²⁵Ibid, 2, 4, 55.

²⁶See Marlow and Gardner, above n 21, for a brief discussion of the costs and benefits of implementing the MEH in the Straits of Malacca and Singapore.

²⁷'Statement by the Delegation of the Republic of Korea' (Presented at the Kuala Lumpur Meeting on the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection, Kuala Lumpur, 18 to 20 September 2006).

²⁸International Maritime Organization, above n 15, 3.

7.2.2 User State Participation in Cooperative Arrangements in the Straits of Malacca and Singapore

Article 43 of the LOSC 1982 specifically calls for cooperation between strait States and the user States of a strait used for international navigation on matters relating to the establishment, maintenance and improvement of navigational aids, and for the prevention, reduction and control of pollution from vessels.²⁹ A number of cooperative arrangements implementing Article 43 of the LOSC 1982 have been entered between the littoral States and user States in the Straits of Malacca and Singapore. Before proceeding to analyse user State cooperation in the Straits, a discussion of the definition to the term ‘user States’ is provided.

One of the more difficult and controversial issues in relation to Article 43 of the LOSC 1982 is the interpretation of the term ‘user States’ of a strait used for international navigation. This term does not appear elsewhere in the provisions of the LOSC 1982. In addition, international consensus has not been reached on its definition. In the context of the Straits of Malacca and Singapore, opinions have been generally divided between two approaches.

The first approach adopts a broad definition to the term, wherein ‘user States’ is used to refer to all entities benefiting from the use of the Straits of Malacca and Singapore. The term is not limited to States but would include the “nationals of such States, both natural and juridical entities” in addition to the “flag states, the exporting states, the receiving states, the shipowners, and others who benefit from the provision of facilities for safe navigation, such as insurance corporations whose risks and liabilities are minimised and

²⁹See *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 43.

major companies whose global trade is facilitated.”³⁰ The second approach limits the use of the term to States only. ‘User States’ in this sense would comprise States “benefiting directly or indirectly, from navigation through a strait” and include “port states (whether of departure or destination) of ships passing through a strait, the flag states of ships passing through and even land-locked states if they are sending or receiving goods by ship (regardless of the flag) through a strait.”³¹ However, both approaches include the littoral States of the Straits within their definition of a ‘user state’.³²

Whilst recognising that the clarification of the term ‘user States’ would be essential towards the effective implementation of Article 43 of the LOSC 1982, recent developments in the Straits of Malacca and Singapore indicate that the failure to precisely define ‘user States’ of a strait used for international navigation, should not inhibit cooperative efforts in the Straits. An all-inclusive approach has been adopted in the Straits where cooperation is entered not only between the littoral States and States, but also with industry and international organisations such as the IMO. For instance, it was agreed at the 2006 Kuala Lumpur Meeting,³³ that cooperative mechanism on the safety of navigation and environmental protection in the Straits, aimed at promoting

³⁰Nandan, above n 3, 435. See also, S. Tiwari, ‘Legal Mechanisms for Establishing a Fund’ (1999) 3 *Singapore Journal of International & Comparative Law* 470, 471; Mati L. Pal & Gabriele Götsche-Wanli, ‘Proposed Usage and Management of the Fund’ (1999) 3 *Singapore Journal of International & Comparative Law* 475, 479; Oxman, above n 8, 418-419; Edgar Gold, ‘Preventing and Managing Marine Pollution in the Malacca and Singapore Straits: Framework for Cooperation’ (1999) 3 *Singapore Journal of International & Comparative Law* 353, 362-363.

³¹Anderson, above n 7, 447. The vessel traffic trends in the Straits according to states are highlighted in Osamu Matsumoto, ‘Who are the Contributors? Littoral States, User States and Stakeholders or Who are the Users?’ (1999) 3 *Singapore Journal of International & Comparative Law* 497, 499-500 and in section 3.2 of Chapter 3.

³²Anderson, above n 7, 447.

³³The Meeting on the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection, Kuala Lumpur, 18 to 20 September 2006.

dialogue and facilitating close cooperation between the “littoral states, user states, shipping industry and other stakeholders” would be supported.³⁴

7.2.2.1 The Jakarta and Kuala Lumpur Meetings

The recent Jakarta and Kuala Lumpur Meetings held in 2005 and 2006 not only provided a forum for exchange of ideas and information on the overall management regime of the Straits of Malacca and Singapore, they also specifically addressed the issue of user State cooperation under Article 43 of the LOSC 1982 and the associated issue of burden sharing in the Straits of Malacca and Singapore.

The Jakarta Meeting agreed to establish a mechanism by which the three littoral States of the Straits could meet with user States, the shipping industry and other interested parties on a regular basis to discuss matters pertaining to the safety, security and environmental protection of the Straits, including the possibility for burden sharing.³⁵ This acted as a push for future discussions between the littoral and user States of the Straits for the implementation of Article 43 of the LOSC 1982. As a follow up to the Jakarta Meeting, the Kuala Lumpur Meeting was held in 2006 with the aim, amongst other things, of developing mechanisms and programmes to facilitate cooperation in the Straits.³⁶ Progress was made in the Kuala Lumpur Meeting in terms of littoral States - user States cooperation with the adoption of the Kuala Lumpur Statement.³⁷

³⁴*Kuala Lumpur Statement on Enhancement of Safety, Security and Environmental Protection in the Straits of Malacca and Singapore*, IMO/KUL 1/4 (2006); ‘Cooperation in the Straits of Malacca and Singapore: IMO Briefing and Kuala Lumpur Statement’ (2006) *Maritime Studies* 15, 19.

³⁵*Jakarta Statement on Enhancement of Safety, Security and Environmental Protection in the Straits of Malacca and Singapore*, IMO/JKT 1/2 (2005).

³⁶International Maritime Organization, *States Make Progress in Co-operation to Enhance Safety of Navigation, Security and Environmental Protection in Straits of Malacca and Singapore* (Press Release, 22 September 2006).

³⁷Above n 34.

Three crucial agreements requiring user State participation were reached at the Kuala Lumpur Meeting in relation to the Straits. First, the Kuala Lumpur Meeting agreed to support a package of six projects proposed by the littoral States to be carried out in the Straits of Malacca and Singapore.³⁸ These projects have been estimated to cost USD\$ 34\$ million.³⁹ The first project consist of “the removal of ship wrecks in the Traffic Separation Scheme of the Straits of Malacca and Singapore”, the second, “cooperation and capacity building on Hazardous and Noxious Substances (HNS) in the Straits including the setting up HNS response Centres” the third, a “demonstration project on Class B automatic identification system (AIS) transponder on small ships”, the fourth project, “the setting up of tide, current and wind measurement systems for the Straits to enhance navigational safety and marine protection”, the fifth, “the replacement and maintenance of aids to navigation in the Straits” and the sixth “the replacement of aids to navigation in the Straits damaged by the 2004 tsunami.”⁴⁰

The second crucial agreement that was reached at the Kuala Lumpur Meeting was for there to be cooperation towards the establishment of a voluntary funding mechanism to meet the costs of the abovementioned projects.⁴¹ The third agreement reached was for there to be cooperation towards the establishment of a voluntary funding mechanism for the maintenance and renewal of the aids to navigation in the Straits of Malacca and Singapore.⁴²

³⁸Ibid.

³⁹Joshua Ho, *The IMO-KL Meeting on the Straits of Malacca and Singapore: Major Maritime Nations and Stakeholders Need to Do More*, Nanyang Technological University Singapore [2] <<http://www.ntu.edu.sg/rsis/publications/Perspective/IDSS1072006.pdf>> at 15 January 2007.

⁴⁰Above n 34, 15.

⁴¹Above n 34.

⁴²Ibid.

The agreements reached at the Kuala Lumpur Meeting are a significant step forward in respect of the littoral States-user States relationship and should serve as the much needed catalyst towards the implementation of a regime of shared responsibilities in the Straits of Malacca and Singapore. By having specifically identified the areas in which cooperation is required, and by requesting the necessary assistance from the user States; the littoral States have shown transparency and the will to cooperate in the Straits.

There has been no actual implementation of the proposals contained in the Kuala Lumpur Statement.⁴³ Although successful in outlining required areas for cooperation in the Straits of Malacca and Singapore, the Kuala Lumpur Meeting unfortunately failed to obtain implementation assistance from the user States of the Straits. The lack of commitment from the user States during the Kuala Lumpur Meeting sends out a clear signal of their position on the matter.⁴⁴ The reason for the lack of implementation of the projects is unclear as user State cooperation is made possible through a number of avenues. First, user States could immediately and directly participate in any of the projects proposed in the Kuala Lumpur Statement. Second, they could contribute towards the implementation of the projects through the voluntary funding mechanism, once created. Third, cooperation could also be effected by resource sharing, capacity building, training and technical support assistance.⁴⁵

⁴³Nevertheless certain proposals have been reached by the Maritime Institute of Malaysia, Centre for Southeast Asian Studies, Indonesia, S. Rajaratnam School of International Studies, Singapore, and the Nippon Foundation, Japan, on the future implementation of the Kuala Lumpur Statement during the Symposium on the Enhancement of the Safety of Navigation and the Environmental Protection of the Straits of Malacca and Singapore that was held in Kuala Lumpur from 13-14 March 2007. See *Consensus Document on Symposium on the Enhancement of the Safety of Navigation and the Environmental Protection of the Straits of Malacca and Singapore*, Maritime Institute of Malaysia <<http://www.mima.gov.my/mima/htmls/conferences/som07/CONSENSUS%20DOCUMENT.pdf>> at 17 July 2007.

⁴⁴It was observed that the United States and the shipping community were at the Meeting primarily to uphold the concept of transit passage and the right to unhampered and unimpeded navigation in the Straits rather than to focus on the issue at hand. See Ho, above n 39, 2.

⁴⁵Above n 34.

As for the establishment of the funding mechanisms, the Kuala Lumpur Statement reads that the “littoral states, user states, the shipping industry and other stakeholders should co-operate towards the establishment of a mechanism for voluntary funding the above projects and the maintenance and renewal of the aids to navigation in the Straits”.⁴⁶ The obligation contained in the Statement is clearly recommendatory in nature. As experience with the implementation of Article 43 of the LOSC 1982 dictates, where the call for cooperation is only recommendatory; it may take many years before any form of actual execution is carried out.

Possible delay in establishing these funds is compounded by the fact that no agreement has been reached on any of the operational aspects of the funds. Intricate and difficult questions would need to be considered and resolved, including those relating to the management of and contribution to the funds.⁴⁷ Criticism has also been levelled against the establishment of a separate funding mechanism in the Straits of Malacca and Singapore, in light of the existence of the Japanese-initiated Malacca Straits Revolving Fund.⁴⁸ A counter-argument to this observation lies in the fact that the function and purpose of the Revolving Fund is principally different from that of the funds proposed by the Kuala Lumpur Meeting.⁴⁹ Whilst the former primarily functions as a lending mechanism to enable the littoral States to immediately address oil spill incidences in the Straits,⁵⁰ the latter are financial mechanisms to directly fund the proposed projects as

⁴⁶Above n 34.

⁴⁷See Pal and Götsche-Wanli, above n 30, 475-494; B.A. Hamzah, ‘Funding Services in the Straits of Malacca: Voluntary Contribution or Cost Recovery?’ (1999) 3 *Singapore Journal of International & Comparative Law* 502, 502-503.

⁴⁸Hamzah, above n 47, 502, 504.

⁴⁹See Hasjim Djalal, ‘Funding and Managing International Partnership for the Malacca and Singapore Straits Consonant with Article 43 of the UNCLOS 1982’ (1999) 3 *Singapore Journal of International & Comparative Law* 457, 463.

⁵⁰*Ibid.*

identified in the Kuala Lumpur Statement, and to fund the renewal and maintenance of aids to navigation in the Straits.

Apart from serving different purposes, the fact that the Revolving Fund is primarily managed by the three littoral States of the Straits may inhibit future contributions from user States.⁵¹ It is expected that a more inclusive and transparent administrative mechanism is envisioned for the funds proposed by the Kuala Lumpur Meeting. Contributors may want to have input as to how the funds are managed and for example, for what projects and activities the funds are utilised. A complete overhaul of the mechanics of the Revolving Fund would need to be undertaken if contributions were to be made to the Fund. Such an exercise would be similar to the creation of a new fund. It may nevertheless be worthwhile to propose that *ad hoc* contributions by interested user States be made to the Revolving Fund, whilst awaiting the establishment of the funds proposed by the Kuala Lumpur Meeting.

A core issue in the littoral State-user State relationship would be addressed with the creation of the funds proposed by the Kuala Lumpur Meeting. The littoral States have always been critical of the user States for their failure both to assist financially in the initiatives to ensure the safe navigation of vessels in the Straits, and for the protection of the Straits' marine environment from vessel-source pollution. This is particularly as Article 43 of the LOSC 1982 encourages a regime of shared responsibility in these two areas.⁵² The littoral States, in particular Malaysia and Indonesia, have consistently maintained that the financial burden of managing the Straits should also be borne by the

⁵¹Ibid, 463-464.

⁵²See Hamzah, above n 47, 504-505; *Littoral States Shouldering Heavy Burden*, Says Najib, Bernama < <http://www.bernama.com.my/bernama/v3/news.php?id=250969>> at 17 July 2007.

user States, as they directly and indirectly benefit from the use of the Straits.⁵³ Whilst it was estimated that about USD\$ 300 million would need to be raised by the littoral States of the Straits to introduce new navigational safety measures in the Straits within the next decade,⁵⁴ current figures show that less than 50 per cent of vessels transiting the Strait of Malacca and Singapore come into ports situated in the littoral States.⁵⁵

In order to address the financial burden of managing the Straits of Malacca and Singapore, the littoral States have even proposed that tolls be imposed on vessels passing through the Straits.⁵⁶ Although controversial, it has been suggested that USD\$ 40 million could be generated if every vessel transiting the Straits of Malacca and Singapore contributed USD\$ 1 cent per Dead Weight Tonnage (DWT).⁵⁷ However, the feasibility of imposing tolls on vessels passing through the Straits is questionable, as the law on this matter is quite clear. Although Part III of the LOSC 1982 does not expressly contain a provision dealing with the imposition of fees on vessels exercising transit passage in straits used for international navigation, Article 26 of the LOSC 1982 prohibits charging foreign vessels, by reason only of their passage through the territorial sea of a State, unless the charge is as a payment for a specific service rendered to the vessel.⁵⁸ This being the case, it would be arguable whether the establishment and maintenance of aids to navigation in the Straits of Malacca and Singapore for instance,

⁵³Hamzah, above n 47, 505-506; Michael Richardson, *Tolls Proposed for Strait of Malacca*, International Herald Tribune <<http://www.iht.com/articles/1992/10/09/str.php>> at 17 July 2007.

⁵⁴'Security Costs in Malacca, Singapore Straits Estimated at US\$300m', *The Star* (Kuala Lumpur) 13 March 2007.

⁵⁵Ministry of Land, Infrastructure and Transport of Japan, 'Survey of Traffic Through the Straits and Japanese Perspective on International Cooperation' (Figures presented at the Tripartite Technical Experts Group (TTEG)–User States Cooperation Meeting, Singapore, 31 March 2006).

⁵⁶K.L. Koh, *Straits in International Navigation Contemporary Issues* (1982) 61-62; Richardson, above n 53; Eileen Ng, *Experts Propose Upkeep, Security Toll for Ships Using the Malacca Straits*, Canadian Business <http://www.canadianbusiness.com/markets/market_news/article.jsp?content=D8NS34E00> at 17 July 2007.

⁵⁷The Nippon Foundation, New Fund Proposed to Help Protect the Straits of Malacca and Singapore (Press Release, 14 March 2007).

⁵⁸*United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3, art 26.

could be considered as a specific service rendered to a vessel within the meaning of Article 26 of the LOSC 1982. Anderson clearly regarded these services as falling within the category of general services and distinguished them from vessel specific services of, for instance, towage and pilotage.⁵⁹ It is, according to him, this very distinction that is being reflected in Article 26 of the LOSC 1982.⁶⁰

7.2.2.2 Individual User State Cooperation in the Straits of Malacca and Singapore

The response from the user States to proposals forwarded in the Kuala Lumpur Meeting is also reflective of individual user State-littoral State cooperative arrangements in the Straits of Malacca and Singapore. There have been few bilateral initiatives between the littoral States and individual user States pursuant to Article 43 of the LOSC 1982 in the Straits. Japan is the only user State of the Straits actively participating in and contributing towards the safety of navigation and working towards the protection and preservation of the marine environment of the Straits.

In particular, Japan's concern over the safety of navigation in the Straits is explained by its need to ensure that the Straits remain accessible to vessels at all times. As Japan is the world's second largest importer of crude oil,⁶¹ the Straits are vital to Japanese economic and commercial survival, as Japan's vessels must transit the Straits in order to maintain links with the Middle East and Europe.⁶² Figures in 2004 show that vessels belonging to Japanese parent companies were the highest users of the Straits of Malacca and Singapore, amounting to 15.1 per cent and 18.6 per cent respectively from the total

⁵⁹Anderson, above n 7, 446.

⁶⁰Ibid, 446 and 453-454.

⁶¹*Top World Oil Net Importers 2006*, Energy Information Administration<http://www.eia.doe.gov/emeu/cabs/topworldtables3_4.html> at 17 July 2007.

⁶²Akio Ono, 'Japan's Contribution to the Safety and Pollution Mitigation in the Straits' in Hamzah Ahmad (ed), *The Straits of Malacca International Co-operation in Trade, Funding & Navigational Safety* (1997) 241, 242; Mark Cleary and Goh Kim Chuan, *Environment and Development in the Straits of Malacca* (2000) 136.

volume and tonnage of traffic in the Straits.⁶³ Alternative routes, though available, are more costly. As highlighted in chapter 3, passage through the Lombok-Makassar route for instance would mean an additional 1,000 nautical miles or three days journey for Japanese vessels, and could cost between USD\$ 84 billion and USD\$ 250 billion annually.⁶⁴ The Japanese involvement in the Straits which spans about 40 years has been significant.⁶⁵ Until 2005, the estimate of Japan's contribution in the Straits amounted to Yen\$ 13.2 billion for the maintenance of navigational aids, and Yen\$ 1.5 billion for purposes of environmental protection.⁶⁶

The Tokyo-based Malacca Straits Council (MSC), established in 1969 is the main body through which Japan channels its assistance in the Straits of Malacca and Singapore. The work of the MSC is supported by the Japanese Government and the Japanese maritime community through organisations such as the Nippon Foundation, the Japan Maritime Foundation, the Japanese Shipowners Association and the Petroleum Association of Japan.⁶⁷ Apart from participating in a number of joint hydrographic surveys, the MSC has also been involved in the installation, maintenance and replacement of navigational aids and the removal of shipwrecks in the Straits.⁶⁸

In 1981, the MSC and the Governments of Malaysia, Indonesia and Singapore signed a Memorandum of Understanding establishing a Revolving Fund to combat oil pollution

⁶³Ministry of Land, Infrastructure and Transport of Japan, above n 55.

⁶⁴Chia Lin Sien, 'Alternative Routes for Oil Tankers: A Financial, Technical and Economic Analysis' in Hamzah Ahmad (ed), *The Straits of Malacca International Co-operation in Trade, Funding & Navigational Safety* (1997) 103, 114.

⁶⁵A joint preliminary survey of the Strait of Malacca was conducted by Japan, Indonesia, Malaysia and Singapore, in 1969 followed by the First Joint Survey of the Strait of Malacca and Singapore in 1970. See Michael Leifer, *International Straits of the World. Malacca, Singapore and Indonesia* (1978), 40-50.

⁶⁶Ho, above n 39, 2.

⁶⁷*Fact Sheet on the Revolving Fund*, Maritime and Port Authority of Singapore <<http://www.mpa.gov.sg/infocentre/pdfs/060426c.pdf>> at 15 January 2007.

⁶⁸Ono, above n 62, 243.

from ships passing through the Straits of Malacca.⁶⁹ The MSC provided the principal sum to the Revolving Fund with a contribution of Yen\$ 400 million.⁷⁰ The primary objective of the Fund is to provide cash advances to the littoral States in the event of an oil spill in the Straits of Malacca so as to enable immediate remedial action.⁷¹ Once compensation has been received from the appropriate parties, the monies are then repaid to the Fund.⁷²

The Fund has proven to be useful on at least two occasions, the first, when it was utilised by Malaysia and Indonesia in October 1992 to combat the oil spill coming from the tanker *Nagasaki Spirit*, and the second occasion when it was utilised by Indonesia in October 2000 to combat the oil spill originating from the *Natuna Sea*.⁷³ In the former incident, Indonesia and Malaysia drew about USD\$ 660,000 and USD\$ 580,000 respectively from the Revolving Fund whilst in the latter incident Indonesia used about US\$500,260 from the Fund.⁷⁴ The Fund is managed by the Revolving Fund Committee made up by representatives of the three littoral States. Chairmanship rotates between them every five years.⁷⁵ Singapore is currently acting as Chairman to the Committee from April 2006, with the total value of the Fund amounting to USD\$ 3,845,247.⁷⁶

Apart from Japanese initiatives, China has also begun to participate in cooperative arrangements in the Straits of Malacca and Singapore. At the Kuala Lumpur Meeting,

⁶⁹Teng Kong Leong, 'The Revolving Fund: A Unique Facility' in Hamzah Ahmad (ed), *The Straits of Malacca International Co-operation in Trade, Funding & Navigational Safety* (1997) 247, 247.

⁷⁰*Ibid*, 247.

⁷¹*Ibid*, 248.

⁷²*Ibid*, 247.

⁷³*Ibid*.

⁷⁴*Ibid*.

⁷⁵Leong, above n 69, 248.

⁷⁶Maritime and Port Authority of Singapore, Singapore Takes over Management of Revolving Fund for Malacca and Singapore Straits (Press Release, 26 April 2006); *Singapore To Manage Revolving Fund*, Maritime and Port Authority of Singapore <<http://www.mpa.gov.sg/infocentre/pdfs/nl06-02.pdf>> at 20 July 2007.

China stated its willingness to “contribute our share” towards the maintenance and enhancement of the safety of navigation in the Straits.⁷⁷ At this Meeting also, China had committed to undertake the replacement of navigational aids in the Straits that were damaged by the 2004 tsunami.⁷⁸ With the expected increase in Chinese dependence on crude oil imports from the Middle East and the use of the Straits of Malacca and Singapore for their transportation, it would be worthwhile for the littoral States to consider pursuing further cooperative arrangements with the Chinese Government under Article 43 of the LOSC 1982.

7.2.3 ASEAN Initiatives and the Straits of Malacca and Singapore

Being situated within the East Asian seas region, the Straits of Malacca and Singapore have been included in a number of cooperative initiatives adopted by ASEAN to combat oil spill incidences and to regulate transboundary vessel-source pollution in their waters. Discussion follows on the Oil Spill Preparedness and Response in the ASEAN Region Project (ASEAN-OSPAR), the ASEAN-Oil Spill Response Action Plan (ASEAN-OSRAP) and the ASEAN Cooperation Plan on Transboundary Pollution, being some of the initiatives directly relevant to the issue of vessel-source pollution in the Straits of Malacca and Singapore.

The ASEAN-OSPAR was initiated by the Ministry of Land, Infrastructure and Transport of Japan in collaboration with the Nippon Foundation of Japan.⁷⁹ The aim of the ASEAN–OSPAR is to assist ASEAN member States, which include the littoral

⁷⁷‘Statement by People’s Republic of China’ (Presented at the Kuala Lumpur Meeting on the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection, Kuala Lumpur, 18 to 20 September 2006)

⁷⁸Ho, above n 39, 2.

⁷⁹*ASEAN-OSPAR Project*, Nippon Maritime Centre <<http://www.nmc.com.sg/asean-ospar.html>> at 20 January 2007.

States of the Straits of Malacca and Indonesia, in dealing with major oil, and hazardous and noxious substance spills in their waters based on the ASEAN-OSRAP.⁸⁰ Yen\$ 1 billion was donated by Japan under ASEAN-OSPAR for purposes of the development of an ASEAN Oil Spill Information Network System, and for the improvement of equipment stockpile bases in Brunei (Muara), Indonesia (Balikpapan), Malaysia (Port Klang, Johor Bahru, Penang and Labuan), Philippines (Manila, Cebu and Davao), the South of Thailand and Singapore.⁸¹

In 1993, an MOU was signed in Tokyo between the then ASEAN member States of Brunei, Indonesia, Malaysia, Philippines, Singapore and Thailand to establish the ASEAN-OSRAP.⁸² The area of responsibility for the ASEAN-OSRAP includes all waters within the exclusive economic zone of the ASEAN States and the territorial waters surrounding Singapore. This includes the waters of the Straits of Malacca and Singapore.⁸³ The ASEAN-OSRAP promotes cooperation between its member States in the area of oil spill response by calling upon these States to, amongst other things, undertake joint exercises and to facilitate transboundary movement of personnel, equipment and materials in the event of an oil spill emergency.⁸⁴ The ASEAN-OSRAP operates within the context of a tiered system and is aimed at improving the capacity of member countries to address oil spill incidences which have exceeded the response capabilities of their respective National Contingency Plans.⁸⁵

⁸⁰Ibid.

⁸¹Ibid.

⁸²Chen Tze Penn, *Prevention Measures in the South East Asian Region*, Australian Institute of Petroleum <http://www.aip.com.au/amosc/papers/chen_p.doc> at 20 July 2007.

⁸³Ibid.

⁸⁴Ibid.

⁸⁵Eka Sukmawati, *Regional Agreements for Preparedness and Response to Marine Pollution in South East Asia*, PEMSEA <http://www.pemsea.org/eascongress/docs/sessions/abstracts/4_Regional_Agreements_Sukmawati.pdf> at 17 July 2007.

In 1994, Ministers attending the Informal ASEAN Ministerial Meeting on the Environment agreed to the formulation of an ASEAN Cooperation Plan on Transboundary Pollution. This was to address, amongst other things, the problem of transboundary shipborne pollution.⁸⁶ Three objectives were identified under this plan, including the formulation of appropriate strategies and the development of specific plans to control ship borne pollution.⁸⁷ The activities listed for implementation consisted of, *inter alia*, the promotion of cooperation in enforcement activities, the encouragement of private sector participation in mitigating shipborne pollution and the establishment of on-shore reception facilities.⁸⁸ The States also undertook to strengthen existing activities in the area of marine pollution by the implementation of the ASEAN-OSRAP and through the ratification of MARPOL 73/78.⁸⁹

7.2.4 Trilateral Cooperation between the Littoral States of the Straits of Malacca and Singapore

Part III of the LOSC 1982 does not contain provisions specifically calling for strait States to cooperate with each other in straits used for international navigation. Whilst encouraging user State-strait State cooperative efforts, Article 43 of the LOSC 1982 is silent on cooperative arrangements between strait States for the safety of navigation and for the prevention, reduction and control of pollution from vessels in a strait used for international navigation.

Even so, Malaysia, Indonesia and Singapore have put in place a number of measures in the Straits of Malacca and Singapore to facilitate the safe passage of vessels and to

⁸⁶ASEAN Cooperation Plan on Transboundary Pollution, ASEAN Secretariat <<http://www.aseansec.org/8938.htm>> at 25 January 2007.

⁸⁷Ibid.

⁸⁸Ibid.

⁸⁹Ibid.

regulate pollution from vessels. Although legal and administrative mechanisms are in place with each State, their respective governments accepted that a holistic approach was necessary for the efficient management of the Straits and have been pursuing cooperative arrangements to that effect. An examination is provided of the key cooperative arrangements that have been concluded between the littoral States of the Straits in order to ensure that the Straits of Malacca and Singapore remain safe and open to vessels, while its marine resources continue to be protected and preserved.

7.2.4.1 Management of the Straits of Malacca and Singapore

One of the first major steps taken by the Governments of the littoral States of the Straits of Malacca and Singapore *as a unit* was the release of a Joint Statement on 16 November 1971 declaring that the management of the Straits of Malacca and Singapore, including the responsibility for the safety of navigation, rests fully with the strait States.⁹⁰ This position has been maintained continuously by the littoral States as illustrated by the Fourth Tripartite Meeting of Foreign Ministers of the Littoral States of the Straits of Malacca held in 2005.⁹¹ The Batam Joint Statement included declarations of the littoral States' responsibility for the safety of navigation and environmental protection in the Straits of Malacca and Singapore.⁹² The Joint Statement also encouraged the establishment of closer collaborative efforts between the littoral States of the Straits and the international community. In particular, collaborative efforts were encouraged between the user States, international agencies and shipping community in

⁹⁰'Joint Statement of Indonesia, Malaysia and Singapore on the Straits of Malacca' in Hamzah Ahmad (ed) *Malaysia and the United Nations Conference on the Law of the Sea: Selected Documents* (1983) 319, 319.

⁹¹The Singapore Ministry of Foreign Affairs, Batam Joint Statement of the 4th Tripartite Ministerial Meeting of the Littoral States on the Straits of Malacca and Singapore (Press Release, 2 August 2005).

⁹²*Ibid.*

areas of capacity building, training and technology transfer, including the provision of any other form of assistance to the littoral States in compliance with LOSC 1982.⁹³

7.2.4.2 Navigational Safety Measures in the Straits of Malacca and Singapore

A Council on the Safety of Navigation and the Control of Pollution was established by the littoral States in 1975.⁹⁴ In 1976, the Council made recommendations that a traffic separation scheme and a minimum under-keel clearance limit be implemented in the Straits of Malacca and Singapore.⁹⁵ The Meeting of Senior Officials of Indonesia, Malaysia and Singapore on the Safety of Navigation in the Straits of Malacca and Singapore in February 1977, agreed that steps would be taken to promote the safety of navigation in the Straits and adopted the recommendations of the Council.⁹⁶ These recommendations would subsequently become the basis of IMO Resolution A.375(X) of 14 November 1977.⁹⁷ This Resolution approved a new Routeing System for the Straits of Malacca and Singapore which consisted of a minimum under-keel clearance limit of 3.5 metres for the whole of the Straits, a traffic separation scheme and rules aimed at promoting the safety of navigation for vessels in the Straits.⁹⁸

⁹³Ibid.

⁹⁴GEF/UNDP/IMO, *Marine Pollution Management in the Malacca/Singapore Straits: Lessons Learned*, [59], EAS/Info/99/195 (1998).

⁹⁵Ibid.

⁹⁶Above n 14. See also Rear Admiral RM Sunardi, 'Prospects for Sub-Regional, Regional and International Cooperation in Implementing Article 43 of UNCLOS' (1998) 2 *Singapore Journal of International & Comparative Law* 442, 447; Nadaisan Logaraj, 'Navigational Safety, Oil Pollution and Passage in the Straits of Malacca' (1978) 20 *Mal. L. Rev.* 287, 300, 308-312.

⁹⁷Above n 14.

⁹⁸Ibid. In 1998, IMO approved an extension of the traffic separation scheme in the Straits, introducing three new Schemes, establishing two additional deep water routes and establishing three Inshore Traffic Zones (ITZ). See Yee Cheok Hong, 'The TTEG on Safety of Navigation, How it Has Evolved, What It Is, What It Has Achieved and What Are the Plans for the Future' (Paper presented at the Kuala Lumpur Meeting on the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection, 18-20 September 2006) 3.

7.2.4.3 The Tripartite Technical Experts Group on the Safety of Navigation in the Straits of Malacca and Singapore (TTEG)

The Tripartite Technical Experts Group on the Safety of Navigation in the Straits of Malacca and Singapore (TTEG) is the primary example of a successful collaborative effort between the littoral States of the Straits of Malacca and Singapore. The Group was established in 1977 as a culmination of the various trilateral discussions entered into since 1971 between the Governments of Malaysia, Indonesia and Singapore. The TTEG is tasked with a number of duties, including enhancing the safety of navigation in the Straits of Malacca and Singapore, promoting cooperation and coordination on anti-pollution policies and measures in the Straits and initiating consultations with the IMO and user States of the Straits.⁹⁹

The TTEG is responsible for the execution of a number of significant measures in the Straits including the implementation of the IMO-adopted Routeing System which came into force in the Straits on 1 May 1981 and the setting up of the IMO-approved mandatory ship reporting system or STRAITREP in December 1998.¹⁰⁰ STRAITREP is operational for the most congested 300 kilometre section of the Straits, from One Fathom Bank to the Singapore Strait. It is responsible for facilitating and enhancing the identification and communication capabilities between vessels and shore-based authorities.¹⁰¹ Apart from being used as a tool for the distribution of information by enabling authorities to advise transiting vessels on the traffic situation in the Straits, STRAITREP is used to assist in search and rescue operations and in response to marine

⁹⁹Ibid.

¹⁰⁰Hong, above n 98, 2.

¹⁰¹Mark Heah Eng Siang, 'Implementation of Mandatory Ship Reporting in the Malacca and Singapore Straits' (1999) 3 *Singapore Journal of International & Comparative Law* 345, 348 and 349.

incidents.¹⁰² Amongst the key features of STRAITREP is the requirement for vessels when passing through the Straits, to report information such as their name, call sign, IMO identification number and position to the coastal authorities of the littoral States.¹⁰³ Mandatory participation in STRAITREP is required from a broad category of vessels including vessels carrying hazardous goods, passenger vessels and vessels of 300 gross tonnage and above or those which are 50 metres or more in length.¹⁰⁴

The TTEG has also embarked on a number of collaborative projects with Japan including the Four Nation Joint Re-Survey of the Straits of Malacca and Singapore carried out between September 1996 and June 1998.¹⁰⁵ This project subsequently led the IMO to adopt an extension to the existing traffic separation scheme in the Straits of Malacca and Singapore in 1998.¹⁰⁶ More important though, is the role that the TTEG plays towards the generation of continued discussions between the littoral States and the user States of the Straits, on possible cooperative agreements that may be reached in the Straits of Malacca and Singapore. The organisation of the First TTEG Familiarisation Meeting with User States in December 2004¹⁰⁷ and the TTEG-User States Cooperation Meeting in March 2006, are both illustrative of this particular function.¹⁰⁸

¹⁰²Ibid, 349.

¹⁰³Ibid, 348.

¹⁰⁴Ibid, 347.

¹⁰⁵Hong, above n 98, 2.

¹⁰⁶Ibid.

¹⁰⁷The First TTEG Familiarisation Meeting with User States was held in Jakarta in December 2004 and was attended by user state delegates from China, the Republic of Korea and Japan. See Hong, above n 98, 3.

¹⁰⁸The TTEG-User State Co-Operation Meeting was held in Singapore on 31 March 2006 and was attended by user state delegates such as Australia, China, Japan Panama, Republic of Korea the United Kingdom and the United States. See 'Summary Record of the Tripartite Technical Experts Group User States Cooperation Meeting' (Record presented at the Tripartite Technical Experts Group User states Cooperation Meeting, Singapore, 31 March 2006).

7.5 Conclusion

Cooperation between strait States and user States under Article 43 of the LOSC 1982 for the establishment, maintenance and improvement of navigational and safety aids and for the prevention, reduction and control of pollution from vessels, has yet to see satisfactory international implementation. The efforts of individual user States-littoral States cooperation in the Straits of Malacca and Singapore indicate this disappointing trend. Although the littoral States of the Straits have clearly expressed that the management of the Straits of Malacca and Singapore is primarily their responsibility, calls have been and continue to be made for user States to assist in burden sharing. This chapter has shown that with enough political will and commitment, meaningful long term cooperation can be achieved, as in the case of Japan. The MEH and the agreement reached at the Kuala Lumpur Meeting for the littoral States, user States and other stakeholders of the Straits, to cooperate towards establishing a mechanism for voluntary funding are nevertheless commendable efforts. However, the commitments made would need to be translated into action, as delay in implementation would only mean that the littoral States of the Straits continue to carry the burden of managing the Straits of Malacca and Singapore on their own.

It is further observed that whilst the framework for cooperation under paragraph (a) of Article 43 of the LOSC 1982 for the establishment, maintenance and improvement of navigational aids in the Straits of Malacca and Singapore is well developed, the same cannot be said in relation to the littoral States-user States initiatives for the prevention, reduction and control of pollution from vessels. For instance, the majority of the cooperative arrangements under the auspices of the IMO and the Malacca Straits Council are aimed towards ensuring the safe navigation of vessels in the Straits rather

than aiming to address vessel-source pollution. The same can also be concluded in relation to the discussions and agreements reached at the Jakarta and Kuala Lumpur Meetings, wherein the projects and funding mechanisms proposed are focused primarily on the improvement of navigational safety in the Straits.

However, it is difficult to confine user State cooperation in the Straits as purely implementing either paragraph (a) or paragraph (b) of Article 43 of the LOSC 1982. This because the implementation of cooperative measures to ensure the safe navigation of vessels in the Straits would also ultimately meet the objectives of paragraph (b) of Article 43 of the LOSC 1982 which is to prevent, reduce and control pollution from vessels. In the Straits of Malacca and Singapore particularly, where the problem of vessel-source pollution from both, pollution originating from vessel operational discharge and from discharge as a result of vessel accidents; user States cooperation towards the establishment, maintenance and improvement of navigational aids in the Straits addresses this problem in its overall context.

CHAPTER 8

CONCLUSION

The Straits of Malacca and Singapore are one of the most important watercourses in the world. They are vital for the development and overall survival of Malaysia, Indonesia and Singapore and are an essential transportation conduit for the regional and international maritime community. The strategic significance of the Straits lies in the fact that they are the shortest and cheapest link for vessels travelling between the Indian Ocean and the Pacific Ocean. In particular, the East Asian giants of China, Japan and South Korea rely on the Straits for the transportation of most of their energy needs, and notably, for the importation of oil from the Middle East. The importance of the Straits to maritime transportation is evidenced by the high volume of vessels using the Straits, with a projected estimate of 141,000 vessels passing through annually by the year 2020.

With such large a concentration of activities in and around the area, pollution has been a long-standing problem in the Straits of Malacca and Singapore. Chapter 3 established the problem of vessel-source pollution as a result of the high vessel use and activities in the Straits. The burgeoning demand for, and supply of, oil and goods to and from the East Asian economies exacerbates this problem, and has made the Straits even more vulnerable to vessel-source pollution. In light of the seriousness of the problem, the effective regulation of vessel use and activities in the Straits of Malacca and Singapore by the littoral States of the Straits is essential. As such, the purpose of this thesis was to examine the regulatory mechanisms implemented by the littoral States of the Straits of Malacca and Singapore to address the problem of vessel-source pollution, be it as a result of vessel

operational discharge or as a result of vessel accidents, based on the international regulatory framework for the control of vessel-source pollution in straits used for international navigation.

In pursuit of this objective, the thesis established that the littoral States of the Straits are confined within the limits of the provisions of Part III of the LOSC 1982 and specifically are subject to the regime of transit passage in straits used for international navigation as established therein. In tracing the historical background of the adoption of Part III of the LOSC 1982, Chapter 4 identified the divide that exists between the strait States, which are anxious to protect and preserve their interests in straits used for international navigation, and maritime States, which desire to ensure vessel accessibility through, in their view, indispensable global maritime transportation and communication links.

Part III of the LOSC 1982, whilst generally considered as establishing a regime that bridges the gap between these two differing positions, grants very limited prescriptive and enforcement powers to strait States to address the problem of vessel-source pollution in straits used for international navigation. Chapter 5 examined this issue and highlighted the fact that the prescriptive powers of strait States under paragraph 1(b) of Article 42 of the LOSC 1982 are confined to the implementation of discharge standards as adopted by international instruments. An example of this is MARPOL 73/78, which deals with the release of oil, oily wastes and other noxious substances into straits used for international navigation. Apart from this narrow prescriptive jurisdiction, chapter 5 also demonstrated the difficulty faced by strait States in implementing the provisions of Article 233 of the LOSC 1982, most notably as a result of interpretational issues regarding the provision

itself, and as a result of possible conflict with the rights of the vessels to unhindered transit passage in straits used for international navigation.

This thesis has nonetheless shown that although the provisions of Articles 42 and 233 of the LOSC 1982 established an unfavourable system, in terms of a strait State's prescriptive and enforcement power to regulate vessel activities for the purposes of combating vessel-source pollution, such a system is supplemented by other provisions of Part III of the LOSC 1982. These support the overall objective of the prevention, reduction and control of pollution from vessels in straits used for international navigation. Paragraph 1(a) of Article 42 of the LOSC 1982, for example, grants strait States the right to adopt navigational safety measures in the form of traffic separation schemes and sea lanes in straits used for international navigation. Such measures, although being labeled as navigational safety and maritime regulatory measures, in fact go towards assisting strait States in regulating the problem of pollution from vessels, particular pollution as a result of vessel accidents.

The thesis also examined two additional provisions contained in Part III of the LOSC 1982 which facilitate the prevention, reduction and control of pollution from vessels in straits used for international navigation. Article 39 of the LOSC 1982 requires vessels exercising transit passage to comply with general international regulations pertaining to the prevention, reduction and control of pollution from vessels whilst in straits used for international navigation, irrespective of any strait State legislation developed under Article 42 of the LOSC 1982. To supplement the regulatory framework established in Part III of the LOSC 1982, Article 43 of the LOSC 1982 calls for strait States and user States of a strait used for international navigation to enter into cooperative agreements for the

prevention, reduction and control of pollution from vessels, and for the establishment, improvement and maintenance of navigational safety aids in such straits.

The legal framework adopted by the littoral States of the Straits of Malacca and Singapore to address the problem of vessel-source pollution in the Straits was examined in chapters 6 and 7 against this international legal background. However, the area of analysis for chapter 6 was confined to the Malaysian territorial waters of the Strait of Malacca, and as such, were limited to the legal framework established by Malaysia. As a result of the analysis carried out in chapters 6 and 7, two conclusions are drawn.

First, it is concluded that that a lacuna exists in the regulation of vessel-source pollution in the Malaysian territorial waters of the Strait of Malacca, specifically in addressing the problem of pollution arising from vessel operational discharges. This is due to the fact that Malaysia has yet to adopt legislative measures to implement the discharge standard requirements in paragraph 1(b) of Article 42 of the LOSC 1982. Furthermore, the existing domestic marine pollution laws that are being implemented in this area are inconsistent with the provisions of Article 42 of the LOSC 1982. Although the application of domestic legislation to address the problem of vessel operational discharges in the Malaysian territorial waters of the Strait of Malacca places Malaysia in contravention of the LOSC 1982, not applying its domestic laws would result in this area being without any form of regulation. Malaysia's failure to implement the requirements of paragraph 1(b) of Article 42 of the LOSC 1982 also results in it being unable to exercise its enforcement powers pursuant to Article 233 of the LOSC 1982. Recognising this legal quandary, the thesis proposed that Malaysia undertake the necessary legislative reforms to bring its marine

pollution laws in line with the provisions of paragraph 1(b) of Article 42 of the LOSC 1982 for implementation in the Malaysian territorial waters of the Strait of Malacca.

The measures proposed for the reformation of the Malaysian legal framework within this area are divided under two headings. The first consists of the adoption of *ad hoc* measures which may be undertaken immediately. These include the adoption of a regulation under the relevant Malaysian domestic legislation specifying acceptable conditions for the discharge of “oil, oily wastes and other noxious substances” into the Malaysian territorial waters of the Strait of Malacca, in line with the permissible discharge standards under MARPOL 73/78, or through the inclusion of a general savings clause in the said legislation which emphasises conformity to the provisions of the LOSC 1982. As a permanent move, the thesis recommends that Malaysia adopt the necessary domestic legislation to implement the provisions of MARPOL 73/78 in its territorial waters, with the exception that only certain discharge standards be applicable in the Malaysian territorial waters of the Strait of Malacca.

Second, the thesis demonstrates the ineffective implementation of Article 43 of the LOSC 1982 in the Straits of Malacca and Singapore. It showed that meaningful cooperation between littoral States and user States to address the problem of pollution from vessels in the Straits has yet to fully materialise in the Straits. Although the littoral States of the Straits have clearly expressed their will to cooperate with user States of the Straits, with calls for ‘burden sharing’ continuously being made, cooperation from individual user States have not been forthcoming. The exceptions to this are Japan, and to some extent China. Even where financial assistance is received, for instance as part of a larger IMO initiated

project, the focus of initiatives is primarily on the issue of vessel navigational safety, rather than the specific problem of vessel-source pollution in the Straits. However, the thesis recognises that the implementation of cooperative measures to ensure the safe navigation of vessels assists the achievement of the overall objective of the prevention, reduction and control pollution from vessels.

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APPENDIX A

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