Accounting for Feasible Cost Sharing Cooperation in the Straits of Malacca and Singapore: Navigational Safety and Marine Pollution

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Abstract

Cost sharing between straits states and users in the areas of safety of navigation and marine pollution in the Straits of Malacca and Singapore are vitally important because half of the world trading goods and oil pass through these waterways. As a consequence, active engagement between the two parties is central to facilitate safe transport of goods through the Straits. Nevertheless, although a number of cooperation initiatives have been established to facilitate further dialogue between the three littoral states and concerned businesses there is still a great deal to be done to formulate a mechanism for cost sharing between the governments and business. Apart from the contribution of the Nippon Foundation through the Malacca Straits Council to the safety of navigation of the Straits of Malacca and Singapore, there has been no sustained partnership with other private actors. Given the important to maintain the navigational safety and pollution prevention measures both for the straits states and users, the lack of cooperation is indeed puzzling. This thesis addresses this puzzle by applying elite interviews in Indonesia, Singapore and the United Kingdom and document analysis.

This thesis surveys various cooperation and cost sharing examples around the world. It addressed a number of available mechanism for cost sharing including those that incorporated the recovery costs system; fees for user states and fee for private users. This study suggests that the available examples provide a guideline for developing cost sharing system, particularly in calculating the total amount of share for each relevant stakeholder. Drawing from the cost sharing examples this research argues that a cooperation framework under the auspice of the IMO would serve as a feasible option. Nevertheless, in term of practical reason due to the high cost of building a new cooperation institution and long process for states to negotiate a new arrangement, a new cost sharing scheme to improve navigational safety and pollution prevention is likely to work better through the existing Cooperative Mechanism, a cooperation initiative that was resulted from the IMO sponsored meetings on the Straits of Malacca and Singapore. Instead of building a new institution, the Cooperative Mechanism could be adapted to facilitate a new system of cost sharing.

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Acronyms

AIS	Automatic Identification System
AMIS	Australian Maritime Information System
ANF	Aids to Navigation Fund
CLC	International Convention on Civil Liability for Oil Pollution Damage
CRISTAL	Contract Regarding an Interim Supplement to Tanker Liability for C Pollution
EEZ	Exclusive Economic Zone
ETV	Emergency Towing Vessels
EU	European Union
ICS	International Chamber of Shipping
IIP	International Ice Patrol
IMO	International Maritime Organization
IMCO	Inter-Governmental Maritime Consultative Organization
INTERTANKO	International Association of Independent Tanker Owners
IOPC	International Oil Pollution Compensation
ITIA	International Tanker Indemnity Association Ltd
ITOPF	International Tanker Owners' Pollution Federation
JTA	Joint Technical Arrangement
MEPC	Marine Environment Protection Committee
GLAs	General Lighthouse Authorities
GLF	General Lighthouse Fund
LOSC	Law of the Sea Convention
MARPOL	International Convention for the Prevention of Pollution from Ships
OPPRC	International Convention on Oil Pollution Preparedness, Response a Cooperation
PCC	Project Coordination Committee
P&I	Protection and Indemnity
PSSA	Particularly Sensitive Sea Area
SDR	Special Drawing Rights

SOLAS	Safety of Life at Sea
SOM	Senior Official Meeting
STWC	Standards of Training, Certification and Watch keeping for Seafarers
TOVALOP	Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution
TTEG	Tripartite Technical Expert Group
UK	United Kingdom
UKC	Under Keel Clearance
UN	United Nations
US	United States

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Chapter 1 Introduction

1.1 Background and Context

Safety of navigation and marine pollution in the Straits of Malacca and Singapore are important issues both for strait states and the international maritime community. The Straits are an area of enormous significance. The majority of Middle-East oil exports to Asia and most commerce between Asia and Europe pass through this 610 mile long strait.[1] At least 400 ships navigate through the Straits of Malacca and Singapore every day.[2] This includes 72 per cent of super tankers and other vessels plying between the Indian and Pacific Oceans making these Straits the busiest Sea Lane of Communication and sea lane of oil trade globally. At its narrowest point the Straits are only 1.7 miles wide and 25 meters deep at its shallowest point, creating a natural bottleneck and making it vulnerable to potential collisions, grounding, oil spills or terrorist attack.[3] In the period after 11 September 2001, the potential maritime terrorism and sea robbery in the Straits have grabbed headlines in the media but for littoral state officials and the concerned shipping businesses the safety of navigation is deemed a more immediate concern because of the risk of collision, grounding, and near misses particularly at the shallow and narrow points in the Straits of Malacca and Singapore.[4]

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1 P.L. Coutrier (1988). "Living on an Oil Highway". *Ambio* 17:3, p. 186

2 Interview with Indonesian Navy official Jakarta, Indonesia, July 14th, 2010

3 Reuters, "Security Raised in Malacca Strait after Terror Warning", March 4th, 2010 available at http://www.reuters.com/article/2010/03/04/us-malacca-threat-idUSTRE62335120100304, accessed March 15th, 2011; The United States Energy Information Administration, "World Oil Transit Chokepoints: Malacca", available from http://www.eia.doe.gov/cabs/world_oil_transit_chokepoints/malacca.html, accessed March 28th, 2011

4 Interview with a spokesperson of an international shipping operator, Singapore, August 19th, 2010; Interview with head of marine section, international re-insurance company, Singapore, August 17th, 2010

Figure 1. Map of the Straits of Malacca and Singapore

Source: http://www.welt-atlas.de/map_of_strait_of_malacca_6-847

As both littoral and user states and public and private sectors share interest in the improvement of safety of navigation an institutionalized cost sharing mechanism for safety of navigation in the Straits is deemed important. In recent years the Cooperative Mechanism and its Forum have been established to facilitate further dialogue between the three littoral states and concerned businesses. Despite these new efforts there is still a great deal to be done to formulate a mechanism for cost sharing between the governments and business. Apart from the contribution of the Nippon Foundation through the Malacca Straits Council to the safety of navigation of the Straits of Malacca and Singapore, there has been no sustained partnership with other private actors.

1.2 Scope and Objectives

This research investigates cooperation to improve navigational safety and control of pollution in the Straits of Malacca and Singapore. Drawing from a variety of cost sharing practices worldwide, this research examines feasible cooperation options for the Straits of Malacca and Singapore. The main questions posed by this research are: What types of burden sharing mechanisms could be legally instituted in the Straits? What are the advantages and disadvantages of these mechanisms? What are the obstacles thereto?

This research looks into a number of compensation mechanisms under the 1969 Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP), the 1971 Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL) and the 1992 International Fund for Compensation for Oil Pollution Damage (IOPC); a number of cost sharing practice in non straits areas including the Red Sea; North Atlantic and English Channel; and the cost sharing partnership in other international straits including the Straits of Dover and Torres. Similar to the Straits of Malacca and Singapore, the Strait of Torres and Dover are all located under the jurisdiction of more than one state. The Strait of Torres lies between Australia and New Guinea. The Strait of Dover falls entirely under French and British maritime jurisdiction. Comparable to the Straits of Malacca and Singapore, the Straits of Torres and Dover are among the busiest straits in the world. Due to the traffic density the risks of collision and stranding remain very high in these Straits.[5]

Through the process of mapping these cost sharing practice this research offers new options to strengthen the safety of navigation in the Straits of Malacca and Singapore. It develops a practical mechanism for managing cost sharing between the littoral states and private sector maritime interests. This research provides a functional policy solution to a problem which has frequently been highlighted by officials and businesses.

1.3 Method

This research uses a comparative method which primarily focuses on case comparison.[6] Applying the logic of comparison, this research will compare and examine cost sharing mechanism in the Straits of Malacca and Singapore with other cost sharing practice in the world.

This research analyzes the two areas of development that have become important focuses of maritime cooperation. These are cost sharing to install and maintain navigational aids and to tackle marine pollution in maritime areas. Cooperation in these two areas is worth studying for

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[5] Thomas Degre, (1995). "The Management of Marine Traffic, A Survey of Current and Possible Future Measures", *Journal of Navigation* 48:1 at 53

[6] Charles C. Ragin, *The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies*, (Berkeley: University of California Press, 1989), at 16

two reasons. First, cooperation in both policy areas is important because of the nature of these issues. The issue of safety of navigation and pollution caused by maritime accidents are not new issues. These two issues has been a recurrent challenge and have consistently emerged in diplomatic dialogues between states, particularly, since the Second World War as the revolution of technology in maritime domain has brought substantial increase in size and speed of vessels. This technological development coupled with extreme diversification of marine activities ranging from traditional activities such as fishing and passenger transport to undersea construction sites for installation and maintenance of pipelines have increased the scale of risks of accidents at busy straits. [7]

Second, navigational safety and marine pollution are important because these issues may pose significant challenge to the states' economic, security and environmental sustainability. Marine accidents including collision and grounding bring devastating consequences, not only in terms of economic and financial consequences to the adjacent and user countries but also human losses and environmental damage.

The research methods for this thesis consist of the following steps. First, an intensive literature review focusing on the historical aspect of cost sharing; legal basis for cooperation and the establishment of cost sharing mechanism; explanation on various cost sharing mechanisms in the world and cooperation in the safety of navigation and pollution prevention/control in the Straits of Malacca. The initial findings from the literature review will be compared and analysed against interviews results and documents sources that I gathered from my field work. Second, in order to seek the views of stakeholders with an interest in improving the safety of navigation direct observation I carried out in-depth interviews. These stakeholders include government officials, insurance providers, and ship owners associations. This research uses a semi-structured interview method using open-ended questions. Finally, this research uses qualitative analysis of interview results and documents to identify safety of navigation problems articulated by various stakeholders and to examine their relations to the implementation of cost sharing practice.

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[7] Thomas Degre, (1995). "The Management of Marine Traffic, A Survey of Current and Possible Future Measures", at 53, 59.

1.4 Overview of Report

The research is structured as follows. Following the introduction chapter, chapter two discusses the historical aspects of cooperation and cost sharing practices in non straits areas and in international straits. This chapter traces the historical development of burden sharing in key waterways and highlights the differences of cost sharing practice in the past and in present.

Chapter three explains the legal basis relating to cooperation to establish and maintain navigational aids and to prevent and control pollution from ships. This chapter elaborates legal framework for management of international straits, the power and duties of strait and flag states and legal framework for international cooperation. Legal discussion of the cooperation for safety of navigation and control of pollution becomes the basis for analyzing cost sharing partnerships in key straits used for international navigation which will serve as a key focus for the following chapters.

Chapter four explains the cost sharing partnerships in straits and in other waterway used for international navigation. This chapter surveys two straits areas including the Dover Strait and Torres Strait. It also explains the cost sharing practices in international navigation including the compensation mechanisms under the TOVALOP, CRISTAL and the 1992 IOPC Funds; cost sharing to finance the North Atlantic Ice Patrol; contribution for the maintenance of Red Sea Lights and light dues for vessels navigating through the UK waters. Drawing upon the modalities of financial support chapter four categorised these cost sharing practices into three main groups. These are recovery costs model; fees for relevant states model and fees for private users model.

Chapter five discusses the development of cooperation for safety of navigation in the Straits of Malacca and Singapore. This chapter provides the historical account of partnership between public and private sector in improving navigational safety and developing pollution prevention and control measures in the Straits. It identifies the current gaps and challenges in cooperation and cost sharing partnerships in the Straits. This chapter then proceeds to analyse the relevance

and significance of each cost sharing practice discusses in chapter four and the legal feasibility in applying these cost sharing models to the Straits of Malacca and Singapore. It expands the analysis on how the cost sharing proposal for Dover Straits; compulsory pilotage at Torres Strait; compensation mechanisms under the TOVALOP, CRISTAL and the 1992 IOPC Funds; burden sharing for the maintenance of Red Sea lights and North Atlantic Ice Patrol can contribute in finding feasible cost sharing partnership in the Straits of Malacca and Singapore.

Chapter six serves as the conclusion chapter of this research. It brings together key arguments and the main findings presented in the preceding chapters. This chapter also explains both the limitation and the contribution of this research to maritime cooperation study.

Chapter 2 The Historical Account of Cooperation and Cost Sharing Partnerships in Key Waterways

2.1. Introduction

Costs sharing for the management of straits have been utilized historically in a number of key waterways. In the past the payment for passage through rivers and canals as well as international straits had been applied to sea-going vessels by the coastal states. This payment was aimed to compensate for the costs of the establishment and maintenance of navigational aids, as well as the provision of armed forces to escort vessels in order to deter pirates.

2.2 Cost Sharing in non Strait Areas

Payment of tolls through non straits areas including rivers and channels has been a normal practice that dated back since the 16th century. The King of Poland during the 16th and the 17th century levied dues from ship masters at the city of Konigsberg-Pillau, Memel and Danzig.[8] In 1700 Norway demanded dues from vessels to pay their duties at the city of Bergen.[9] In a similar vein, a French proclamation in November 1792 pertaining to the riparian states' rights over rivers that flowed across their territories influenced the practice of payment for passage through the Rhine River.[10] The Rhine riparian states collected tolls from vessels plying through the river for almost a decade until the Paris Declaration (1802), an act (1803) between the Holy Roman Empire and France and the Paris Convention (1804) between the Empire and France that abolished the implementation of tolls, customs duties and other navigation dues on the Rhine.[11] The establishment of the 1868 Convention for Rhine Navigation between France, the Grand Duchy of Baden, Bavaria, the Grand Duchy of Hessen, the Netherlands and Prussia confirmed that the navigation from Basel to the open sea was free to the vessels of all countries.[12]

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[8] J.H.W. Verzijl, *International Law in Historical Perspective* (Leiden: A.W. Sijthoff-Leyden, 1971), at 138

[9] *Ibid*., at 138

[10] Lilian del Castillo-Laborde, "Case Law on International Warercourses", in Joseph W. Dellapena & Joyeeta Gupta (eds), *The Evolution of the Law and Politics of Water* (Delft: Springer, 2009), at 330

[11] *Ibid*

[12] Inland Transport Committee, "Circulation of Information Concerning Existing Bilateral and Multilateral Agreements for International Inland Water Transport: Revised Convention for Rhine Navigation of 17 October 1868", TRANS/SC.3/R.158/Add.413 September 1993 available from

At present, payment for anchorage at port continues to be the norm. The United Kingdom (UK) HM Customs for instance has been collecting Light dues from all ships entering or leaving ports.[13] These Light Dues have been used to finance the establishment and maintenance of lighthouses, light vessels, buoys and beacons provided by Trinity House, the Northern Lighthouse Board (responsible for Scotland and the Isle of Man) and the Commissioners of Irish Lights (responsible for the waters around the Northern Ireland and the Republic of Ireland) since 1514.[14] Canada and Australia also employ a system that is similar to the UK.[15] Sweden uses analogous mechanism that is known as fairway dues. The Swedish authority imposes dues based on how far ships travel up the estuaries.[16] The Netherlands' government levies dues through collecting pilotage services fees. [17]

In addition to the implementation of tolls in non straits areas above payment for passage has also been employed in straits used for international navigation in the past. These include the Malacca Straits, Turkish Straits, and Danish Straits. The next section discusses both the implementation of tolls and the changes of passage regime in these key straits.

2.3 The Abolition of Dues in the Straits of Malacca

During the Portuguese occupation of Malacca from 1511 to 1641 the colonial authority issued passes and exacted tolls from all merchants' vessels navigating through the Straits.[18] In 1641 the Dutch East India Company challenged the Portuguese and took over Malacca.[19] The

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http://www.unece.org/fileadmin/DAM/trans/doc/finaldocs/sc3/TRANS-SC3-R158ad4e.pdf. Last accessed 25 July 2012.

[13] Alfred Collins, "River and Harbour Pilotage in the UK", available from http://www.mariners-l.co.uk/UKPilots.html. Last accessed 10 August 2012.

[14] M.M. Sibthorp (ed), *The North Sea Challenge and Opportunity: Report of a Study Group of the David Davies Memorial Institute of International Studies* (London: Europa Publications) at 189;Trinity House, "Funding", available from http://www.trinityhouse.co.uk/th/about/funding.html. Last accessed 10 August 2012.

[15] United Kingdom Parliament, "Light Dues", available from http://www.publications.parliament.uk/pa/cm200203/cmselect/cmtran/783/78311.htm. Last accessed 10 August 2012.

[16] *Ibid*

[17] *Ibid*

[18] Nordin Hussin, *Trade and Society In the Straits of Melaka: Dutch Melaka and English Penang, 1780-1830* (Copenhagen: Nordic Institute of Asian Studies Press, 2007), at 21

[19] Diane Kraal, "Of Taxes: An enquiry into Dutch to British Malacca 1824-1839", Tax History Conference, University of Cambridge (Lucy Cavendish College), UK, at 7 available from

Dutch retained the Portuguese system and maintained control over the passage.[20] The Dutch authorities frequently patrolled the waterways and collected passage tolls.[21] They introduced higher dues than those that were imposed by the Portuguese and their monopoly practices also involved forcing merchants' vessels to dock at designated ports, where customs duties were collected.[22]

Since the Dutch held control over the Straits of Malacca the British felt the urgent importance of retaining access to free of navigation into the region.[23] Foreign Secretary, Lord Grantham instructed the British envoy "Dutch have hitherto kept themselves Masters of Navigation of the Eastern Seas...It will...be necessary that the liberty of navigating those seas should be asked for and granted...".[24] Britain finally obtained the opportunity to abolish Dutch control over the straits through the Anglo-Dutch negotiation in the early 19th century. As part of the agreement Britain gained Malacca, Dutch establishments in India and Dutch acceptance of British occupation of Singapore.[25] An agreement was signed by both parties in London on 17 March 1824.[26] The London treaty established free passage for all vessels through the Straits of Malacca.

2.4. The Abolition of Dues in the Straits of Danish

The most crucial event that strengthened the core principle of free passage in international straits took place a couple of decades after the abolition of duties in the Straits of Malacca.

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http://www.ctl.law.cam.ac.uk/tax_history_conference/papers_2012/tax_history_2012%20brit%20malacca%20tax%20paper%20d%20kraal%2024%2005%2012.pdf ; Internet; accessed 23 July 2012

[20] K.E. Shaw. *The Straits of Malacca*. (Singapore: University of Education Press, 1973), 89-91 as cited in Jon M. Van Dyke,'Transit Passage through International Straits', in A. Chircop, T. L. McDorman, and S. J. Rolston (eds), *The Future of Ocean Regime-Building* (Martinus Nijhoff, 2008), 175-232, at189; Nordin Hussin. Trade and Society In the Straits of Melaka, at 21

[21] Nordin Hussin. Trade and Society In the Straits of Melaka, at 23; Diane Kraal, "Of Taxes: An enquiry into Dutch to British Malacca 1824-1839", at 7

[22] *Ibid*

[23] H.H. Dodwell, "The Straits Settlements, 1815-1863", in J. Holland Rose, A.P. Newton and E.A. Benians (eds), *The Cambridge History of the British Empire: Volume II The Growth of the New Empire 1783-1870* (Cambridge: Cambridge University Press, 1961), at 603-604; Nicholas Tarling, *Imperial Britain in South-East Asia* (Kuala Lumpur: Oxford University Press, 1975), at 20-21

[24] Nicholas Tarling. *Imperial Britain in South-East Asia*, at 10

[25] Nicholas Tarling. Imperial Britain in South-East Asia, at 20-21; H.H. Dodwell, "The Straits Settlements, 1815-1863", at 604

[26] H.H. Dodwell, "The Straits Settlements, 1815-1863", at 603; K.E. Shaw. *The Straits of Malacca*, 89-91 as cited in Jon M. Van Dyke,Transit Passage through International Straits, 2008, at 189

This was marked by the changing of the passage regime that governed the Danish Straits. The exaction of levy on the Danish Straits was the longest in comparison to other straits since it lasted for more than four centuries. The history of the openness of the Danish straits is particularly important not only in transforming the navigational regime in these straits, but also in denoting the final establishment of the free passage principle in straits used for international navigation.[27]

For 427 years (1429-1857) the Danish authority collected a levy on foreign vessels passing through the Danish Straits that comprised of the Great Belt, the Little Belt and the Sound.[28] Two arguments provided justifications for their actions. First, the Danish authorities claimed that Denmark owned both sides of the straits and second, they asserted that Denmark was the government that bore the costs for the aid to navigation devices including buoys and lights on the straits.[29] The Danish King Eric of Pomerania began to impose levy on foreign vessels plying through the straits to assert Denmark's sovereign rights.[30] At their peak, the duties collected in the Danish Straits made up two-thirds of the kingdom's budget.[31] In the beginning, cargo was not used as a means to measure the duty.[32] This practice changed during the era of Christian I (1426-81) when the weight of the cargo was used to determine the dues.[33]

Over the years foreign governments and merchants protested against the implementation of these duties as the Danish authority unilaterally fixed and repeatedly increased them.[34] In the first half of the 19th century the British became the first nation to challenge the implementation of the due directly by shelling Copenhagen in 1801 and capturing the Danish fleet in 1807.[35]

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27 Pitt Cobbett. *Cases on International Law Vol.I* (London: Sweet & Maxwell Limited, 1931), at 144

28 *Ibid*., at 143; International Court of Justice, *International Court of Justice Pleadings, Oral Arguments, Documents: Case Concerning Passage through the Great Belt (Finland v Denmark)* (The Hague: United Nations Publications, 2000), at 245

29 Pitt Cobbett. *Cases on International Law*, at 143

30 *International Court of Justice Pleadings, Oral Arguments, Documents: Case Concerning Passage through the Great Belt (Finland v Denmark)*, at 244

31 *Ibid.*, at 244

32 *Ibid.*, at 245

33 *Ibid.*, at 245

34 J.H.W. Verzijl. *International Law in Historical Perspective*, at 130-131; Jon M. Van Dyke, "Transit Passage through International Straits", at198

35 Jon M. Van Dyke, "Transit Passage through International Straits", at 198

Prussia on behalf of the European maritime powers sought to negotiate an end to the dues. Yet this negotiations attempt broke down in February 1845.[36]

A leap forward in the protest against these dues took place when the U.S. Ambassador to Denmark, Henry Bedinger on April 14th, 1855 announced Americans refusal to pay these dues to the Danish government from April 14th, 1856 onwards.[37] The U.S. questioned the legality of the imposition of charge and argued that the Danish action was a violation of the principle of freedom of navigation.[38]

Responding to the growing protests, the Danish government set up a plan to terminate the application of the dues and to provide appropriate compensation to Denmark.[39] To determine the compensation the Danish government used the payments from 1842-1853.[40] The most important duties during this period were the actual dues, "which were paid for the transit of different commodities of the ships" and the lighthouse fees, "which were paid by the ships whether they were loaded or ballasted".[41] In October 1855 the Danish government notified foreign governments of their proposal to end dues in return for compensation to Denmark and they convened an international conference in Copenhagen to address the issue. [42] After one year of extensive negotiations, all the contracting parties reached an agreement. They agreed to compensate the Danish government with a payment of 30 million rig dollars (an estimated amount of £ 238,800,000) which was calculated on the basis of the shares of 15 European powers.[43] Every nation was obliged to pay their share over twenty years.[44] This agreement

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36 J.H.W. Verzijl. *International Law in Historical Perspective*, at 137

37 *International Court of Justice Pleadings, Oral Arguments, Documents: Case Concerning Passage through the Great Belt (Finland v Denmark)*, 245; Edy Somers. "The Legal Regime of the Danish Straits", at 16 .*The Proceedings of the Symposium on the Straits Used for International Navigation* 16-17 November 2002, Istanbul-Turkey; available from http://www.tudav.org/new/pdfs/navigation_straits.pdf; Internet; accessed 23 July 2012

38 Pitt Cobbett, *Cases on International Law*, at 143

39 *International Court of Justice Pleadings, Oral Arguments, Documents: Case Concerning Passage through the Great Belt (Finland v Denmark)*, at 245

40 *Ibid.*, at 245

41 *Ibid.*, at 245

42 *Ibid.*, at 245

43 Pitt Cobett, *Cases on International Law*, at 144; Hansard United Kingdom Parliament, "Sound Dues-Committee, HC Deb 05 June 1857 vol 145 cc1217-48", available from http://hansard.millbanksystems.com/commons/1857/jun/05/sound-dues-committee. Last accessed 23 August 2012.

paved the way for the signing of the Treaty on the Redemption of the Sound Dues between Denmark and other European maritime powers on March 14th, 1857 which ended the dues.[45] The U.S. refused to join the 1857 treaty but later became a party to the U.S.-Denmark Convention of 1858. The bilateral agreement stipulated that the Denmark government maintain free passage to American vessels in return of a payment of £79,757 (an estimated amount of 10,021 rig dollars).[46]

On one hand the conclusion of the Sound Dues treaty reinforces the existing customary law for free passage through international straits.[47] On the other hand this treaty also shows that user states still felt it necessary to compensate Denmark.

Since the signing of the Sound Dues treaty to abolish these dues, no other multilateral convention has been formulated to regulate transit passage in the Danish or Baltic Straits.[48] The Treaty of Versailles signed in 1919 also affirms the free passage in the Baltic Straits. Article 195 of the Treaty of Versailles ensured "the free passage into the Baltic to all nations" and forbade Germany from establishing "fortifications in the area or installing any guns commanding the maritime routes".[49]

2.5. The Implementation of Dues in Turkish Straits

The Turkish Straits comprise of the Dardanelles that link the Aegean Sea to the Sea of Marmara and the Bosporus that links the Sea of Marmara to the Black Sea.[50] Since the Ottoman conquest of Constantinople in 1453 until 1841 the Turkish Straits were under the absolute control of the Ottoman Empire.[51] During this era the Black Sea and the Sea of Marmara were changed into internal seas and as a consequence passages through the straits

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44 *Ibid.*, at 245
45 *Ibid.*, at 245; Edy Somers. "The Legal Regime of the Danish Straits", at 16
46 Pitt Cobbett. *Cases on International Law*, at 144
47 Edy Somers. "The Legal Regime of the Danish Straits", at 18
48 G. Alexandersson, *The Baltic Straits* (Dordrecht: Martinus Nijhoff, 1982) as cited in Jon M. Van Dyke,Transit Passage through International Straits, at 199
49 Treaty of Versailles Article 195, "The Versailles Treaty June 28, 1919: Part V", available from Yale Law School Lilian Goldman Law Library: The Avalon Project (Documents in Law, History and Diplomacy), available from http://avalon.law.yale.edu/imt/partv.asp. Last accessed 20 August 2012.
50 Jon M. Van Dyke,Transit Passage through International Straits, at 203

were kept closed.[52] A number of treaties were bilaterally instituted between Turkey, the United Kingdom (1809) and Russia (1798, 1805, 1833) to provide special concessions for ships from these countries to pass through the Turkish Straits.[53]

The Ottoman's absolute control changed since the signing of the London Convention in 1841 between the Ottoman Empire with Russia, Prussia, Austria and United Kingdom as the convention limited the control of passage only over foreign war vessels.[54] Following the London Convention a series of treaty regulated the management of Turkish Straits. These included the 1856 Paris Convention and the 1871 Straits Agreement (London). During the early 20th century three other treaties were concluded to regulate the Turkish Straits, namely the Sevres Treaty of 1920, the 1923 Lausanne Peace Treaty and ultimately, the 1936 Montreux Convention.[55] The Sevres Treaty was failed to be ratified and the Lausanne Peace treaty was later modified at the Montreux conference in 1936.[56] On July 20th, 1936 the Montreux Convention was signed by the United Kingdom, Australia, Bulgaria, France, Greece, Japan, Romania, Turkey, Soviet Union and Yugoslavia.[57] This convention formed the present regime that governs the Turkish Straits.[58]

The key principle of the Montreux Convention is the maintenance of freedom of transit and navigation in the Straits.[59] The article 1 of the Convention ensures freedom of transit and navigation in the Straits of the Dardanelles, the Sea of Marmara and the Bosporus.[60] However, although the Montreux Convention "recognises and affirms the principle of freedom of transit

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51 Gunduz Aybay and Nilufer Oral, "Turkey's Authority to Regulate Passage of Vessels through The Turkish Straits", *Perceptions Journal of International Affairs* 3:2 (1998), at 1

52 Cemil Bilsel, "The Turkish Straits in the Light of Recent Turkish-Soviet Russian Correspondence", *The American Journal of International Law* 41:4 (1947) , at 733

53 *Ibid*., 734

54 Gunduz Aybay and Nilufer Oral, "Turkey's Authority to Regulate Passage of Vessels through The Turkish Straits", at 1

55 *Ibid*., at 2

56 Cemil Bilsel, "The Turkish Straits in the Light of Recent Turkish-Soviet Russian Correspondence", *The American Journal of International Law* 41:4 (1947) , at 727

57 Montreux Convention

58 Cemil Bilsel, "The Turkish Straits in the Light of Recent Turkish-Soviet Russian Correspondence", at 727-728

59 Debora Schweikart, "Dire Straits: the International Maritime Organization in the Bosporus and Dardanelles", *University of Miami Yearbook of International Law* 29 (1996-1997), at 32

60 *Ibid*., at 32; Montreux Convention Article 1

and navigation by sea in the Straits",[61] the Montreux Convention gives a significant power to the Turkish government to enforce the treaty.

Notably, the Montreux Convention allows Turkey to levy charges to vessels plying through the Turkish Straits. Article 2 of the Convention allows the Turkish authority to levy charges on "vessels when passing in transit without calling at a port in the straits."[62] In order to facilitate the collection of charges all merchant vessels are obliged to "communicate their name, nationality, tonnage, destination and last port of call to the Turkish officials".[63] The amount of charged is levied on each ton of register tonnage.[64] Annex I of the Montreux Convention provides detail on type of charges that can be levied by the Turkish government. These include charges for sanitary control station; lighthouses, light and channel buoys; life saving services such as life boats, rocket stations, fog sirens, direction-finding stations and any light buoys or other similar installations.[65] These charges are applied without any discrimination based on the flag of the vessel. Vessels can also be required to pay charges for optional services such as pilotage and towage.[66]

2.6. Conclusions

Having surveyed the cooperation in the non straits and straits areas above we discovered that cost sharing had been a common practices that dated back to the 15th century. Nevertheless, the implementation of dues in straits used for international navigation has been less common at present. As previously discussed in this chapter, the collection of dues in the Strait of Danish and the Strait of Malacca has faded out because of the user states pressure. Currently, charging dues has been a minority rather than majority practice in key straits.

It is important to note, however, that both the non straits areas that discussed above as well as the Danish and Turkish Straits are not governed by the 1982 Law of the Sea Convention (LOSC). Both Danish Straits and Turkish Straits are among the international straits point out

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61 Montreux Convention Article 1
62 Montreux Convention Article 2
63 Montreux Convention Article 2
64 Montreux Convention Annex I
65 *Ibid*
66 *Ibid*

in the article 35(3) of the LOSC as straits which "passage is regulated in whole or in part by long-standing international conventions".[67] Therefore, the LOSC new rule does not affect the transit rules in the Danish Straits as the Straits are subject to the 1857 treaty.[68] Similarly, the LOSC that regulated the transit through straits used for international navigation does not apply to the Turkish Straits because the straits are already governed by the provisions of the 1936 Montreux Convention.[69] This suggests the limitation in drawing a lesson from the costs sharing practices in the Danish and Turkish Straits and applying it to the Straits of Malacca and Singapore that governed by the LOSC. Before analysing the feasible cooperation and cost sharing options for the Straits of Malacca and Singapore, one needs to understand the legal basis for cooperation under the LOSC and other related instruments. Thus, the following section discusses the legal framework for cooperation and cost sharing.

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67 LOSC Article 35(3)
68 Edy Somers. "The Legal Regime of the Danish Straits", at 15
69 Jon M. Van Dyke,Transit Passage through International Straits, 2008, at 203-204

Chapter 3 The Legal Framework for International Cooperation under the Law of the Sea Convention and Related Instruments

3.1 Introduction

The legal framework for passage through straits was subject to extensive discussion and reform as the Third United Nations Conference on the Law of the Sea from 1974-1982 which brought new expectations both to the strait states, user states and the shipping business to bring about a possible cooperation solution. During the negotiation maritime states made it clear that maintaining freedom of navigation and of over flight through and over the straits was essential for obtaining agreement pertaining to the extension of maximum breadth of the territorial sea to 12 nautical miles as well as the adoption of the Exclusive Economic Zone.[70] The strait states on the other hand maintained that a regime that acknowledged unimpeded transit through their straits must not deny their legitimate interests to protecting their territorial waters and coastal areas from what they deemed as threats to their security, their coastal environments as well as economic interests.[71] The series of negotiations from 1974 onwards produced the 1982 United Nations Convention on the Law of the Sea that came into force in 1994. The Convention sets out a regime of free passage through straits used for international navigation that reflects the importance of global navigation issues at the Law of the Sea negotiations.[72] The 1982 Convention also creates a legal basis for user states and states bordering a strait to cooperate in establishing and maintaining navigational aids and preventing pollution from ships. The widespread acceptance and ratification of the 1982 LOSC provided the opportunity for states bordering such straits, including Indonesia, Malaysia and Singapore to discuss modalities of international cooperation and cost sharing mechanisms with user states and shipping businesses.[73]

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[70] Satya N. Nandan & Shabtai Rosenne , *United Nations Convention on the Law of the Sea, 1982: a commentary* (Dordrecht: Martinus Nijhoff, 1993), at 282

[71] *Ibid*., 283

[72] *Ibid., United Nations Convention on the Law of the Sea*, 1982, at 279

[73] Robert C. Beckman, "The Singapore Conference on the Straits of Malacca and Singapore- Issues, Perspectives and Post-Conference Developments", at 234

In order to understand the legal basis for cooperation and costs sharing mechanism in improving navigational safety and environmental protection in straits used for international navigation this section begins by analysing the Part III of the LOSC. The second part of this section discusses the duties and rights of straits states in regulating the safety of navigation and pollution control. The third part of this section proceeds to examine the role of the flag states in the areas of navigational safety and pollution control. The last part of this section examines the legal basis of cooperation between straits states and other relevant stakeholders. For this purpose, this section discusses the article 43 of the LOSC and examines to what extent these provisions are enforceable.

3.2 Part III of the 1982 Law of the Sea Convention (LOSC): Management of Straits Used for International Navigation

As previously explained, the 1982 LOSC aims to strike a balance between the competing interests of user states mainly represented by maritime states and the straits states.[74] The key interest of maritime states lies on the maintenance of unrestricted passage over and through straits used for international navigation.[75] The straits states interest, on the other hand, rests on greater protection of their coastal environment and population.[76] Thus, at the heart of the LOSC response to these conflicting forces is the introduction of the right of transit passage for all ships and aircraft.[77]

Part III of the LOSC regulates the transit passage in straits used for international navigation. Transit passage is defined as "the exercise of freedom of navigation and over flight solely for the continuous and expeditious transit of the strait between one area of high seas or economic zone and another..., for the purpose of entering, leaving, or returning from a State bordering

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[74] Mary George, "The Regulation of Maritime Traffic in Straits Used for International Navigation", in Alex G. Oude Elferink & Donald D. Rothwell (eds), *Oceans Management In the 21st Century: Institutional Frameworks and Responses.* (Leiden: Martinus Nijhoff Publishers, 2004) at 21

[75] Satya N. Nandan & Shabtai Rosenne, *United Nations Convention on the Law of the Sea, 1982: a commentary* (Dordrecht: Martinus Nijhoff, 1993), at 282

[76] *Ibid*

[77] Mary George, "The Regulation of Maritime Traffic", at 21

the strait."[78] Strait State powers in the strait are different from the powers that it can exercise in its territorial sea.[79] Article 38 (1) of the LOSC articulates the right for unimpeded transit passage for all ships and aircraft.[80] These ships include merchant ships and ships granted with sovereign immunity including warships and submarines.[81] Article 38(2) provides the freedom of navigation for the ships to enter, leave or return from a state bordering the Strait and the right for continuous and expeditious transit of the strait.[82] In contrast to Article 25 of the LOSC which allows the suspension of innocent passage through the territorial sea, the article 38(2) prohibits the suspension of transit passage by strait states.

The unconstrained and maximized freedom of passage given by the transit passage regime has implications for both the strait states and user states. For the strait states the transit passage regime creates responsibilities to provide sufficient information concerning any danger to navigation or over flight in the Strait and to enhance the safety of navigation.[83] The LOSC also endows the user states with responsibilities to cooperate to improve the safety of navigation and prevent and control pollution in the Strait.[84] To understand the obligations of the strait states and user states the following part of this section aims to discuss the power of the strait states.

3.3 The Power of Straits States

The LOSC sets out the duties and rights of strait states in great detail. Article 41, 42 and 44 of the LOSC permit strait states to provide navigational safety and pollution control measures. The next sub sections discuss the authorities of straits states in the areas of the safety of navigation and pollution control.

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78 LOSC, Part III art. 38 http://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf. Last accessed June 18th, 2012; R.R Churchill and Lowe, A.V., *The Law of the Sea*. (Manchester: Manchester University Press, 1999), at 107

79 Mary George, "The Regulation of Maritime Traffic", at 22

80 LOSC, article 38 (1)

81 Mary George, "The Regulation of Maritime Traffic", at 22

82 LOSC, article 38 (2)

83 LOSC article 41, 42

84 LOSC article 43

3.3.1 The Power of Straits States to Regulate Navigational Safety

The LOSC provides a balanced approach since it empowers straits states with certain rights to enhance navigational safety if they wish to do so and at the same time the LOSC restricts the enforcement authority of such states.[85] Article 41 of the LOSC permits straits states to designate sea lanes and prescribe traffic separation schemes in choked points into one-way-only lanes and provide publicity concerning all sea lanes and traffic separation schemes designated or prescribed by them.[86] However, strait states can only prescribe and designate sea lanes and traffic separation scheme in the straits after referring their proposals to the competent international organization that is the International Maritime Organization (IMO)[87] and after the approval from the IMO.[88] Straits states are also required to enhance the safety of navigation by giving appropriate publicity to any danger to navigation or over flight within or over the strait of which they have knowledge.[89]

The enforcement authority of straits states is fairly limited. The LOSC article 42 (1) states clearly that national legislation by strait states cannot discriminate, deny, hamper or impair the right of transit passage. The LOSC article 42(5), 233 and 236 circumscribes the strait states' authority to enforce its national laws and regulations against foreign vessels.[90] Straits states can only exercise their enforcement power against vessels that are not granted sovereign immunity.[91] Only when exceptional circumstance occurs "the states bordering the straits may take appropriate enforcement measures" and must "respect *mutatis mutandis* the provisions of this section."[92] As explained in the LOSC article 233 an exceptional circumstance takes place when a "violation of the laws and regulations" by a foreign ship "causing or threatening major

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85 J. Ashley Roach, "Enforcement of International Rules and Standards of Navigational Safety in the Malacca and Singapore Straits", *Singapore Journal of International and Comparative Law* no.3 (1999), at 324; Mati L. Pal and Gabrielle Gottsche-Wanli, " Proposed Usage and Management of the Fund", *Singapore Journal of International and Comparative Law* no. 3 (1999), at 477

86 LOSC article 41

87 LOSC article 41(4) and (5); R.R Churchill and Lowe, A.V., *The Law of the Sea*, at 108

88 LOSC article 41 (4) and (5)

89 LOSC article 44

90 J. Ashley Roach, "Enforcement of International Rules and Standards of Navigational Safety in the Malacca and Singapore Straits", *Singapore Journal of International and Comparative Law* no.3 (1999), at 324

91 LOSC article 233 as cited in J. Ashley Roach, "Enforcement of International Rules and Standards", at 332

92 LOSC article 233

damage to the marine environment of the straits".[93] Koh argued two factors are used to determine "major damage". [94] These are "the occurrence of accidents in the concerned straits as a result of a breach of a navigation rule and the extent of the damage that occurred depending upon the type of ships and goods carried".[95]

3.3.2 The Power of Straits States to Control and Prevent Marine Pollution

In dealing with the issue of marine pollution straits states can formulate national legislation to protect its coastal environment. Nevertheless, the exercise of this right is constrained by the LOSC.[96] Concerning the prevention and control of marine pollution under the provision of article 42 of the LOSC strait states may adopt legislation complying with international regulations regarding the "discharge of oil, oily wastes and other noxious substances in the strait".[97] According to the LOSC article 42(1), laws and national legislation formulated by strait states also cannot discriminate, deny, hamper or impair the right of transit passage.[98]

In dealing with pollution incidents when ships are no longer in transit, for instance as a result of collision and grounding, the Part III Regime does not apply. Under this circumstance strait states are required to deal with pollution emergencies when an incident takes place within their jurisdiction.[99] Even when the incident is not caused by state action or in-action, failure to deal with the emergency would lead to a breach of states' duties in customary law to control the source of pollution.[100] This is in line with article 194 (1) of the LOSC which requires states to take all necessary measures to "prevent, reduce and control pollution of the marine environment from any source".[101] Article 194 (2) specifically requires states to respond to

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93 LOSC article 233

94 K.L. Koh, *Straits in International Navigation* (1982) , at 162-163 as cited in Mary George, "The Regulation of Maritime Traffic", at 37

95 *Ibid*

96 Mary George, "The Regulation of Maritime Traffic", at 23

97 LOSC article. 42

98 LOSC article 42(1)

99 P.W. Birnie & A.E. Boyle, *International Law and the Environment*, at 378

100 *Corfu Channel Cases, ICJ Rep*. (1949), 3 and *supra*, pp. 136-7 as cited in P.W. Birnie & A.E. Boyle *International Law and the Environment*, at 378

101 LOSC article 194 (1)

pollution arising from incidents or activities under their jurisdiction so it will not spread beyond their areas of jurisdiction.[102]

An enforcement scenario for strait states arises when ships violate environmental laws and regulations while conducting transit passage limited by Part III regime of the LOSC.[103] Part III of the LOSC does not provide the rights of strait states to hamper the right of transit passage.[104] Nevertheless, as stated in article 233 of the LOSC "if a foreign ship has committed a violation of the laws and regulations" while navigating through the strait, "causing or threatening major damage to the marine environment of the straits, the states bordering the straits may take appropriate enforcement measures".[105] This provision implies that in order to limit the major damage to the marine environment the extent of law enforcement would include stopping, barring further passage,[106] and prosecuting a delinquent vessel.

At the 11th session of the United Nations Conference on the Law of the Sea in 1982, following consultations between the delegations of states bordering the Straits of Malacca and Singapore with major user states of the straits a common understanding regarding the application of the article 233 to the Straits was reached:[107]

> 1. Laws and regulations enacted by states bordering the straits under article 42, paragraph 1(a) of the convention, refers to laws and regulations relating to 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 A.375(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 meters during passage through the Straits of Malacca and Singapore shall be deemed, in view of the peculiar geographic and traffic condition of the straits to be a violation

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102 LOSC article 194 (2)

103 Donald R. Rothwell and Tim Stephens, *The International Law of the Sea* (Oxford: Hart Publishing, 2010), at 243

104 Mary George, "The Regulation of Maritime Traffic in Straits Used for International Navigation", at 32

105 LOSC article 233

106 Donald R. Rothwell and Tim Stephens, *The International Law of the Sea,* at 243

107 A/CONF. 62/ L.145 (1982), Annex and Adds. 1-8, XVI Off Rec. 250-51 (Malaysia) and 251-53 (Indonesia, Singapore, France, U.K., U.S.A., Japan, Australia, and Federal Republic of Germany, respectively) as cited in Satya N. Nandan & Shabtai Rosenne, , *United Nations Convention on the Law of the Sea*, 1982, at 389

> 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...
>
> 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.
>
> 4. States bordering the straits shall, in taking the enforcement measures the provisions on safeguard in section 7, Part XII of the draft convention
>
> 5. Articles 42 and 233 do not affect the rights and obligations of states bordering the straits regarding appropriate enforcement measures with respect to vessels in the straits not in transit passage
>
> 6. Nothing in the above understanding is intended to impair:
>
> a. the sovereign immunity of ships and the provisions of article 236 as well as the international responsibility of the flag state in accordance with paragraph 5 of article 42;
>
> b. the duty of the flag state to take appropriate measures to ensure that its ships comply with article 39, without prejudice to the rights of states bordering the straits under Part III and XII of the draft convention and the provisions of paragraphs 1,2,3, and 4 of this statement

In dealing with the issue of marine pollution straits states also can formulate national legislation to protect its coastal environment. Nevertheless, the exercise of this right is constrained by the LOSC.[108] According to the LOSC article 42(1) laws and national legislation formulated by strait states cannot discriminate, deny, hamper or impair the right of transit passage. [109] Similarly, article 44 regulates that transit passage cannot be suspended for security or any other reasons.[110] Therefore, although straits states have rights to draft national laws and provide appropriate publicity pertaining to relevant laws (article 42 of the LOSC), strait states jurisdiction over ships in transit passage is fairly limited.[111] Against ships that breach national

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108 Mary George, "The Regulation of Maritime Traffic", at 23

109 LOSC article 42 (1)

110 R.R Churchill and Lowe, A.V., *The Law of the Sea*, at 108

111 *Ibid*

law and legislations strait states scope of enforcement action does not include "laying mines, "bumping" into foreign vessels or hampering the vessels exercise of transit passage".[112]

3.4 The Power of Flag States

The failure of the traditional structure of jurisdiction over ships and maritime areas to protect the interests of straits states was at the heart of discussion of the United Nations Convention on the Law of the Sea III.[113] The core of the problem on one hand was the duties of flag states were deemed imperfectly defined and observed.[114] Whilst, on the other hand, the power of the straits states to enforce shipping regulations on its waterways was too limited.[115] The 1982 LOSC sought to fill this gap by redefining the flag states obligations to protect the marine environment and to enhance navigational safety. It points out to that flag state jurisdiction over the ships flying their flag needs to be exercised in conjunction with straits states jurisdiction. The LOSC also stipulates a range of duties that flag states need to carry out to improve navigational safety and address marine pollution. This section provides discussion on flag states rights and obligations to enhance the safety of navigation and pollution control measures.

3.4.1 The Power of Flag States to Improve the Safety of Navigation

As part of flag states duties to enhance the safety of navigation article 39 and 42(4) of the LOSC requires ships undertaking transit passage to proceed without delay; refrain from any threat or use of force against strait states; refrain from any activities other than those incidental to their normal modes of continuous and expeditious transit; comply with national laws and regulations adopted by strait states; generally accepted international regulations, procedures and practices for safety at sea.[116]

Regarding safety of navigation the LOSC does not extend the duty to set up and maintain navigational aids to flag states. However, the LOSC places the principal responsibility for

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112 Mary George, "The Regulation of Maritime Traffic", at 23
113 P.W. Birnie & A.E. Boyle, *International Law and the Environment*, at 360
114 *Ibid*
115 *Ibid*
116 LOSC article 39 and 42 (4)

vessel's compliance to international law to the flag states. Article 94 of the LOSC articulates the duties of the flag states in details. [117] These duties include maintaining a register of ships; assuming jurisdiction under its internal law over each ship flying its flag; ensuring the safety of ships flying its flag by conducting regular survey of ships; and ensuring the possession of appropriate qualifications for masters and officers of the ships.[118]

Article 94(5) identifies other relevant international rules and a standard of navigational safety of the IMO instruments such as the IMO Convention on the Safety of Life at Sea (SOLAS), Standards of Training, Certification and Watch keeping for Seafarers (STWC), Load Lines and Tonnage and the Ship's Routing Guide.[119] Article 94(6) and 94(7) enhances the flag state enforcement capacity to investigate marine casualty or navigational incident reported by other state and take necessary action to remedy the situation if require, and to open inquires into every marine casualty or incident.[120] The enforcement power of the flag state is further reinforced by the article 217 of the LOSC.[121] Article 217 places the responsibility to flag states to ensure vessels compliance to international safety standard (art 217(1)), periodically inspect the actual condition of the vessel (art 217(3)), and provide "immediate investigation and where appropriate institute proceedings" when a vessel flying its flag commits a violation of international rules and standards (art 217(4).[122] Flag state shall impose penalties that are "adequate in severity to discourage violations wherever they occur".[123]

3.4.2 The Power of Flag States to Prevent and Control Marine Pollution

The 1982 LOSC requires flag states to be responsible for the regulation and control of pollution from ships flying its flag.[124] Article 42 (5) of the LOSC maintains that

> "the flag state of a ship or the State of registry of an aircraft entitled to sovereign immunity which acts in a manner contrary

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117 LOSC article 94
118 LOSC article 94
119 J. Ashley Roach, " Enforcement of International Rules and Standards", at 324, 325
120 LOSC 94(6) and 94(7) as cited in J. Ashley Roach, " Enforcement of International Rules and Standards", at 325
121 *Ibid*., at 325-326
122 LOSC article 217
123 LOSC article 217(8)
124 P.W. Birnie & A.E. Boyle, *International Law and the Environment*, at 370; Mary George, "The Regulation of Maritime Traffic", at 27

> to such laws and regulations or other provisions of this Part shall bear international responsibility for any loss or damage which results to States bordering straits".[125]

Article 217 provides a mandate for flag states to ensure compliance to relevant international rules and standards for the prevention, reduction and control of pollution by vessels flying their flags. Flag states are required to enforce rules and standards by taking all appropriate measures including prohibiting vessels from sailing until they meet international rules ad standards' requirement; periodically inspect the ships' certificate of compliance to international standards; investigate any violation alleged to have been committed by vessels flying their flag and impose penalties.[126]

Article 39 and 42(4) of the LOSC also obliges flag states to comply with national laws and regulations adopted by strait states; generally accepted international regulations, procedures and practices for the prevention, reduction and control of pollution from ships.[127]

3.5 Charges and Fees

Strait states are also not entitled to charge tolls from ships navigating through their waterways merely to transit through the strait.[128] This is consistent with article 38(1), 26(1) and 44 of the LOSC which specifically mandates no charge may be levied upon foreign ships by reason only of their passage.[129] For the straits states the economic costs for violating these rules are substantial since they might have to compensate for the ship, crew, cargo importers and even the consumer' economic loss.[130]

Strait states may, however, levy charges "upon a foreign ship passing through the territorial sea as payment for specific services rendered to the ship" as stated in article 26 of the LOSC, [131] since the legal status of waters forming straits used for international navigation is not

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125 LOSC article 42 (5)
126 LOSC article 217
127 LOSC article 39 and 42 (4)
128 R.R Churchill and Lowe, A.V., *The Law of the Sea*, at 271
129 R.R Churchill and Lowe, A.V., *The Law of the Sea*, at 271; Mary George, "The Regulation of Maritime Traffic", at 39
130 Mary George, "The Regulation of Maritime Traffic", at 39
131 LOSC article 26(2)

affected by the regime of passage in such straits.[132] Article 34 of the LOSC confirms the sovereignty of the straits states in its territorial sea. To quote article 34:[133]

> 1. The regime of passage through straits used for international navigation established in this Part shall not in other respects affect the legal status of the waters forming such straits or the exercise by the States bordering the straits of their sovereignty or jurisdiction over such waters and their air space, bed and subsoil.
>
> 2. The sovereignty or jurisdiction of the States bordering the straits is exercised subject to this Part and to other rules of international law.

Charges however may only be implemented on non-discriminatory basis and for specific services including towage and pilotage.[134] The article 26 of the LOSC implicitly notes that any charges for specific services must correspond to the costs incurred by the services and must not use "as a disguised toll on passage".[135] As article 26 of the LOSC does not provide mandatory provision for users to make use of the "specific services", therefore, an agreement between relevant user states and straits states need to be obtained before the implementation of any charges to the user states.[136]

Although navigational services such as pilotage and towage falls under article 26 of the LOSC category of "specific services", majority of services to enhance the safety of navigation and control marine pollution fall outside this category. The article 26 does not clearly articulate whether general services including the maintenance of navigational aids fits in the scope of "specific services" expression.[137] This suggests that to facilitate costs sharing for the majority of services that fall outside "specific services" category a cooperation mechanism that involves straits states and the users is required. The next section discusses the legal basis of cooperation under the LOSC.

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132 Satya N. Nandan & Shabtai Rosenne, *United Nations Convention on the Law of the Sea*, 1982, at 295

133 LOSC article 34

134 LOSC article 26(2); Satya N. Nandan, "The Management of Straits Used for International Navigation", at 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", *Singapore Journal of International and Comparative Law* no. 3 (1999), at 446

135 Satya N. Nandan & Shabtai Rosenne, , *United Nations Convention on the Law of the Sea*, 1982, at 295

136 *Ibid*

137 *Ibid*., 236

3.6 International Cooperation

Article 43 of the LOSC sets out the cooperation framework between straits states and user states.[138] The formulation of the article 43 is an attempt to meet the straits states concerns. Strait states had raised issues related to the financial burden that they have to bear to maintain navigational aids and environmental protection measures without receiving corresponding benefits as most vessels only transit through the straits bordered by the straits states on the way to other state's port.[139] Throughout the negotiation of the LOSC strait states had raised the issue of cooperation and cost sharing. In 1973 Malta proposed for the provisions on user states obligations to compensate the strait states for activities carried out by the strait states to facilitate transit through the straits.[140] The notion of cooperation and cost sharing was repeated by the UK's proposal during the second session of the Third UN Conference on the Law of the Sea in 1974. The UK proposal, however, did not touch upon a system of tolls or user charges.[141] To quote the UK proposal:[142]

> User states and straits states should by agreement cooperate in the establishment and maintenance in a strait of necessary navigation and safety aids or other improvements in aid of international navigation or for the prevention and control of pollution from ships.

The UK proposed for states to establish agreements for cooperation for development and maintenance of navigational aids and for pollution control.[143] A group of strait states comprising of Malaysia, Marocco, Oman and Yemen took a slightly different approach to cooperation and cost sharing from the UK's approach. Instead of emphasizing an obligation for coastal states and user states to cooperate, the four strait states highlighted a strait states'

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138 LOSC article 43

139 Satya N. Nandan & Shabtai Rosenne, , *United Nations Convention on the Law of the Sea*, 1982, at 383; Donald R. Rothwell and Tim Stephens, *The International Law of the Sea*, at 241

140 A/AC.138/SC.11/L.28, article 39, paragraph 1 and article 40, paragraph 2-4 reproduced in III SBC Report 1973, at 35, 51 as cited in Satya N. Nandan & Shabtai Rosenne, *United Nations Convention on the Law of the Sea*, 1982, at 380

141 A/CONF. 62/C.2/L.3 (1974), Chapter III, Article 5, *III United Nations Conference on the Law of the Sea Official Records Volume III Documents of the Conference*, (New York: United Nations, 1975), at 186., see also Satya N. Nandan & Shabtai Rosenne, *United Nations Convention on the Law of the Sea*, 1982, at 380 at 381

142 *Ibid*, at 186

143 *Ibid*., at 381

right to require cooperation.[144] To cite the four states explanation on the special rights of coastal states:[145]

> The coastal state may require the cooperation of interested states and appropriate international organizations for the establishment and maintenance of navigational facilities and aids in a strait.

At the 1976 session of the Third UN Conference on the Law of the Sea, Malaysia proposed to incorporate additional provisions to article 43 that identical to those contained in article 26 of the LOSC on charges which can be collected from foreign vessels in innocent passage in the territorial sea.[146] In line with Malaysia's proposal in the 1977 and 1978 session, Morocco proposed that cooperation under article 43 need to be expanded to incorporate the establishment and maintenance of other devices to safeguard the activities of transit passage.[147] Both the Malaysian and Moroccan proposals did not receive significant support from other states.[148] Following a lengthy discussion, participants of the Third UN Conference on the Law of the Sea reached an agreement on what consists of the article 43 of the LOSC. The article 43 reads as follow:

> "User States and States bordering a strait should by agreement cooperate:
> (a) in the establishment and maintenance in a strait of necessary
> navigational and safety aids or other improvements in aid of international navigation; and
> (b) for the prevention, reduction and control of pollution from ships."

Although the article 43 sets up the principle to cooperate, this article does not present a direct enforcement mechanism to guarantee act of cooperation from the user states. Under a circumstance when a user state does not cooperate straits states cannot impede, hamper, or

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144 A/CONF. 62/C.2/L.16 (1974), article 23, *III United Nations Conference on the Law of the Sea Off. Rec, at.* 195, see also Satya N. Nandan & Shabtai Rosenne, *United Nations Convention on the Law of the Sea*, 1982, at 381

145 A/CONF. 62/C.2/L.16 (1974), article 23, *III United Nations Conference on the Law of the Sea Off. Rec, at.* 195

146 *Ibid*., at 382

147 *Ibid.*, at 382

148 *Ibid.*,at 382

suspend transit passage, as stipulated in article 38 (1) of the LOSC.[149] Nevertheless, if user states refuse to cooperate, straits states can refuse to provide navigational aids.[150] According to Satya N. Nandan & Shabtai Rosenne this action can be used to encourage cooperation from user states since strait states are under no obligations to establish and maintain navigational and safety aids.[151] As previously explained in the previous section on the Power of Strait States to Regulate Navigational Safety, under article 44 straits states are only obliged to provide "appropriate publicity to any danger to navigation or over flight".[152] However, this would not be a practical solution for states bordering the straits because disastrous accident will bring negative impacts to both the coastal population and marine environment of the strait states.[153] If flag states refuse to cooperate, straits states may treat this as a dispute pertaining to the interpretation and application of the Convention and invoke the provisions on dispute procedures in Part XV of the LOSC.[154]

3.7 Relevant Stakeholders in Cooperation and Cost Sharing Partnerships

Maritime cooperation and costs sharing partnerships to establish and maintain navigational aids and to develop pollution control measures involve various stakeholders including states and non state actors such as the shipping business, the marine insurance business and the oil industry. Most cooperation regimes including the MARPOL Convention, SOLAS Convention, the LOSC, the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPPRC) and the Convention on Transboundary Accidents mainly place responsibility to enhance navigational safety and marine protection on the flag states and the states bordering the straits. These cooperation regimes do not explicitly provide any provisions on the rights and duties of private stakeholders.

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149 Satya N. Nandan & Shabtai Rosenne, *United Nations Convention on the Law of the Sea*, 1982, at 383
150 *Ibid.*, at 383
151 *Ibid.*, at 383
152 LOSC article 44
153 Satya N. Nandan, "The Management of Straits Used for International Navigation", at 434
154 *Ibid.*, at 434; Satya N. Nandan & Shabtai Rosenne, *United Nations Convention on the Law of the Sea*, 1982, at 383

Article 43 of the LOSC on cooperation in the areas of safety of navigation and marine pollution control for instance refers only to "user states and states bordering a strait".[155] While the latter category of states is easy to identify, the former is not.[156] David H. Anderson argues that the concept of "user states" comprises of "all states that benefit directly or indirectly from navigation through a strait" including port states (departure or destination) of vessels plying through the straits, the flag states of ships navigating through and even land-locked states if they are recipients or sender of the goods.[157] A number of scholars and practitioners, however, have extended their explanation of user states to include private stakeholders. Satya N. Nandan for instance says that "user states must include nationals of such states, both natural persons and juridical entities".[158] Therefore, according to Nandan user states comprises of "the flag states, the exporting states, the receiving states, the ship-owners and other who benefit from the provision of facilities for save navigation, such as insurance corporations... and major oil companies".[159] Bernard Oxman echoes a similar argument as he points out that it is completely appropriate to involve private stakeholders in cooperation and cost sharing as a source of both expertise and resources.[160] S. Tiwari includes states whose nationals own the ships, states whose nationals owns the cargo, states whose nationals are the recipients of the cargo and states from which the cargo originates, shipping industry, marine insurance industry and the oil industry as part of the "user states" term.[161] Similarly, Mati L. Pal and Gabriele Gottsche-Wanli define the term "user states" more broadly to include all states that involved in the usage of the straits (exporter and importer states), as well as non government entities possessing the nationality of these states or are controlled by them or their nationals.[162] In

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155 LOSC article 43

156 Satya N. Nandan, "The Management of Straits Used for International Navigation", at 435

157 David 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", *Singapore Journal of International and Comparative Law* no.3 (1999), at 447

158 *Ibid.,* at 435

159 *Ibid.,* at 435

160 Bernard H. Oxman, "Observations on the Interpretation and Application of Article 43 of the UNCLOS with Particular Reference to the Straits of Malacca and Singapore" No. 2 *SJICL* 408 (1998) at 409-11 as cited in Bernard H. Oxman, "Sub-regional, Regional and International Cooperation in Responding to and Deterring Transboundary Marine Pollution,"*Singapore Journal of International and Comparative Law* No. 3 (1999), at 425

161 S. Tiwari, "Legal Mechanisms for Establishinga Fund", *Singapore Journal of International and Comparative Law* No. 3 (1999), at 471

162 Mati L. Pal and Gabrielle Gottsche-Wanli, " Proposed Usage and Management of the Fund", *Singapore Journal of International and Comparative Law* no. 3 (1999), at 479

summary, a number of legal scholars have provided an inclusive interpretation of user states that include government and private entities.

3.8 Conclusion

This chapter provides an elaborate discussion on the legal basis to cooperate to improve the safety of navigation and the pollution control measures. It discusses various aspects of strait states and flag states rights and duties and more importantly, the legal interpretations of user states. Having surveyed various understanding of the term “users” this chapter concludes that the relevant stakeholders of maritime cooperation include both state and non state actors including the ship-owners, marine insurers, exporters and importers. Given the broad definition of user states the appropriate questions to pose are: what should the content of the agreement between the users and strait states consist of? What are the possible models for cooperation between users and strait states? These two questions will be addressed in the next chapter. The following chapter discusses the feasible cost sharing and cooperation models in a number of waterways in the world.

Chapter 4 Analysis of Different Models of Cost Sharing Partnerships

4.1 Introduction

This chapter discusses various different models of cost sharing partnerships at global and regional level in order to find what type of cooperation arrangement that might be suitable and legally feasible to be implemented in the context of the Straits of Malacca and Singapore.

The next part of this chapter explains the practice of cost sharing practice in straits and non straits areas. Section two discusses cost sharing practices in the Strait of Dover and Strait of Torres. Section three then proceeds to survey six examples of cost sharing mechanisms in other areas of international navigation. Drawing from these cost sharing examples the later part of this chapter generates cost sharing models including recovery costs model; fee for relevant states model and fee for relevant private stakeholders. It summarizes the key findings and sets out the discussion for chapter five on cooperation and cost sharing in the Straits of Malacca and Singapore. The significance and relevance of each cost sharing practices in finding a feasible cost sharing solutions for the Straits of Malacca and Singapore will be discussed further in chapter five.

4.2 Cost Sharing Mechanism in Straits Area

4.2.1 Cost Sharing in Dover Strait: A Work in Progress

Dover Strait lies between the Coast of England and France. Similar to the Straits of Malacca and Singapore the Strait of Dover stands out as an example of straits that shows extreme complexity.[163] The Strait is one of busiest waterways in the world. In 2001, 120,000 vessels and 74,000 ferries carrying 21 million passengers navigated through the Strait of Dover.[164] In 2001 alone, 654 incidents were recorded by the Dover Coastguards where 193 people were

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[163] Commandant L. Oudet, "The Economics of Traffic Circulation", at 61

[164] Press Release No.119e/02 of 13 May 2002 by the British Coastguard and Maritime Agency (annual survey for 2001) as cited in David H. Anderson, "The Legal Regime of the Straits Around Great Britain", at 26, Proceeding of the Symposium on the Straits Used for International Navigation, 16-17 November 2002, Istanbul-Turkey

rescued and 21 died.[165] The density of maritime traffic continues to generate maritime safety concerns.

Britain and France have long cooperated closely in managing the Strait of Dover and bear the costs of cooperation. The two countries have installed navigational aids including radar, buoys and lighthouses; removing wrecks, carrying out hydro graphic survey; keeping 24-hour radar watch on Strait; tracking vessels contravening the IMO recommendations on navigation in the traffic separation scheme and broadcasting navigational warnings.[166]

Since the early 1970s a cost sharing mechanism for managing the Strait of Dover has been deemed a pressing issue. International funding is crucial not only to finance the maintenance of navigational aids in the Strait but also to meet expensive requirements including hydrographical surveys and wreck removal.[167] In terms of hydrographic survey, the France and Britain naval establishments, which in the past did not hesitate to carry out surveys at present are reluctant to carry out such work due to lack of funds.[168] Military budget reductions in both countries have reduced their financial capacity to conduct hydrographical survey.[169]

The removal of wrecks in the Strait of Dover is both essential and costly. In the Strait of Dover removal of a wreck is carried out by Trinity House, the authority responsible for pilotage and lighting along the English coasts.[170] Trinity House, however, has no funds for the removal of these wrecks outside British territorial limits and no one can force it to remove them.[171] Funding for Trinity House is generated only from charges levied on ships visiting British ports and only 20 percent of the traffic on the Strait is bound for British ports.[172]

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165 *Ibid*

166 P.J. Gregory, "Safety in the Dover Strait: A Progress Report", *Journal of Navigation* 27:1 (1974), at 53-54

167 Commandant L. Oudet, "The Economics of Traffic Circulation", *Journal of Navigation* 25:1 (1972), at 61

168 *Ibid.,* at 62

169 *Ibid*

170 *Ibid*

171 *Ibid*

172 *Ibid*

Although currently there is no system governing cost sharing in the Strait of Dover, the UK government has attempted to introduce a set of principles to develop a future system for charging ships for services provided by straits states.[173] At the 68th Session of the IMO Maritime Safety Committee in June 1997 the UK government put forward an item of "any other business".[174] This item was "Developing Principles for Charging Users the Cost of Maritime Infrastructure" to the Legal Committee of the IMO.[175] It suggested that the IMO should develop fair principles regulating charges that strait states could levy on users for navigational aids and other services that they render.[176] According to a UK official the proposed "item was intended to "test the water" of the Committee to see if there would be a support for putting the topic forward as a formal resolution for adoption".[177] The UK proposed that charges would be implemented on a non discriminatory basis and would be tied to the recovery costs, including capital investment and improvements, but excluded any form of profit.[178] While there were some supports to the UK's proposal most delegations appeared to disagree with the UK proposal. They questioned whether such suggestions would "exceed the technical mandate so far exercised by the IMO in the adoption of international safety and anti-pollution rules".[179] Due to the reservations of most delegations, the IMO Legal Committee then "concluded that the proposal had not received sufficient support" to go forward.[180]

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[173] United Nations, *United Nations Juridical Yearbook 1998* (New York: UN Office of Legal Affairs, 1998), at 248, available from http://untreaty.un.org/cod/UNJuridicalYearbook/pdfs/english/ByVolume/1998/chpIII.pdf. Last accessed 23 September 2012.

[174] Email correspondence with a UK government official from the Northern Lighthouse 30 November 2012; John M. Van Dyke, "Transit Passage through International Straits", at 193

[175] John M. Van Dyke, "Transit Passage through International Straits", at 193

[176] S.N. Nandan, "Legal Regime for Straits Used for International Navigation", in International Straits Symposium", at 8 as cited in John M. Van Dyke, "Transit Passage through International Straits", at 193

[177] Email correspondence with a UK government official from the Northern Lighthouse 30 November 2012.

[178] Hamzah bin Ahmad, "Global Funding for Navigational Safety and Environmental Protection", in *The Straits of Malacca: International Cooperation in Trade, Funding and Navigational Safety* (Kuala Lumpur: Maritime Institute of Malaysia, Pelanduk Publications, 1997), at 132-133 as cited in John M. Van Dyke, "Transit Passage through International Straits", at 193

[179] United Nations, *United Nations Juridical Yearbook 1998*, at 248; Email correspondence with a UK government official from the Northern Lighthouse 30 November 2012

4.2.2. Cost Sharing in the Torres Straits: Fees for Compulsory Pilotage

The Torres Strait is located between Australia and Papua New Guinea and connects the Indonesian archipelago with the South Pacific.[181] The Strait is known as one of the most dangerous stretches of waters routinely navigated by large vessels.[182] Around 150 small islands, reefs, cays and islets are spread across the waterway.[183] Apart from numerous islands and other navigational dangers scattered throughout the strait, the water is also shallow and narrow. Depth in the Varzin Passage is only 10.5 metres and in the Prince of Wales Channel 11.5 metres.[184] In addition, at its narrowest point the width of the strait is only 800 meters.[185] These circumstances increase the risks of accident in the Torres Strait.

Therefore, in order to reduce the risks of marine accident, on October 6th, 2006, Australia announced the implementation of compulsory pilotage for the Torres Strait.[186] This initiative became a subject of debate at the IMO. The U.S., Singapore and International Chamber of Shipping (ICS) put forward their formal protests to the IMO Sub-Committee on Safety of Navigation.[187] These maritime stakeholders are concerned that as "the extension of the Great Barrier Reef compulsory pilotage arrangements to Torres Strait lies outside the territorial waters of Papua New Guinea and Australia (proposing states), this will set a precedent for other straits used for international navigation.[188] Despite international protests, Australia adopted the compulsory pilotage measure.

The Australian government argued that compulsory pilotage is crucial to protect sensitive marine habitats in the Great Barrier Reef and Torres Strait. Australia submitted its request to the IMO to identify the Great Barrier Reef as a Particularly Sensitive Sea Area (PSSA) and received IMO approval in 1990.[189] The IMO resolution recommended member states to comply with Australia's pilotage system.[190] Australia and Papua New Guinea then proposed

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180 *Ibid*

181 Donald R. Rothwell, "Compulsory Pilotage and the Law of the Sea: Lesson Learned from the Torres Strait", *ANU College of Law Research Paper* No.12-06, at 11, available from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2020781. Last accessed 21 September 2012

182 Sam Bateman and Michael White, "Compulsory Pilotage in the Torres Strait: Overcoming Unacceptable Risk to a Sensitive Marine Environment", Ocean Development & International Law (2009) 40:2, at 185-187

183 Donald R. Rothwell, "Compulsory Pilotage and the Law of the Sea", at 12

184 Sam Bateman and Michael White, "Compulsory Pilotage in the Torres Strait", at 185

185 *Ibid*., at 187

for the extension of the Great Barrier Reef PSSA to include the Torres Strait to prevent and mitigate the vulnerability of the strait from damage cause by shipping traffic and activities.[191]

The IMO approved this proposal and on July 22nd, 2005 designated the Torres Strait as an extension of the Great Barrier Reef PSSA.[192] The IMO resolution recommends member states:[193]

> To inform ships flying their flag that they should act in accordance with Australia's system of pilotage for merchant ships 70 m in length and over or oil tankers, chemical tankers, and gas carriers, irrespective of size when navigating through (a) the inner route of the Great Barrier Reef between the northern extreme of Cape York Peninsula and in Hydrographers Passage and (b) the Torres Strait and the Great North East Channel between Booby Island and Bramble Cay.

Following the IMO resolution the Australian government issued regulations establishing a compulsory pilotage system for the Torres Strait and Great North East Channel.[194] The new navigation act makes it an offence to "navigate in a compulsory pilotage area without a pilot".[195] The Australian government applies significant penalties to a ship master or ship owner that does not comply with the compulsory pilotage requirements.[196] Under the new regulations all vessels of 70 metres or more in overall length, and all loaded tankers, chemical tankers and liquefied gas carriers, when transiting through Torres Strait Pilotage Area must

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186 Australian Marine Notice 8/2006 & associated Marine Orders Part 54, as cited in Australian Navy, "Compulsory Pilotage in the Torres Strait", Semaphore: Newsletter of the Sea Power Centre Australia, (2007) 7, available from http://www.navy.gov.au/Publication:Semaphore_-_Issue_7,_2007. Last accessed 21 September 2012

187 *Ibid*

188 *Ibid;* IMO document NAV 50/3/12 dated 14 May 2004. *Routeing of Ships, Ship Reporting and Related Matters: Torres Strait PSSA Associated Protective Measure Compulsory Pilotage* submitted by International Chamber of Shipping.

189 *Ibid*

190 IMO Resolution MEPC.45(30) adopted on 16 November 1990 as cited in Australian Navy, "Compulsory Pilotage in the Torres Strait".

191 IMO Resolution MEPC.133(53) dated 22 July 2005. *Designation of the Torres Strait as An Extension of The Great Barrier Reef Particularly Sensitive Area*.

192 *Ibid*

193 *Ibid*

194 Australian Navy, "Compulsory Pilotage in the Torres Strait".

195 Australian Maritime Safety Authority Marine Notice 8/2006, dated 16 May 2006. *Revised Pilotage Requirements for Torres Strait*.

196 *Ibid.*, at 1

have a pilot on board.[197] These regulations recognise the principle of of sovereign immunity for defence force ships (warships) and government vessels not employed on commercial service by exempting these ships from compulsory pilotage regime.[198] Vessels transiting the compulsory pilotage area must notify the head office of Torres Pilots at least four days before their arrival and provide the head office with a range of information including pilot boarding ground; time/date pilot required; destination and intended route; and vessel's operational speed, IMO and call sign.[199] The fee for pilotage is Australian $4,000 per vessel per passage.[200]

Australia has established measures to monitor ships compliance without physically denying passage. Ships that are entering the Australia's exclusive economic zone need are tracked using the Australian Maritime Information System (AMIS) run by the Border Protection Command.[201] The ships' movement on the Strait is then monitored by REEFCENTRE which manages vessel traffic and information systems for this route.[202] A ship that is approaching the Torres Strait is also interrogated by the shore Automatic Identification System (AIS) and tracked by shore-based radar.[203] This ship can also be identified by remotely operated video cameras in the areas surrounding the Prince of Wales Channel and surveillance aircraft.[204] All of these mechanisms are in placed to identify any vessel that does not take a pilot and fails to report itself.[205]

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197 *Ibid.*, at 2

198 *Ibid.*, at 2; Australian Navy, "Compulsory Pilotage in the Torres Strait";

199 Torres Pilots, "Compulsory Pilotage", available from http://www.torrespilots.com.au/?page_id=472. Last accessed 23 September 2012.

200 Sam Bateman and Michael White, "Compulsory Pilotage in the Torres Strait", at 196

201 Australian Navy, "Compulsory Pilotage in the Torres Strait".

202 *Ibid*

203 *Ibid*

204 *Ibid*

4.3. Cost Sharing Mechanism in International Navigation

4.3.1 Compensation under the International Convention on Civil Liability for Oil Pollution Damage 1969 (CLC)

The Torrey Canyon accident highlighted the need for international law on civil liability for pollution damage.[206] This led to the adoption of the CLC by the IMCO diplomatic conference held in November 1969.[207] The main principle brought to light by this convention is that ship owners are liable for oil pollution damage caused by oil which has escaped or was discharged from his vessels.[208] Article II of this Convention explains that "this convention is exclusively apply to :pollution damage caused on the territory including the territorial sea of a Contracting State and to preventive measures taken to prevent or minimize such damage".[209]

In describing the rule of liability Article III (1) of this convention points out that "Except as provided in paragraphs 2 and 3 of this Article, the owner of a ship at the time of an incident, or where the incident consists of a series of occurrences at the time of the first such occurrence, shall be liable for any pollution damage caused by oil which has escaped or been discharged from the ship as a result of the incident".[210]

According to Article III (I) the party liable for the oil pollution is the owner of the ship.[211] The term "owner as explained in Article I(3) means: "the person or persons registered as the owner of the ship or, in the absence of registration, the person or persons owning the ship. However in the case of 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."[212] Under the Article V(3) and V(11) ship owner is required to cover their ships with insurance or other financial

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205 *Ibid*

206 David W. Abecassis, " The Law and Practice Relating to Oil Pollution from Ships", (London: Butterworths, 1978), at 172

207 *Ibid*

208 *Ibid ;* IMO, "InternationalConvention on Civil Liability for Oil Pollution Damage (CLC)", available from http://www.imo.org/about/conventions/listofconventions/pages/international-convention-on-civil-liability-for-oil-pollution-damage-%28clc%29.aspx. Last accessed 28 November 2012.

209 Article II of the International Convention on Civil Liability for Oil Pollution Damage 1969

210 David. W. Abecassis, "The Law and Practice Relating to Oil Pollution from Ships", at 176.

211 Article III (1) of the International Convention on Civil Liability for Oil Pollution Damage 1969

212 Article I (3) of the International Convention on Civil Liability for Oil Pollution Damage 1969

security such as a bank guarantee or other guarantee that will "constitute a fund for the total sum representing the limit of his liability" for one accident.[213]

The protocol of 1992 sets out compensation limits as follows:[214]

- For a ship not exceeding 5,000 gross tonnage, liability is limited to 3 million SDR
- For a ship 5,000 to 140,000 gross tonnage: liability is limited to 3 million SDR plus 420 SDR for each additional unit of tonnage
- For a ship over 140,000 gross tonnage: liability is limited to 59.7 million SDR.

On October 18th, 2000 the Legal Committee of the IMO at their 82 meeting adopted the Amendments of the Limitation Amounts in the Protocol of 1992 to amend the 1969 CLC.[215] The compensation limits according to the 2000 Amendment are as follows:[216]

- For a ship not exceeding 5,000 gross tonnage, liability is limited to 4,510,000 units of account
- For a ship 5,000 to 140,000 gross tonnage: liability is limited to 3 million SDR plus 631 SDR for each additional unit of tonnage
- For a ship over 140,000 gross tonnage: liability is limited to 89,770,000 SDR

4.3.2Compensation under the and the Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP)

In the aftermath of the Torrey Canyon incident off the south coast of England in 1967, international regimes to provide compensation for pollution caused by spills from tankers were developed under the auspice of the IMO.[217] Negotiation under the IMO produced the 1969 International Convention on Civil Liability for Oil Pollution Damage (1969 Civil Liability Convention) and the 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (1971 Fund Convention).[218] When these two Conventions were negotiated, the TOVALOP scheme was established by the industry. On 7 January 1969 the agreement was signed by the B.P. Tanker Company Ltd, Esso Transport

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213 Article V(3) and Article V(11) of the International Convention on Civil Liability for Oil Pollution Damage 1969; IMO, "InternationalConvention on Civil Liability for Oil Pollution Damage (CLC)".

214 IMO, "InternationalConvention on Civil Liability for Oil Pollution Damage (CLC)".

215 Resolution Adopted by the Legal Committee of the International Maritime Organization on 18 October 2000, Adoption of Amendments of the Limitation Amounts in the Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 1969.

216 Annex Amendments of the Limitation Amounts in the Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 1969

217 International Oil Pollution Compensation Funds, "The International compensation regime 25 years on (extract): Historical Background", available from http://www.iopcfund.org/history.htm. Last accessed 18 September 2012. Last accessed 18 September 2012.

218 *Ibid*

Company Inc, Gulf Oil Corporation, Mobil Oil Corporation, Shell International Petroleum Company Ltd, Standard Oil Company of California and Texaco Inc.[219] The agreement entered into force on 6 October 1969 when 50 percent of world tankers became subject to the TOVALOP.[220] The TOVALOP served as a mean for reimbursing governments which bear the costs of avoiding or cleaning up pollution damage on their coast lines as a result of discharge of oil.[221] The aim of this scheme was to provide benefits that are comparable to the 1969 Civil Liability Fund and the 1971 Fund Convention to states that had not joined these conventions.[222] The institutionalization of TOVALOP was intended to be a temporary solution and to operate merely until the 1969 and the 1971 Conventions received worldwide application.[223]

The liability of a participating tanker owner under the TOVALOP was set at U.S. $100 per ton or a maximum of U.S. $ 10 million.[224] In 1978 the maximum liability was raised from U.S. $100 per ton or $10 million (whichever is less) to $160 per ton or $16.8 million (whichever is less).[225] The agreement comprises of two important parts.[226] The first is Clause IV on liability and responsibility to the government. Under this Clause each contracting parties that discharges oil from a tanker owned by them to "coast lines within jurisdiction of a government will assume responsibility to remove the discharged oil, or pay the costs incurred by the government concerned to remove the oil".[227] The coverage of such costs enables the TOVALOP to encourage immediate remedial action to remove a grave and imminent danger of pollution damage.[228]

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219 David W. Abecassis, " The Law and Practice Relating to Oil Pollution from Ships", at 235

220 *Ibid*

221 Preamble and Explanation of the Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (Signed January 7, 1969)

222 International Oil Pollution Compensation Funds, "The International compensation regime 25 years on (extract): Historical Background".

223 *Ibid*

224 Clause IV of the Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution

225 David W. Abecassis, " The Law and Practice Relating to Oil Pollution from Ships", at 235-236

226 *Ibid*., at 236

227 Clause IV of the Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution

228 Explanation of the Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution; David W. Abecassis, " The Law and Practice Relating to Oil Pollution from Ships", at 236

The second major part of the TOVALOP lies in Clause VI as this ensures that tanker owners are insured against the liabilities that they have voluntarily agreed.[229] In line with Clause VI, Clause II (C) of the agreement indicates that each party must "establish and maintain his financial capability to fulfill his obligations under this Agreement".[230] This could be done by entering tankers in a specially formed mutual insurance association, the International Tanker Indemnity Association Ltd (ITIA) or in a conventional Protection and Indemnity (P&I) Club.[231] In order to administer the TOVALOP a not-for-profit service organisation called the International Tanker Owners' Pollution Federation (ITOPF) Ltd was formed in 1968.[232] The ITOPF does not provide any insurance.[233] Therefore, when a state filed a claim any payment made came from the P&I Club and other third party liability insurers and not the ITOPF.[234] The P&I Clubs and other insurers managed the administrative procedures and paid the appropriate dues to the ITOPF on their tanker owner members' behalf.[235]

As more states became participants to the 1969 Civil Liability Convention and the 1971 Fund Convention and the 1992 Protocols, in 1995 the industry decided to cease the TOVALOP voluntary agreement on 20 February 1997.[236]

4.3.3 Compensation under the 1971 Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL)

Following the establishment of TOVALOP, a voluntary oil pollution compensation scheme for cargo owners known as CRISTAL was developed in 1971.[237] CRISTAL came into operation on 1 April 1971 when oil companies that receive more than 70 percent of the world's oil had

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229 David W. Abecassis, " The Law and Practice Relating to Oil Pollution from Ships", at 236; Clause VI of the Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution

230 Clause II (C) of the Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution

231 David W. Abecassis, " The Law and Practice Relating to Oil Pollution from Ships", at 237

232 ITOPF, "History", available from http://www.itopf.com/about/history/. Last accessed 18 September 2012

233 David W. Abecassis, " The Law and Practice Relating to Oil Pollution from Ships", at 237

234 *Ibid*

235 ITOPF, "Membership and Funding", available from http://www.itopf.com/about/membership/. Last accessed 18 September 2012

236 International Oil Pollution Compensation Funds, "The International compensation regime 25 years on (extract): Historical Background".

237 ITOPF, "History".

acceded to the agreement.[238] The parties to the agreement comprised of oil companies and the Oil Companies Institute For Marine Pollution Compensation Limited, an entity established in Bermuda.[239]

Similar to TOVALOP, CRISTAL was initially designed to be an interim arrangement due to the delay in the widespread adoption of the Civil Liability and the Fund Conventions.[240] The purpose of the scheme was only to assist victims of oil pollution who had not received adequate compensation under the TOVALOP.[241] Therefore, before a pollution victim can make a claim under CRISTAL he must demonstrate his efforts to exhaust other possible sources of compensation including the owners of tankers as well as other vessels involved in the incident or local funds created by government through a tax on oil companies.[242]

Under CRISTAL the Institute maintains and administers a fund to assure its financial capability to pay compensation. The initial fund of the Institute reached U.S. $ 5 million in 1971.[243] Oil companies that are parties to CRISTAL pay a portion of the fund to the Institute.[244] Each year the Institute assessed each oil company and calculated the levy that each company needed to pay based on their receipts of total crude/fuel oil.[245] The Institute also had the power to decide the amount that it required to pay compensation and what portion of such amount that contracting parties must pay in cash and what portion need to be in other forms.[246]

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238 David W. Abecassis, " The Law and Practice Relating to Oil Pollution from Ships", at 239

239 Preamble of the 1971 Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL)

240 ITOPF, "History".

241 David W. Abecassis, " The Law and Practice Relating to Oil Pollution from Ships", at 239

242 Gordon L. Becker, "Acronyms and Compensation for Oil Pollution Damage from Tankers", *International Law Journal* 18:475 (1983), available at 479-480

243 Clause V (1) of the CRISTAL

244 Clause V(2) & (3) of the CRISTAL

245 *Ibid*

246 Clause V (4) of the CRISTAL

There were a number of conditions in place for making a claim under CRISTAL. The first prerequisite was related to the ownership of the oil. The Institute only compensated a victim of pollution damage if the oil involved in the incident "was owned by an oil company party".[247]

As CRISTAL aimed to serve as a supplementary fund, the other important prerequisite of the agreement was that it did not provide compensation for a victim if pollution damage could be compensated under other funds.[248] Clause IV (E)(I) shows the Institute's liability in cases where the victims have been unable to get sufficient compensation after taking all possible actions.[249]

The acceptance of the Civil Liability and Fund Conventions by states around the world led to the industries decision to end CRISTAL on February, 20th 1997.[250]

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[247] Clause IV (A) of the CRISTAL; David W. Abecassis, " The Law and Practice Relating to Oil Pollution from Ships", at 240; Gordon L. Becker, "Acronyms and Compensation for Oil Pollution Damage from Tankers", at 479

[248] David W. Abecassis, " The Law and Practice Relating to Oil Pollution from Ships", at 241

[249] David W. Abecassis, " The Law and Practice Relating to Oil Pollution from Ships", at 241; Clause IV E)(I) of the CRISTAL

[250] ITOPF, "History".

4.3.4 Compensation under the International Oil Pollution Compensation Funds

The International Oil Pollution Compensation Funds (IOPC Funds) comprises of three intergovernmental organisations (the 1971 Fund, the 1992 Fund and the Supplementary Fund) that provide compensation for oil pollution damage.[251] These three separate legal entities are administered by a joint secretariat in London.[252]

The 1971 Fund is governed by the 1971 Fund Convention. The Convention ceased to be in force on May 24th, 2002 since the number of contracting parties fell below 25.[253] The Fund however still operates until all pending claims occurring from incidents up to May 24th, 2002 have been resolved and remaining assets divided among contributors.[254] Currently, there is no longer any member of the 1971 Fund.

The Exxon Valdez incident in Alaska in 1989 strengthened the need to increase the amount of compensation dealing with pollution damage. In 1992 under the auspices of the IMO two protocols amending the 1969 and 1971 Convention were adopted.[255] These protocols are the 1992 Civil Liability Convention and the 1992 Fund Convention. Under the Civil Liability Convention shipowners provide compensation for pollution damage caused by oil spills, whereas under the 1992 Fund Convention compensation is paid by receivers of oil in state parties.[256]

The 1992 International Oil Pollution Compensation Fund is established "to provide compensation for pollution damage to the extent that" the compensation made available by the 1992 Liability Convention is insufficient.[257] When an incident that causes pollution damage emerges, an aggregate amount of 203 million Special Drawing Rights (SDR) (equivalent to

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[251] IOPC Funds, "General", available from http://www.iopcfund.org/general.htm. Last accessed 18 September 2012

[252] *Ibid*

[253] IOPC Funds, "Historical Background", available from http://www.iopcfund.org/history.htm. Last accessed 18 September 2012

[254] IOPC Funds,"General".

[255] IOPC Funds, "Historical Background".

[256] IOPC Funds, "The International Oil Pollution Compensation Funds 2012", available from http://www.iopcfund.org/npdf/brochure_e.pdf. Last accessed 18 September 2012; Article III of the International Convention on Civil Liability for Oil Pollution Damage, 1992.

US$309.1 million) is payable to governments or other authorities or private bodies or individuals which have incurred costs for clean-up operations, prevent pollution damage or have suffered damage.[258]

The 1992 Fund is administered and managed by an assembly that consists of the representatives of member states.[259] It is financed by the levy on any major oil receivers (in quantities exceeding 150,000 tons per year) in contracting states.[260] The assembly has the responsibility to assess and decide the total contributions to be levied every calendar year and on the basis of that decision calculates the annual contribution of each person (each major oil receivers).[261] Annual contribution of each person is estimated by "dividing the relevant total amount of contribution required" by the aggregate of each ton of oil received in the relevant state by such person during the previous year.[262] As the 1992 Fund depends on reports of the total of oil received by individual contributors, member states are required to communicate the name, address and relevant quantities oil received by any such contributor annually to the assembly.[263]

A series of incidents that have taken place in the 1990s and early 2000s later demonstrated that the total compensation available from the existing IOPC Funds (approx. £166.5 million) are not always sufficient.[264] The UK's experience of the Braer (1993) and the Sea Empress (1996), and oil spills in Japan (Nakhodka, 1997), France (Erika, 1999) and Spain (Prestige, 2002)

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257 Article 2 (1a) International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992

258 IOPC Funds, "Membership", available fromhttp://www.iopcfund.org/membership.htm Last accessed 19 September 2012; Article 4 (4a) and (4b) of the International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992

259 IOPC Funds, "The International Oil Pollution Compensation Funds 2012".

260 Article 10 of the International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992

261 Article 12 (1) and Article 12 (2) of the International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992

262 Article 12(2) and Article 12 (3) of the International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992

263 IOPC Funds, "The International Oil Pollution Compensation Funds 2012"; Article 15(2) of the International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992

264 United Kingdom Foreign and Commonwealth Office, "Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992", available from

showed the difficulties faced by victims of oil pollution because of low compensation limits.[265] Some of the victims experienced delays before receiving full compensation due to the inadequacy of the compensation limits.[266] This circumstance reinforced the need to review the existing compensation regime under the auspices of the IMO. This process then led to the adoption of the Protocol to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992 on 16 May 2003. The 2003 Protocol serves as a legal basis to set up the Supplementary Fund.

The 2003 Protocol increases the compensation limit to pollution victims up to 750 million Special Drawing Rights (approx. £610 million).[267] This Fund is financed by levies on major oil receivers in contracting states (in quantities above 150, 000 tonnes per year).[268]

Similar to the 1992 Fund, the Supplementary Fund is also governed by an assembly comprising of the representatives of its member states.[269] Every year the assembly decides the total amount of contributions to be levied.[270] On the basis of that decision, it calculates the levy for each individual contributor.[271] The annual contribution of each person corresponds with the total oil such person receives in the preceding year.[272]

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http://www.fco.gov.uk/en/publications-and-documents/treaty-command-papers-ems/explanatory-memoranda/explanatory-memoranda-2004/oilpoll. Last accessed 19 September 2012

[265] *Ibid*

[266] *Ibid*

[267] *Ibid;* Article 4 of Protocol of 2003 to The International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992.

[268] United Kingdom Foreign and Commonwealth Office, "Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992"; Article 10 of the Protocol of 2003 to The International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992

[269] Article 1 of the Protocol of 2003 to The International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992; IOPC Funds, "The International Oil Pollution Compensation Funds 2012"

[270] Article 2 of the Protocol of 2003 to The International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992

[271] *Ibid*

[272] Article 3 of the Protocol of 2003 to The International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992

4.3.5 The International Ice Patrol (IIP) in the North Atlantic

The sinking of the the RMS TITANIC on April 15, 1912 generated public demand for the establishment of cooperative scheme to address the navigational hazard caused by iceberg.[273] In 1913 as part of the international effort to prevent any navigational disaster resulting from ships colliding with icebergs the first International Conference on the Safety of Life at Sea (SOLAS) was convened in London. This conference produced the SOLAS 1914 agreement which set the legal foundation for the establishment of the IIP. Article 6 of the SOLAS 1914 provides obligations for the contracting parties to "ensure the destruction of derelicts in the northern part of the Atlantic Ocean" and "to establish a service for the study and observation of ice conditions and a service of ice patrol".[274] Article 7 of the SOLAS 1914 also regulates the contribution of the contracting parties to the expense of establishing and operating the ice patrol. The SOLAS 1914 establishes the fixed percentages for each nation to contribute to the patrol as follows.

Contribution of Each States to the IIP

States	Contribution (Per Cent)
Austria-Hungary	2
Belgium	4
Canada	2
Denmark	2
France	15
Germany	15
Great Britain	30
Italy	4
Netherlands	4
Norway	3
Russia	2
Sweden	2
United States of America	15

Source: Article 7 of the 1914 SOLAS Convention

As a follow up to the conference, in 1914 maritime nations with ships transiting the North Atlantic established the International Ice Patrol to monitor the iceberg danger near the Grand

[273] IIP, "History of the IIP", available from http://www.navcen.uscg.gov/?pageName=IIPHistory. Last accessed September 20th, 2012.

[274]

Banks of New Foundland and provide the information to the marine community.[275]The United States was invited to manage and operate the IIP.[276] The Revenue Cutter Service is charged with this mission and in 1915 this responsibility was assumed by the U.S. Coast Guard.[277]

The activities of the IIP include reconnaissance work and data analysis. In terms of reconnaissance work, the U.S. Coast Guard collects information regarding ice conditions from air surveillance flights and ships operating through the area.[278] During the ice season that runs from February 1st through July 31st, the U.S. Coast Guard carries out reconnaissance flights for five days every other week.[279] Each patrol takes between 5 to 7 hours and each flights covers an area of 30,000 square miles or more.[280] The data gathered from surveillance flights and ships are entered into a computer model at the IIP Operation Center together with ocean current and wind data to predict the drifts of the icebergs.[281] The IIP has conducted its activities every season with the exception of the period of the two World Wars.[282]

Although the U.S. is in charge in the management of the IIP at the operational level, the U.S government is not the only party that bears the costs of IIP activities. The expense of the IIP operations is shared by 13 nations interested in trans-Atlantic navigation who are signatories to the 1915 SOLAS Convention.[283] These are Belgium, Greece, Poland, Canada, Italy, Spain, Denmark, Japan, Sweden, Finland, Netherlands, United Kingdom, France, Norway, United States of America, Germany and Panama.[284]

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275 IIP, "International Ice Patrol", available from http://www.navcen.uscg.gov/?pageName=IIPHome. Last accessed September 20th, 2012.

276 Article 7 of the 1914 SOLAS Convention; IIP, "About International Ice Patrol", available from http://www.navcen.uscg.gov/?pageName=IIPMission. Last accessed 19 September 2012

277 IIP, "Chronology of U.S. Coast Guard Polar and Ice Operations", available from http://www.uscg.mil/history/uscghist/USCGPolarIceOpsChron.pdf. Last accessed 19 September 2012

278 *Ibid;* IIP, "U.S. Coast Guard International Ice Patrol", available from http://www.navcen.uscg.gov/pdf/iip/International_Ice_Patrol_2012_Brochure.pdf. Last accessed 19 September 2012.

279 *Ibid*

280 *Ibid*

281 *Ibid*

282 *Ibid*

283 IIP, "Chronology of U.S. Coast Guard Polar and Ice Operations.

These nations agreed to share costs based on a formula that reflects their level of individual benefits.[285] In the early years of the IIP this cost sharing mechanism was calculated on the basis of a fixed percentage.[286] At present, the percentage of the total cargo tonnage of each participating nation which transits the North Atlantic area during the ice season has been used to measure contributions.[287] The U.S. Department of State is tasked to do the actual billing of each nation for their contribution.[288]

4.3.6 Contribution for the Maintenance of Red Sea Lights

Another instance of international cost-sharing practice is shown in the maintenance of two navigational lights in the southern part of the Red Sea. These navigational lights on the Islands of Abu Ail and Jabal Tair in the Red Sea were constructed by the Ottoman government before World War I.[289] On July 24th, 1923 under Article 16 of the Lausanne Treaty Turkey renounced all her rights and titles over the two islands, since then there has been no determination of sovereignty over these two islands.[290] United Kingdom continued to maintain these navigational lights with contributions from Germany, Italy and the Netherlands.[291]

In an attempt to maintain the crucial operation of these lights in October 1962 the British government invited all nations having 2 percent of more total tonnage transiting through the Suez Canal and thus, benefited from the lights to attend a conference in London.[292] The successful conference produced the Agreement for the Maintenance of Certain Lights in the Red Sea, signed in London, 20 February 1962. The purposes of the agreement were to

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284 U.S. Homeland Security and U.S. Coast Guard, "Report of the International Ice Patrol in the North Atlantic", at 58 available from http://www.navcen.uscg.gov/pdf/iip/2011_IIP_Annual_Report.pdf. Last accessed 20 September 2012.

285 U.S. Coast Guard, "International Ice Patrol", available from http://www.uscg.mil/history/articles/IIP_History.asp. Last accessed 20 September 2012.

286 *Ibid*

287 *Ibid*

288 *Ibid*

289 John M. Garner, "The Red Sea Lights Agreement: Another Instance of International Cost-Sharing", *The American Journal of International Law* 69:110 (1975), at 130

290 Preamble of the International Agreement for the Maintenance of Certain Lights in the Red Sea, 1962; John M. Garner, "The Red Sea Lights Agreement: Another Instance of International Cost-Sharing", at 130

291 Preamble of the International Agreement for the Maintenance of Certain Lights in the Red Sea, 1962

292 John M. Garner, "The Red Sea Lights Agreement: Another Instance of International Cost-Sharing", at 130; David H. Anderson, "Funding and Managing International Partnership for the Malacca and Singapore

maintain navigational lights on the Islands of Abu Ail and Jabal at Tahir that and regulate the sharing of the costs of their maintenance.[293] The contracting parties to this agreement included Denmark, Federal Republic of Germany, Italy, Netherlands, Norway, Sweden, United Kingdom, United States of America, Pakistan, Union of Soviet Socialist Republics and United Arab Republic.[294] Each of these states paid the expense of managing the lights based on the total tonnage of their vessels.[295]

The government of the UK was assigned as the managing government with responsibility to manage and maintain the light.[296] The British government then appointed the UK Department of Trade and Industry to administer the Red Sea Lights agreements.[297] In 1967 the British government pledged the Intergovernmental Maritime Consultative Organization to carry out the reconstruction of the Red Sea Lights at its own expense. Nevertheless, the government also claimed that any additional costs incurred in connection with the lighthouse would be shared among the contracting parties.[298] In 1973 the UK announced its decision for the automation of the two lighthouses to reduce maintenance costs and began a work program to automate the lights in 1974.[299]

As a managing government the UK was also responsible to collect annual contributions; to announce the annual expenditure in managing and maintaining the lights and estimate of the next year expenditure, and to consult with others on any expenditure, other than regular maintenance, in excess of 5,000 pound sterling.[300] More importantly, the managing government was tasked to assess the contribution of each government based on the total

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Straits, Consonant with Article 43 of the UN Convention of the Law of the Sea", *Singapore Journal of International and Comparative Law* 3, (1999), at 451

293 Preamble of the International Agreement for the Maintenance of Certain Lights in the Red Sea, 1962; John M. Garner, "The Red Sea Lights Agreement: Another Instance of International Cost-Sharing", at 129

294 Acceptances of the International Agreement for the Maintenance of Certain Lights in the Red Sea, 1962

295 Article 3 (1) of the International Agreement for the Maintenance of Certain Lights in the Red Sea, 1962

296 Article 2 of the International Agreement for the Maintenance of Certain Lights in the Red Sea, 1962

297 John M. Garner, "The Red Sea Lights Agreement: Another Instance of International Cost-Sharing", at 131

298 Department of State Airgram, unclassified, London A-1390 of Nov. 26, 1973, with enclosure from the Foreign and Commonwealth Office dated Nov. 13, 1973. as cited in John M. Garner, "The Red Sea Lights Agreement: Another Instance of International Cost-Sharing", at 133

299 *Ibid*

300 *Ibid*; Article 3 (2) and 3 (3) of the International Agreement for the Maintenance of Certain Lights in the Red Sea, 1962

tonnage of the vessels of each contracting government plying through the Suez Canal "as compared with the total tonnage of all vessels of the contributing governments" navigating through the Canal during one year.[301]

This international cost sharing scheme lasted for almost 30 years before Yemen started to operate navigational lights in its own area, after its independence from Aden.[302] On June 1989 Yemen informed the British government regarding the locations of the two navigational lights that fall under the Yemeni exclusive economic zone and its willingness to take responsibility in managing and operating the two lighthouses.[303] Since 1989 "it became clear that many parties" including the UK had revealed their intention to denounce the 1962 Treaty. As no positive action was taken to extend the 1962 Treaty, the international agreement expired on March 1990.[304]

4.3.7. Light Dues for Vessels Navigating through the UK Waters

The three General Lighthouse Authorities (GLAs) of the Commissioners of Irish Lights, the Northern Lighthouse Board and Trinity House have long held the responsibility for the operation and maintenance of aids to navigation along the UK coast.[305] The Trinity House, an independent non statutory corporation has received its charter in 1514.[306] The powers and duties of Trinity House extend to England, Wales and "the adjacent seas and islands".[307] The Northern Lighthouse Board is responsible for provision and maintenance of lighthouses in Scotland and the Isle of Man, but they are also need to submit their schemes to Trinity House

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301 Article 3 (5) of the International Agreement for the Maintenance of Certain Lights in the Red Sea, 1962

302 David H. Anderson, "Funding and Managing International Partnership for the Malacca and Singapore Straits, Consonant with Article 43 of the UN Convention of the Law of the Sea", at 451

303 Sir Elihu Lauterpacht, "Chapter VI: Red Sea Lighthouses" in *International Law Report Vol. 114*, E. Lautherpacht & C.J. Greenwood (Eds) (Cambridge: University of Cambridge: 1999), at 67

304 Sir Elihu Lauterpacht, "Chapter VI: Red Sea Lighthouses", at 68

305 General Lighthouse Authorities The United Kingdom and Ireland, *Contributing towards the Marine Aids to Navigation Strategy- 2025 and beyond: GLA Joint Navigation Requirements Policies*, at 2, available from http://www.trinityhouse.co.uk/pdfs/jnrp_may2012.pdf. Last accessed 24 September 2012.

306 Colombos, International Law of the Sea (6th ed., 1967), at 336 as cited in M.M. Sibthorp (ed), *The North Sea Challenge and Opportunity: Report of a Study Group of The David Davies Memorial Institute of International Studies* (London: Europa Publications, 1975), at 189

307 Merchant Shipping Act 1894 and the Merchant Shipping (Mercantile Marine Fund) Act, 1898 as cited in M.M. Sibthorp (ed), *The North Sea Challenge and Opportunity*, at 189

for approval and advice.[308] In waters around both Northern Ireland and the Republic of Ireland the responsibility for the provision and maintenance of lights rests with the Commissioners of Irish Lights.[309]

In many countries the costs incurred from installing and maintaining navigational aids is borne by government authorities, in the UK however, these costs are charged on ships entering the UK ports.[310] The services provided by the three GLAs are funded from Light Dues paid by commercial vessels.[311] This Light Dues contribute to the General Lighthouse Fund (GLF), which falls under the Department for Transport remit.[312] The GLF dates back from 1898 but present is administered under section 211 of the Merchant Shipping Act 1995.[313] To quote the section 211 of the Merchant Shipping Act:[314]

> (1)There shall continue to be a fund called the General Lighthouse Fund administered by the Secretary of State.
> (2)The following shall be paid out of that Fund—
> (a)any expenses incurred by general lighthouse authorities in connection with the discharge of their functions under this Part and, in the case of the Commissioners of Irish Lights as respects their functions in the Republic of Ireland, under the corresponding Part of the 1894 Act, subject, however, to section 213;
> (b)any expenses (whether of a capital nature or not) incurred by the Secretary of State in pursuance of any international agreement relating to the provision of an electronic position-fixing system intended as an aid to the navigation of ships or incurred by him preliminary to his entering into such an agreement;
> (c)such sums as the Secretary of State may determine as sums appearing to him to represent the amount or estimated amount of

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[308] *Ibid*; The Trinity House, "Funding", available from http://www.trinityhouse.co.uk/th/about/funding.html. Last accessed 21 September 2012.

[309] The Trinity House, "Funding".

[310] UK Parliament, "Light Dues", available from http://www.publications.parliament.uk/pa/cm200203/cmselect/cmtran/783/78311.htm. Last accessed 21 September 2012; M.M. Sibthorp (ed), *The North Sea Challenge and Opportunity*, at 189

[311] The Trinity House, "Funding".

[312] *Ibid*

[313] UK Department of Transport, Explanatory Memorandum to the Merchant Shipping (Light Dues) (Amendment) Regulations 2010 No. 629 available from http://www.legislation.gov.uk/uksi/2010/629/pdfs/uksiem_20100629_en.pdf. Last accessed 30 November 2012.

[314] Section 211 of the UK Merchant Shipping Act 1995 available from http://www.legislation.gov.uk/ukpga/1995/21/section/211. Last accessed 4 December 2012

any expenses incurred or likely to be incurred by him in connection with the administration of the Fund;
(d)any expenses incurred by the Secretary of State in maintaining the Sombrero lighthouse in the Leeward Islands;
(e)any other sums made payable out of the Fund by any other provision of this Part or Part IX.
(3)The following shall be paid into that Fund—
(a)all general light dues and other sums received by or accruing to any of the general lighthouse authorities by virtue of, or in connection with the discharge of their functions under, this Part and, in the case of the Commissioners of Irish Lights as respects their functions in the Republic of Ireland, under the corresponding Part of the 1894 Act;
(b)any sums received by the Secretary of State in pursuance of any such agreement as is mentioned in subsection (2)(b) above in respect of—
(i)expenses incurred by him in pursuance of the agreement, or
(ii)expenses incurred by any of the general lighthouse authorities which, by virtue of subsection (2) above, are payable out of the Fund;
(c)any other sums made payable into the Fund by any other provision of this Part or Part IX.
(4)The accounts of the Fund for each year shall be examined by the Comptroller and Auditor General who shall send a copy of the accounts certified by him to the Secretary of State.
(5)The Secretary of State shall lay copies of the accounts before each House of Parliament.

In 2002, the revenues generated from Light Dues totaled £73m, of which £71m comes from merchant shipping and the rest comes from the fishing industry and certain smaller vessels.[315]

The calculation of the rate of the dues is based on the net registered tonnage of the vessel.[316] This rate is set and annually reviewed by the UK Department of Transport.[317] Currently, Light Dues are charged at a rate of 43 p per ton of the ship, subject to a maximum charge per voyage of £17,200.[318] Vessels are charged for a maximum of nine voyages per year.[319] Goods or belongings of the ship can be seized in the event of non-payment.[320]

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315 UK Parliament, "Light Dues".
316 *Ibid*
317 *Ibid*
318 *Ibid*; Statutory Instruments 2009 No.1371 Merchant Shipping: The Merchant Shipping (Light Dues) (Amendment) Regulations 2009, dated 8 June 2009.

4.4 Surveying Cost Sharing Models

The previous section has explained various cost sharing practices in straits and non straits area. Based on the modalities of financial support, these various cost sharing mechanisms can be categorized into three main groups. These are recovery costs model; fees for relevant states model and fees for private users model.

4.4.1 Recovery Costs Model

Under the Recovery Costs Model users pay for costs incurred by state or other entities that provide and maintain navigational aids and prevent and control marine pollution. Among a number of examples explained in the previous section three cost sharing mechanisms fit into the Recovery Costs Model. These are compensation arrangement under the 1969 Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP); the 1971 Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL) and finally, the International Oil Pollution Compensation (IOPC) Fund.

The source and management of these funds are different. Under the TOVALOP strait states received compensation from marine insurers that pay claims on behalf of their ship owner members. Under CRISTAL the compensation fund came from levy paid by oil companies to the Oil Companies Institute For Marine Pollution Compensation Limited. In comparison the IOPC Fund comes from levy on any major oil receivers in contracting states. Despite these differences, these three schemes show similarities in terms of the compensation for states affected by pollution damage. The arrangements that belong to the Recovery Cost Model enable strait states involved in the provision of services to ask for reimbursement either from a stand by fund set up by users or from a third party insurer that pays compensation on behalf of users.

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319 *Ibid*

320 M.M. Sibthorp (ed), *The North Sea Challenge and Opportunity*, at 189

4.4.2 Fee for Relevant States Model

The Fee for Relevant States Model is derived from the application of a "users pay" principle where states that benefit from the navigational or pollution prevention services must pay for these services. Based on this principle strait states do not underwrite or subsidise any costs incurred for the provision and maintenance of navigation aids or pollution prevention and mitigation measures.[321] Two cost sharing schemes reflect this model. These are states' contribution to the North Atlantic international ice patrol and the maintenance of two Red Sea lights. Both in the case of the North Atlantic patrol and maintenance of Red Sea lights a percentage of the total tonnage of each participating state is used to measure the contribution fee of every government.

4.4.3 Fee for Private Users Model

Similar to Fee for Relevant State Model, the fee for Private Users Model also stems from the implementation of a "users pay" principle. This model however charges private users for the navigational and pollution prevention and control services that they use when navigating through straits or other waterways. These private users may include various private entities including shipowners, exporters and importers. Three cost sharing cases explained in section two reflect the Fee for Private Users Models including a discourse on cost sharing mechanism in the Dover Strait, fee for compulsory pilotage at Torres Strait and the implementation of Light Dues in the UK.

Although cost sharing mechanisms in the Dover Strait have not been set up, the principles for charging users for maritime infrastructure that the UK government proposed to the IMO in 1997 are useful for consideration in establishing a cost sharing system in straits used for international navigation. These principles highlight the importance of preserving the rights of innocent passage, not to discriminate vessels of different nations, relate the charges only with costs of providing services and avoid over-charging or indirect taxation.[322] The charges for the

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[321] B.A. Hamzah, "Managing Marine Pollution in the Straits of Malacca and Singapore: Personal Observations", *Singapore Journal of International and Comparative Law* (1998) 2, at 467

[322] Hasjim Djalal, "Funding and Managing International Partnership for the Malacca and Singapore Straits Consonant with Article 43 of the UNCLOS, 1982", *Singapore Journal of International and Comparative Law* (1999) 3, at 469

users also could include not only costs of maritime infrastructure but also the costs of protection marine environment from pollution damage.[323]

In comparison to the Dover Strait case the compulsory pilotage at the Torres Strait and the UK light dues systems are much more developed. Under the compulsory pilotage scheme, private users, mainly represented by shipping businesses are charged with pilot services per passage. Under the Light Dues scheme vessels are charged based on tonnage of the vessel.

In conclusion, this chapter has elaborated a range of burden sharing schemes both in straits used for international navigation and non straits areas. It provides details account on principles and methods to charge users. These eight cost sharing mechanisms can be grouped into three categories: recovery costs model, fees for relevant government and fees for private users. Having surveyed each cost sharing models, the next question to pose is: how feasible is it to implement each of these cost sharing models in the Straits of Malacca and Singapore? The following chapter addresses this question.

323 *Ibid*

Chapter 5 Identifying Gaps and Problems in the Existing Cooperation and Cost Sharing Practice in the Straits of Malacca and Singapore

5.1 The Issues of Navigational Safety and Marine Pollution

As explained in chapter one the most important question to pose in this research is why, despite a growing interest both from the states bordering the Straits and businesses to improve the safety of navigation and pollution control measures, does an institutionalized burden sharing mechanism remain absent? What types of burden sharing mechanisms could be established? What are the advantages and disadvantages of these mechanisms? This chapter presents both empirical data regarding the issues of navigational safety and marine pollution and an analytical overview of feasible cooperation and cost sharing models that can be applied in the Straits of Malacca and Singapore.

Figure 1. Map of the Strais of Malacca and Singapore

Source: http://www.welt-atlas.de/map_of_strait_of_malacca_6-847

The Straits of Malacca and Singapore is the main waterway connecting the Indian Ocean and the South China Sea. The northern entrance of the Straits between Tanjung Tamiang, Indonesia

and Penang Island, Malaysia is 126 nautical miles wide.[324] The narrowest part at the southern end is about 8 nautical miles.[325] The Straits narrowest point is only 1.5 miles wide and located at Philip Channel, Singapore.[326] In general the depth of the straits is 27 meters and rarely surpasses 37 meters.[327]

Historically, the Straits of Malacca and Singapore has been a major spice route linking East Asia and other regions in the world.[328] At present the Straits is a key global shipping gate-way. Currently, around one third of the world's trade and half its oil traverse Southeast Asian waterways.[329] Most of these traffic volumes pass through the Straits of Malacca making Malacca the busiest straits in the world. A large amount of the imported oil for Asia Pacific countries, including around 80 percent of Japan's and China's imported oil originating from the Persian Gulf transits through the Strait of Malacca and Singapore since this sea lane is the shortest sea route between the Middle East and Asia.[330] Currently, more than 70 per cent of supertankers navigating between the Indian and Pacific Oceans transits through the Straits of Malacca and Singapore.[331]

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[324] Bernard Kent Sondakh, "National Sovereignty and Security in the Straits of Malacca",in Mohd Nizam Basiron & , Amir Dastan, *Building A Comprehensive Security Environment* (Kuala Lumpur: Maritime Institute of Malaysia, 2006), at 79

[325] *Ibid*

[326] Maritime Institute of Malaysia, "Shipping Carrying Capacity of Straits of Malacca", *MIMA Research Paper* (Kuala Lumpur: MIMA, 2007), at 2

[327] *Ibid*

[328] Anugerah Nontji, "Managing the Marine Environment of the Straits of Malacca", in Mohd Nizam Basiron & Amir Dastan, *Building A Comprehensive Security Environment* (Kuala Lumpur: Maritime Institute of Malaysia, 2006), at 144

[329] United States White House, "The National Strategy for Maritime Security, September 2005", at 15, available from http://georgewbush-whitehouse.archives.gov/homeland/maritime-security.html. Last accessed 7 September 2010

[330] The United States Energy Information Administration, "World Oil Transit Chokepoints: Malacca", available from http://www.eia.doe.gov/cabs/world_oil_transit_chokepoints/malacca.html, accessed March 28th, 2011; United States Department of Defense, "Annual Report to Congress Military Power of the People's Republic of China 2006", at 33, available from www.defense.gov/pubs/pdfs/China%20Report%202006.pdf - 2007-03-30 -. Last accessed 17 November 2010; United States Office of the Secretary of Defense, "Annual Report to Congress: The Military Power of the People's Republic of China 2005", at 33 available from www.defense.gov/news/Jul2005/d20050719china.pdf - 2005-07-19 -. Last accessed 17 November 2010; United States Office of the Secretary of Defense, "Annual Report to Congress: Military Power of the People's Republic of China 2007", at 8 available from http://www.defense.gov/pubs/pdfs/070523-china-military-power-final.pdf. Last accessed 17 November 2010

[331] Bernard Kent Sondakh, "National Sovereignty and Security in the Straits of Malacca", at 79

The waters generate revenues for the Southeast Asian states, from the shipping industries and also trade. Nonetheless, the transports of goods by sea are not trouble free. There are countless maritime threats including armed robbery against ships, transport of weapons of mass destruction, potential maritime terrorism attacks, and collisions and groundings. With busy shipping flows reaching 400 ships every day,[332] businesses point out that among these maritime issues to the problems of collisions and near misses in the Straits are at the heart of their concerns. The risks of ships colliding and running aground correspond with the rising shipping volume in the straits. As table 1 indicates the volume of traffic in the Straits has seen a consistent increase since 2000 and is predicted to double by 2020.[333]

Table 1. Vessels Movement in the Straits of Malacca and Singapore, 2000-2010

Year	Number of Vessels
2000	55,957
2001	59,314
2002	60, 034
2003	62,334
2004	63,636
2005	62,621
2006	65,649
2007	70,718
2008	76,381
2009	71,359
2010	74,133

Source: Port Klang VTS as cited Ahmad Nordin Ibrahin, Marine Department Malaysia, "Overview on Traffic and Incidents in the Straits of Malacca and Singapore", available from www.cooperativemechanism.org.my. *Last accessed 21 August 2012.*

The increasing traffic coupled with the existence of sandbanks, rocky outcrops and narrow channels adds to the vulnerability of the straits environment to the threat of ships colliding and

[332] Arif Havas Oegroseno, "The Straits of Malacca and Challenges Ahead: Indonesian Point of View". *Building A Comprehensive Security Environment in the Straits of Malacca*, (Kuala Lumpur: Maritime Institute of Malaysia, 2006), at 28

[333] Ji Guoxing, *SLOC Security in the Asia Pacific* (2000) Asia-Pacific Center for Security Studies and Vijay Sakhuja, *Malacca: Who's to pay for smooth sailing?* (2007) Asia Times Online as cited in Mohd Hazmi Bin Mohd Rusli, "Navigational Hazards in International Maritime Chokeppoints: A Study of the Straits of Malacca and Singapore", available from , http://www.uq.edu.au/isaasiapacific/content/mohdmohdrusli7-2.pdf, at 5. Last accessed 21 August 2012

grounding.[334] Accidents in these narrow and shallow waterways would have devastating economic costs, claim human lives and cause destruction to the marine environment. An accident in the Straits could hamper the flow of traffic and delay shipping for weeks, adding to transportation costs.[335] Accidents in the straits also pose critical challenges to the straits environment, as the Straits of Malacca and Singapore harbours rich marine life including mangroves and coral reefs.[336]

A number of shipping incidents have taken place in the straits involving major releases of oil and hazardous and noxious substances into the waters.[337] From 1973 to 2003 888 accidents occurred in the Straits of Malacca and Singapore.[338] Around 59 percent of incidents that happened from 2000 to 2010 were caused by collision, 22 percent caused by fire, 10 percent due to running aground and 9 percent because of sinking.[339] A number of major accidents from 1975 to 2001 in the straits are listed in Table 2 below. Most recently, in May 2010 another major incident took place in the straits as MV Waily and MT Bunga Kelana collided and spilled 18,000 barrels of light crude oil.[340]

Table 2. Major Pollution Accidents in the Straits of Malacca and Singapore 1975-2001

Year	Vessel Name	Type of Oil and HNS	Quantity of Spillage (Barrels)	Location and Cause
1975	Showa Maru	Crude	54,000	Straits of Singapore Grounding
1992	Nagasaki Spirit Ocean Blessing	Crude	100,000	Straits of Malacca Collision
1997	Evoikos Orapin Global	Crude	175,000	Straits of Singapore Collision

334 Nazery Khalid& Mohd Nizam Basiron, "Securing Energy Transportation in the Straits of Malacca", Maritime Institute of Malaysia (MIMA) Research Paper, (Kuala Lumpur: MIMA, 2007), at 8

335 Maritime Institute of Malaysia, "Shipping Carrying Capacity of Straits of Malacca", at 1

336 Anugerah Nontji, "Managing the Marine Environment of the Straits of Malacca", at 145

337 *Ibid*

338 *Ibid*

339 Ahmad Nordin Ibrahin, Marine Department Malaysia, Overview on Traffic and Incidents in the Straits of Malacca and Singapore", at 16

340 Mohd Hazmi Bin Mohd Rusli, "Navigational Hazards in International Maritime Chokeppoints: A Study of the Straits of Malacca and Singapore", at 8

1999	Sun Vista	Fuel Oil	14,000	Straits of Malacca Sinking
2000	Natuna Sea	Crude	49,000	Straits of Singapore Grounding
2001	Indah Lestari	Phenol	89	Johor Straits Sinking

Source: Malaysia Department of Environment as cited in Nazery Khalid& Mohd Nizam Basiron, "Securing Energy Transportation in the Straits of Malacca", at 9

Alarmed by maritime safety problems, Southeast Asian states, particularly the three littoral states of Indonesia, Malaysia and Singapore that border the Straits of Malacca, have taken part in initiatives to counter navigational safety problems and control marine pollution in the Straits. The straits states have developed both trilateral cooperation among themselves and cooperation with user states. The next section discusses the development of cooperation and cost sharing partnerships in the Straits of Malacca and Singapore in detail.

5.2 The Development of Cooperation and Cost Sharing Partnerships

The cooperation to manage the Straits of Malacca and Singapore dates back to the 1960s when traffic in the straits increased significantly.[341] Cooperation first took place in 1969 and involved Japan and the three straits states. Japan offered to carry out joint hydrographic surveys of the straits. A preliminary survey conducted from January 28th to March 14th 1969 discovered 20 potentially very dangerous shallows.[342] In the same year, in response to the strait states requests for greater user state involvement to improve the navigational safety in the straits, Japanese businesses and government formed the Malacca Strait Council. The main purpose for the establishment of the Council was to assist the straits states in route maintenance in the Straits. The Malacca Strait Council has installed 45 set of aids to navigation at 30 points along the Strait of Malacca. These navigational aids include 4 lighthouses; 10 light beacons, 8 resilient light beacons; 8 light buoys and 15 racons.[343] The Malacca Strait Council has been financially supported by the government of Japan (5%); the

[341] Hasjim Djalal, "The Malacca-Singapore Straits Issue", in Mohd Nizam Basiron & Amir Dastan, *Building A Comprehensive Security Environment* (Kuala Lumpur: Maritime Institute of Malaysia, 2006), at 270

[342] *Ibid*., at 273

[343] Nippon Maritime Center, "Malacca Strait Council", available from http://www.nmc.com.sg/MSC.pdf. Last accessed June 20th, 2012.

Nippon Foundation (74%); the Japan Maritime Foundation (9%); and related Japanese industrial associations (12%) such as the Japanese Shipowners' Association; the Petroleum Association of Japan; the General Insurance Association of Japan; the Shipbuilders' Association of Japan; and the Japan Hydrographic Association.[344]

Over the last 40 years the Malacca Strait Council has performed a number of key activities to enhance the safety of navigation and protect the marine environment of the straits. These have included a hydrographic survey and the production of navigational charts (1969-1975); the installation and maintenance of navigational aids (1969-present); the clearance of navigable channels (1973-1981); the donation of an oil skimming vessel and buoy tenders (1975, 1976, 2002, 2003); tide and current observation (1976-1979) and the donation of Revolving Fund for combating oil spills from ships (1981).[345]

In the early 1970s Indonesia, Malaysia and Singapore began to develop measures to unify the straits states view on matters related to the management of the straits including dealing with safety of navigation and pollution prevention. In 1971 the 1st Tripartite Ministerial Meeting of the three littoral states adopted a joint statement. The joint declaration stated the following:[346]

> "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 cooperation on the safety of navigation in the two straits.
>
> 3. The three governments agreed that a body for cooperation to coordinate efforts toward safe navigation in the Straits of Malacca and Singapore to be established as soon as possible and that such body be composed of only the three coastal states concerned.
>
> 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 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

344 *Ibid*
345 *Ibid*
346 Hasjim Djalal, "The Malacca-Singapore Straits Issue", at 274-275

> innocent passage. The Government of Singapore takes notes of the position of the Governments of the Republic of Indonesia and Malaysia on this point.
>
> 6.On the basis of this understanding the three governments approved the continuation of the hydro graphic survey"

In the context of straits management, the 1971 declaration is important for three reasons. First, it confirms that the responsibility to maintain the safety of navigation lies upon the littoral states.[347] Second, the declaration marks the establishment of a tripartite framework with its three main components, namely the Tripartite Ministerial Meeting, the Tripartite Senior Official Meeting (SOM) and the Tripartite Technical Expert Group (TTEG).[348] The Ministerial Meeting is designed to formulate policy guidelines to be implemented in the Straits of Malacca and Singapore. According to the 1971 declaration a committee of senior officials from the three straits states is responsible for problems related to the Straits of Malacca and Singapore.[349] As a committee, senior officials discussed the Straits issues in the context of the Conference of the Law of the Sea, and carried out discussions with other external state such as Japan through the Inter-Governmental Maritime Consultative Organization (IMCO).[350] The TTEG deals with technical issues.[351] The first task conducted by the TTEG was to study the requirements for setting up under keel clearance (UKC) and establishing a traffic separation scheme for the straits.[352] Third, the 1971 accord implies that in terms of navigational safety the Straits of Malacca and Singapore is treated as one sea lane, therefore, any issue related to the safety of navigation in these straits is treated as a tripartite issue.[353]

Prompted by the Showa Maru super tanker accident in the Strait of Singapore on January 6th, 1975, the three littoral states held the 2nd Tripartite Ministerial Meeting on February 19th, 1975

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[347] Oegroseno, Arif Havas. "Threats to Maritime Security and Responses Thereto: A Focus on Armed Robbery against Ships at Sea in the Straits of Malacca and Singapore-Indonesian Experience", Presentation paper for the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea Ninth Meeting, New York, 23-27 June 2008, available from http://www.un.org/Depts/los/consultative_process/documents/9_arifhavasoegroseno.pdf. Last accessed June 27th, 2011

[348] *Ibid*

[349] Hasjim Djalal, "The Malacca-Singapore Straits Issue", at 276

[350] *Ibid*

[351] *Ibid*

[352] Dato' Cheah Kong Wai and Mohd Nizam Basiron, "Straits of Malacca and Singapore: Case Study of Maritime Cooperation", *MIMA Researchers' Paper* (Kuala Lumpur: MIMA, 2007), at 3

to reconfirm their position on promoting safety of navigation and assert their rights to control the straits.[354] In February 24th, 1977 in the 3rd Tripartite Ministerial Meeting the three littoral states signed the Agreement on Safety of Navigation in the Straits of Malacca and Singapore and agreed on a coordinated mechanism to address pollution in the Straits. The agreement incorporated a traffic separation scheme and 3.5 metres under-keel clearance requirements that impose limitations for fully loaded tankers to about 230,000 dwt.[355] As a consequence larger tankers would need to traverse through the Straits of Sunda or Lombok in the Indonesian archipelago. This extends the navigational distance for ships plying from Middle East to East Asia by 1,000 nautical miles.[356] Senior officials of the straits states then referred their proposal to the IMCO and sought the organization's approval. On November 14th, 1977 the IMCO issued Resolution A.375 (X) that adopted a routing system for the Straits of Malacca including traffic separation schemes, deep water routes and rules.[357]

Closely related to the attempts to mitigate the impact of oil spills, the straits states have established contingency plans and set up stockpiles of oil spill control equipment along the waterways.[358] At present the capacity of the Malaysia oil spill control stockpile reaches 123,000 barrel or the equivalent of 16, 850 metric tonnes.[359] In the event of a major oil spill the straits states cooperate closely to control the impact of pollution and coordinate the mobilization of their resources. In the case of the 1997 collision between the Evoikos and Orapin Global for instance equipment from both Malaysia and Singapore was mobilized and Indonesia's equipment was placed in reserve.[360]

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353 Hasjim Djalal, "The Malacca-Singapore Straits Issue",., at 275

354 Hasjim Djalal "Regulation of International Straits", *Jurnal Hukum Internasional* 6:3 (2009), at 317; Jon M. Van Dyke, "Transit Passage through International Straits", in A. Chircop, T. L. McDorman, and S. J. Rolston (eds), *The Future of Ocean Regime-Building* (Martinus Nijhoff: 2008), at 221

355 K. Kantaatmadja (1988:165,168) as cited in J.M. Van Dyke, "Transit Passage through International Straits", at 221

356 Sakamoto (2008) as cited in M.M.B.M. Rusli (2011:70)

357 IMCO Assembly Resolution A. 375 (X) adopted 14 November 1977; IMO Assembly Resolution A.476 (XII) adopted 19 November 1981. IMCO is now known as the IMO.

358 Dato' Cheah Kong Wai and Mohd Nizam Basiron, "Straits of Malacca and Singapore: Case Study of Maritime Cooperation", at 4

359 *Ibid*., at 4

360 Richard, C., "Semco's Response to the Evoikos Incident and PAJ Equipment Use", Peroleum Association of Japan Oil Spill Symposium, Tokyo, Japan: 7-8 October 1998 as cited in Dato' Cheah Kong Wai and Mohd Nizam Basiron, "Straits of Malacca and Singapore: Case Study of Maritime Cooperation", at 4

A further development in the management of navigational aids and pollution control and prevention took place in 1981 when the strait states and Japan established the Revolving Fund to provide compensation in the event of an oil spill.[361] The Fund is administered by representatives of each straits state. The principal goal of the Revolving Fund is to enable Indonesia, Malaysia and Singapore to take immediate action against oil pollution caused by ships in the Straits of Malacca and Singapore.[362] The fund provides valuable resources for the straits states, for instance following the 1992 Nagasaki Spirit and Ocean Blessing collision Malaysia and Indonesia could access the fund to cope with the threats of pollution.[363]

In response to the growing concern on the safety of navigation and marine pollution in 2005 Indonesia initiated and convened the Tripartite Ministerial Meeting to discuss issues pertaining to the safety of navigation, environmental protection and maritime security in the Straits.[364] As a result of the trilateral meeting the straits states signed the "Batam Joint Statement of the Tripartite Ministerial Meeting of the Littoral States on the Straits of Malacca and Singapore" to strengthen trilateral cooperation. There are some interesting points raised in the joint statement. First, the statement reaffirmed the sovereignty and sovereign rights of the straits states over the Straits of Malacca and Singapore. Indonesia, Malaysia and Singapore highlight that the primary responsibility over the safety of navigation, environmental protection and maritime security in the Straits of Malacca rests on them.[365] Second, it drew attention to the importance of engaging the states bordering the channels leading to the Straits of Malacca and Singapore, and the major users of the Straits to enhance shipping safety and protection of marine environment.[366] Finally, the key point addressed in the meeting was the responsibility

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361 J.M. Van Dyke, "Transit Passage through International Straits", at 221; Hasjim Djalal, Regulation of International Straits", at 323

362 Hasjim Djalal, "Funding and Managing International Partnership for the Malacca and Singapore Straits Consonant with Article 43 of the UNCLOS, 1982". *Singapore Journal of International & Comparative Law* 3 (1999), at 465

363 Dato' Cheah Kong Wai and Mohd Nizam Basiron, "Straits of Malacca and Singapore: Case Study of Maritime Cooperation", at 4

364 Indonesian Ministry of Foreign Affairs, "Keynote Address By Dr. N. Hassan Wirajuda Minister for Foreign Affairs of The Republic of Indonesia at the Jakarta Meeting on the Straits of Malacca and Singapore "Enhancing Safety, Security and Environmental Protection in the Straits", 12 September 2005 available from http://www.kemlu.go.id/Lists/SpeechesAndTranscription/DispForm.aspx?ID=299&l=en. Last accessed June 27th, 2011

365 Singapore Ministry of Foreign Affairs. "The Batam Joint Statement of the 4th Tripartite Ministerial Meeting of the Littoral States on the Straits of Malacca and Singapore"

366 *Ibid*

and burden of the straits states in "maintaining the safety of navigation, environmental protection and maritime security" and the "interests of the user states".[367] Senior officials of the straits states expressed their eagerness to foster closer collaboration with user states, relevant international agencies and the shipping community. They urged for assistance from the user states and businesses to share their burden in maintaining the security and the safety of navigation in the Straits.[368] The Jakarta Meeting in August 2005 led to series of meetings between the straits states, the user states and business community and the development of a new initiative, namely the Cooperative Mechanism.

5.3 The Establishment of the Cooperative Mechanism

The Cooperative Mechanism is a key cooperation institution in the Straits of Malacca and Singapore for the strait states, user states and businesses to discuss, exchange information and contribute to improve navigational safety and marine pollution control.[369] This institution was resulted from a series of IMO sponsored meetings on the Straits of Malacca and Singapore under the IMO's Protection of Vital Shipping Lanes initiative.[370]

Following the Batam meeting in the beginning of August 2005 Indonesia sponsored by the IMO and in close cooperation with Malaysia and Singapore hosted the Jakarta Meeting on the Straits of Malacca and Singapore "Enhancing Safety, Security and Environmental Protection in the Straits", September 2005. In this meeting the three straits states agreed to establish a mechanism to meet user states, the shipping industry and other stakeholders with an interest in the safety of navigation of the Straits on a regular basis.[371] The purpose of the IMO sponsored meetings was to discuss various issues related to the safety, security and environmental

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367 *Ibid*

368 *Ibid*

369 Singapore Maritime and Port Authority, "Annex A: Co-operative Mechanism on Safety of Navigation and Environmental Protection in the Straits of Malacca and Singapore" available from http://www.mpa.gov.sg/sites/.../annex_a_factsheet_on_co-operative_mechanism.pdf. Last accessed 24 December 2012.

370 *Ibid*

371 Graham Gerard Ong "The Threat of Maritime Terrorism and Piracy". *Regional Outlook: Southeast Asia 2006-2007.* (Singapore: Institute of Southeast Asian Studies, 2006); Singapore Ministry of Foreign Affairs. "The Batam Joint Statement of the 4th Tripartite Ministerial Meeting of the Littoral States on the Straits of Malacca and Singapore".

protection of the Straits and explore possible options for burden sharing.[372] A year later at the Kuala Lumpur Meeting on the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection held from 18 to 20 September 2006 (the Kuala Lumpur Meeting) Indonesia, Malaysia and Singapore further agreed to establish Cooperative Mechanism to facilitate dialogue between the three littoral states and other stakeholders.[373] At the Kuala Lumpur meeting the three straits states invited the IMO to continue its cooperation with the straits states and to provide assistance in generating sponsors for the agreed cooperation projects and contributors for maintaining, repairing and replacing navigational aids in the straits.[374] In consultation with the straits states, the IMO was also involved to convene further follow-on meetings to identify specific needs of straits states and to identify possible assistance or burden sharing options for users whether in the form of provision of resources, capacity building, training, or technical support.[375]

As a follow up to the Batam Meeting, the Jakarta Meeting and the Kuala Lumpur Meeting, the government of Singapore together with the IMO jointly convened the third meeting on the safety of navigation in the Straits of Malacca and Singapore from 4 to 6 September 2007. At the Singapore meeting Indonesia, Malaysia and Singapore presented details on the Co-operative Mechanism that they have developed following the Kuala Lumpur Meeting.[376] By cooperating closely with the IMO the three strait states indicate their intention to reach out to all users both states and private entities to join the cooperation. The Cooperative Mechanisms rules and procedures and other documents also use the term "users"; "user states" and "other stakeholders", "intergovernmental organizations", "nongovernmental organizations", "industry" and "private benefactors".[377] The language of the cooperation rules of procedures

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372 *Ibid*

373 *Ibid*

374 IMO, "States make progress in co-operation to enhance safety of navigation, security and environmental protection in Straits of Malacca and Singapore", available from http://www.imo.org/blast/mainframe.asp?topic_id=1320&doc_id=7007 Last accessed 7 September 2012.

375 *Ibid*

376 Maritime Port Authority of Singapore, "Singapore Meeting on the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection, 4-6 September 2007", available from http://www.mpa.gov.sg/sites/pdf/spore_statement.pdf. Last accessed 7 September 2012

377 Cooperative Mechanism, "Establishment", available from http://www.cooperativemechanism.org.my/index.php?option=com_content&view=article&id=34&Itemid=31. Last accessed 7 September 2012; Cooperative Mechanism, "Background", available from http://www.cooperativemechanism.org.my/index.php?option=com_content&view=article&id=26&Itemid=7.

seems to show that it is aims to apply to all users not only members of the Cooperative Mechanism.[378]

During the launch of the initiative at Singapore meeting fifty states and seventeen maritime-related organizations provided their support to the Cooperative Mechanism.[379] A group of states including Australia, Bahamas, China, Cyprus, Germany, India, Japan, Norway, Panama, Republic of Korea, South Africa, Turkey, United Arab Emirates, United Kingdom and the United States of America as well as international shipping associations such as the Nippon Foundation, the International Association of Independent Tanker Owners (Intertanko) and the International Chamber of Shipping (ICS) voiced their explicit support during the meeting.[380] With extensive international support the Cooperative Mechanism has laid a basis for future cooperation between straits states and the users of the Straits.

The Cooperative Mechanism comprises three components: Cooperation Forum, Project Coordination Committee and Aids to Navigation Fund.[381]

1. Cooperation Forum

The Cooperation forum brings together the three straits states, user states and the international shipping industry to carry out dialogue, exchange of information, set up burden

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Last accessed 7 September 2012; Cooperative Mechanism. "Contributions", available from http://www.cooperativemechanism.org.my/index.php?option=com_content&view=article&id=42&Itemid=39. Last accessed 7 September 2012; Cooperative Mechanism, "Aids to Navigation: Rules of Procedures", available from http://www.cooperativemechanism.org.my/index.php?option=com_content&view=article&id=5&Itemid=16. Last accessed 7 September 2012

[378] See Rosemary Rayfuse, " The United Nationsl Agreement on Straddling and Highly Migratory Fish Stocks as an Objective Regime: A Case of Wishful Thinking?", at 267; Cooperative Mechanism, "Rules of Procedures".

[379] Maritime Port Authority of Singapore, "Co-operative Mechanism for Straits of Malacca and Singapore Receives Strong International Support", available from http://www.mpa.gov.sg/sites/global_navigation/news_center/mpa_news/mpa_news_detail.page?filename=nr070906.xml. Last accessed 7 September 2012

[380] *Ibid*

[381] Hasjim Djalal "Regulation of International Straits", at 320-323; Hasjim Djalal, "The Development of Cooperation on the Straits of Malacca and Singapore", available from http://www.nippon-foundation.or.jp/eng/current/malacca_sympo/6.doc. *Last accessed June 28th, 2011*; Co-operative Mechanism, "Background", available from http://www.cooperativemechanism.org.my/index.php?option=com_content&view=article&id=26&Itemid=7. Last accessed 7 September 2012

sharing mechanism on specific issues for common benefit, and identify possible cooperation.[382] In this forum maritime stakeholders have discussed a number of issues concerning status and the situation of the aids to navigation, development of various attempts to protect the marine environment, and the development of cooperation programs.[383]

2. Project Coordination Committee (PCC)

This committee is established to manage the implementation of six cooperative programs agreed in the 2006 Kuala Lumpur meeting. These six projects include:[384]

i. Project No.1 is the Removal of Identified Wrecks in the Straits. The five years project that cost around US$ 19 million is supervised by Malaysia. India and Germany are the contributing parties to this project.
ii. Project No.2 is capacity building on Hazardous and Noxious Substances (HNS) preparedness and response. It is lead by Malaysia. The project covers 6 locations in Malaysia and Singapore. This project cost was estimated to reach about US $ 3.5 million and its completion will take up to 2 years. Australia, China, European Commission and the U.S. have agreed to support the implementation of Project No.2.
iii. Project No.3 sets out to implement the installation of class B Automatic Identification System on small ships. Singapore led the implementation of this project. This project costs about U.S.$ 400,000 for 6 months. Australia, Japan, the Republic of Korea and the IMO contributed to this project.

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382 Hasjim Djalal "Regulation of International Straits", at 321; Hasjim Djalal, "The Development of Cooperation on the Straits of Malacca and Singapore"; Hasjim Djalal, "The Regime of Managing Safety and Security in the Straits of Malacca and Singapore". *Jurnal Diplomasi* 1:2 (2009), at 14

383 Hasjim Djalal, "The Regime of Managing Safety and Security in the Straits of Malacca and Singapore", at 15

384 Hasjim Djalal "Regulation of International Straits", at 321; Hasjim Djalal, "The Development of Cooperation on the Straits of Malacca and Singapore"; Maritime and Port Authority of Singapore, "Singapore Meeting on the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection 4- 6 September 2007", available from http://www.mpa.gov.sg/sites/pdf/spore_statement.pdf. Last accesed 7 September 2012; Hasjim Djalal, "The Regime of Managing Safety and Security in the Straits of Malacca and Singapore", at 15-16; Cooperative Mechanism, "Contributions", available from http://www.cooperativemechanism.org.my/index.php?option=com_content&view=article&id=42:contributions&catid=26:cooperative-mechanism&Itemid=39. Last accessed 7 September 2012

iv. Project No. 4 is designed to install the Setting up Tide, Current and Wind Measurement System in 12 locations. It is lead by Singapore. The estimated cost of this project is U.S.$ 774,400 for 4 years, plus other operational cost that bring up the total amount to U.S.$ $ 1,401,400 over the 4 years. China and India has announced their intention to send their team of experts to conduct a needs assessment survey in the three straits states for this project.

v. Project No.5 is the Replacement of Aids to Navigation. As part of this project the littoral states carried out an assessment survey of their aid to navigation. Indonesia led the project and conducted an assessment survey on 51 aids to navigation in its water. Malaysia and Singapore carried out similar surveys in their waters. Japan sponsors this project. The cost of this project reaches a total of U.S. $ 18, 225,000 and will take up to 10 years.

vi. Project No. 6 is the replacement of 7 aids to navigation damaged by the 2004 tsunami. China reaffirmed its commitment to fund this project that may cost USD $ 276,000 or more. As part of this project Indonesia has to determine the position of the 7 aids to navigation, carry out a foundation survey and prepare a preliminary design of the locations for the 7 aids to navigation.

In addition to the six projects the IMO also contributed to a project on the Study on the Establishment of an Emergency Towing Vessels (ETV) Capability in the Straits. The implementation of this project was led by Singapore. [385]

3. Aids to Navigation Fund (ANF)

ANF is a standby fund to improve the safety of navigation in the Strait of Malacca and Singapore. Unlike the cooperation projects explained above that have a definite period the ANF is a longer term plan that is dedicated to the maintenance of 22 important aids to navigation in the Straits' Traffic Separation Scheme.[386] The fund is administrated by the three

[385] Co-operative Mechanism, "Contributions".

[386] Mohd Nizam Basiron, "Steady as She Goes- report of Singapore Meeting on the Straits of Malacca and Singapore", *MIMA Researchers' paper* (Kuala Lumpur: MIMA, 2007) at 1-2

littoral states on a three year rotation basis.[387] The contribution to the fund has been carried out in a voluntary basis.[388] In order to ensure transparency and accountability on the use of the fund the ANF Committee comprising representatives from the straits states and contributors has been set up. Japan is one of the strongest supporters of this program and has contributed to finance navigational aids by contributing to the Straits Revolving Fund for at least 30 years, a total of US$130 million.[389] At the 2007 Singapore meeting the Nippon Foundation of Japan announced its commitment to provide one-third of the five year costs of the ANF that reached a total amount of US$ 9 million.[390] The details of users contribution to the ANF is as follow:[391]

Table 3. Contributions to the Aids to Navigation Fund

	Amount	Status
Malacca Strait Council	U.S.$ 0.5 million	Contributed in 2009
	U.S.$ 0.5 million	Contributed in 2010
	U.S.$ 0.5 million	Contributed in 2011
United Arab Emirates	U.S.$ 100,000	Contributed in 2008
	U.S.$ 100,000	Contributed in 2009
	U.S.$ 100,000	Contributed in 2010
	U.S.$ 100,000	Contributed in 2011
Republic of Korea	U.S.$ 83,531.70 (100 million Korean Won)	Contributed in 2009
	U.S.$ 88,234.79 (100 million Korean Won)	Contributed in 2010
	U.S.$ 91, 547 (100 million Korean Won)	Contributed in 2011
Kingdom of Saudi Arabia	U.S.$ 100,000	Contributed in 2010
Nippon Foundation	U.S.$ 1.351 million	Contributed in 2008
	U.S. $ 2.5 million	Contributed in 2009
	U.S.$ 1.39 million	Contributed in 2010
	U.S.$ 1 million	Contributed in 2011
Middle East Navigation Aids Service	U.S.$ 1 million	Contributed in 2009

[387] Co-operative Mechanism, "Aids to Navigation Fund", available from http://www.cooperativemechanism.org.my/index.php?option=com_content&view=article&id=21&Itemid=27. Last accessed 7 September 2012

[388] Hasjim Djalal, "The Regime of Managing Safety and Security in the Straits of Malacca and Singapore", at 17; Co-operative Mechanism, "Aids to Navigation Fund".

[389] *Ibid*; Mohd Nizam Basiron, "Steady as She Goes- report of Singapore Meeting on the Straits of Malacca and Singapore", at 2

[390] Mohd Nizam Basiron, "Steady as She Goes- report of Singapore Meeting on the Straits of Malacca and Singapore", at 2

[391] Co-operative Mechanism, "Contributions", available from http://www.cooperativemechanism.org.my/index.php?option=com_content&view=article&id=42:contributions&catid=26:cooperative-mechanism&Itemid=39. Last accessed 7 September 2012

	U.S.$ 1 million	Contributed in 2010
IMO Malacca and Singapore Straits Fund	U.S.$ 50,000	Contributed in 2009
	U.S.$ 50,000	Contributed in 2010
	U.S.$ 50,000	Contributed in 2011
People's Republic of China	U.S$ 250,000	Contributed in 2010 for the implementation of Project 4. The contribution is temporarily put under the Aids to Navigation Fund.
India	U.S.$ 774,000	Contributed in 2008 for the 1st stage of Project 4 implementation. The contribution is temporarily put under the Aids to Navigation Fund.
	U.S.$ 913,000	Contributed in 2011 for the 2nd stage of Project 4 implementation. The contribution is temporarily put under the Aids to Navigation Fund
Total	U.S.$ 12, 479, 867	

Source: Cooperative Mechanism, "Contributions: Aids to Navigation Fund".

As a sign of the IMO's commitment to the Cooperative Mechanism, the IMO and the three straits states signed a Joint Technical Arrangement (JTA) at the 2nd Cooperation Forum in 2009. As part of the arrangement the IMO Malacca and Singapore Straits Trust Fund has been set up by the IMO to provide assistance in "attracting sponsors for projects identified by the littoral states at the 2006 Kuala Lumpur Meeting or any future projects to be identified" by the IMO and the straits states. The fund is established under the IMO's Multi Donors Trust Funds. Currently, the IMO Straits Trust Fund reaches an amount of U.S.$ 1, 238, 193 and 315,000 Euro.[392] Details on the user states contribution to the Trust Fund are provided in a table below.[393]

Table 4. Contributions to the IMO Malacca and Singapore Straits Trust Fund

Contributor	Amount	Status
Greece	U.S.$1 million	Contributed (2007)

[392] Cooperative Mechanism, "IMO Malacca and Singapore Straits Trust Fund", available from www.cooperativemechanism.org.my/index.php?option=com_content&view=article&id=10&Itemid=11. Last accessed 7 September 2012.

[393] Co-operative Mechanism, "Contributions".

Germany	U.S.$50,000	Contributed (2009)
Germany	U.S.$38, 193	Contributed (2010)
People's Republic of China	U.S.$100,000	Contributed (2009)
Norway	U.S.$ 50,000	Contributed (2010)
European Commission	Euro 315,000	Grant awarded (2010)

Source: Cooperative Mechanism, "Contributions: IMO Malacca and Singapore Straits Fund".

The straits states expect that in the coming years there will be more contribution to the ANF not only from states but also from shipping and oil industries, international organization and non-governmental organizations that work on the safety of navigation and environmental protection.[394]

5.4 The Current Gaps and Challenges in Cooperation and Cost Sharing Partnerships

Although cooperation in the Straits of Malacca and Singapore has existed since the 1960s, the installation of navigational aids and measures to deal with pollution has been under constant pressure for enhancement because of increases in shipping traffic in the Straits. This ongoing phenomenon generates greater financial burden for the strait states to maintain the safety of navigation and to deal with environmental impact caused by accidents and discharge of waste from ships. Currently, there are two main issues that remained unresolved.

The first issue is related to the sustainability of cooperation. With the TTEG as an exception, the Malacca Straits Committee that was established as part of the 1971 tripartite accord between Indonesia, Malaysia and Singapore, has long been inactive.[395] According to Hasjim Djalal, throughout the years the issue of cooperation in the Straits of Malacca and Singapore has been reduced to the degree of being seen as merely a technical issue of the safety of navigation.[396] Most recently, the institutionalization of the Cooperative Mechanism marked a leap forward in navigational safety and pollution control cooperation. The development of cooperation under the Cooperative Mechanism is deemed rather slow.[397] Japan is the only

[394] Hasjim Djalal "Regulation of International Straits", at 321; Hasjim Djalal, "The Development of Cooperation on the Straits of Malacca and Singapore".

[395] Hasjim Djalal, "The Malacca-Singapore Straits Issue", at 276

[396] *Ibid*

[397] Mohd Hazmi bin Mohd Rusli,, "The Legal Feasibility of Imposing Shipping Controls in Straits Used for International Navigation: A Study of the Straits of Malacca and Singapore". *International Journal of Sustainable Development* 2:9 (2011), at 70

user state that provides consistent assistance to the straits states. The Nippon Foundation of Japan made a contribution worth of USD 2.5 million in 2009 to deal with the maintenance of the straits route.[398] Yet, the Nippon Foundation donation has not been followed by other contributions. In the absence of additional contributors, long term donors such as Japan may begin undergoing "donor fatique" and start questioning the merits of sustaining its assistance to the straits states.[399] The Japanese private sectors for instance began to query their contributions to assist the straits states since the big shipping businesses of China and South Korea does not take part in the cooperation.[400]

There has been a widespread concern among the straits states on the difficulties to overcome free-rider syndrome.[401] This issue has been constantly raised in the Cooperative Mechanism.[402] User states such as the United States have stated their interests to contribute in assisting the straits states at the 2006 Kuala Lumpur meeting but have not followed up their commitment.[403] As a result the strait states considered filing a complaint to the International Tribunal of the Sea referring to the users' violations of Article 300 of LOSC pertaining to good faith and abuse of rights.[404] Nevertheless, the LOSC dispute settlement mechanism could be seen as an option of last resort because it may develop unwanted and "unnecessary tension" between the straits states and the users of the straits.[405]

The second issue that needs to be recognized is the potential tension that may be caused by the greater role that the users demand in the management of the Straits. Currently, the straits states

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398 Tharp (2010) as cited in Mohd Hazmi bin Mohd Rusli, "The Legal Feasibility of Imposing Shipping Controls in Straits Used for International Navigation: A Study of the Straits of Malacca and Singapore", at 73

399 Cheah Kong Wai and Mohd Nizam Basiron, " Straits of Malacca and Singapore Case Study of Maritime Cooperation", *MIMA Bulletin* 14:2 (2007), at 6-7

400 Interview with a Japanese government official (Jakarta, 13 December 2012)

401 Dato' Cheah Kong Wai and Mohd Nizam Basiron, "Straits of Malacca and Singapore: Case Study of Maritime Cooperation", at 5

402 Mohd Hazmi bin Mohd Rusli,, "The Legal Feasibility of Imposing Shipping Controls in Straits Used for International Navigation: A Study of the Straits of Malacca and Singapore", at 74

403 Dato' Cheah Kong Wai and Mohd Nizam Basiron, "Straits of Malacca and Singapore: Case Study of Maritime Cooperation", at 5

404 Basiron (2007) as cited in Mohd Hazmi bin Mohd Rusli,, "The Legal Feasibility of Imposing Shipping Controls in Straits Used for International Navigation: A Study of the Straits of Malacca and Singapore", at 74

405 Cheah Kong Wai and Mohd Nizam Basiron, " Straits of Malacca and Singapore Case Study of Maritime Cooperation", at 7

concern mainly lies on the lack of participation from users, both from shipping nations and private stakeholders. At the Singapore Meeting major shipping nations and the shipping industry, particularly from Europe, did not make any substantive contribution or express any willingness to contribute.[406] Although greater participation from users is expected, at the same time the straits states should realize that the more contributions could also mean that users can demand to have more say in how the waterways are managed.[407] As the funding scheme becomes operational the straits states may need to accommodate the views of contributors on how the fund can be used.[408] There is also a possibility for the users to demand certain incentives or arrangement in return for their contribution.[409] At present private stakeholders, mainly represented by businesses are not satisfied with the range of issues cover in the Cooperation Mechanism. According to a business representative in navigation safety there is still a lot of ground to cover through these cooperative arrangements such as plans to establish vessel traffic information systems throughout the Straits, the monitoring of channel depth, small traffic, crossing traffic, communications with shore and communications with other vessels. More importantly, there is a call from the businesses to have a more open dialogue on the issue of collision incidents and near misses at the shallow and narrow Straits of Malacca and Singapore.[410] Business deemed that there is a need for a transparent exchange of information, for instance through sharing of statistics on the incidents, report analysis, and lesson learned.[411] In the future, it is possible for users to propose projects to be considered by straits states. As Cheah Kong Wai and Mohd Nizam Basiron claim, under such circumstance the straits states can be placed in a situation where "beggars- can't be- choosers".[412] Although greater private stakeholders involvement in the management of the straits does not necessarily translate into sovereignty infringement of the straits states, however, in a region where sovereignty is jealously guarded, finding a cooperation scheme that carefully balance the

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406 Mohd Nizam Basiron, "Steady as She Goes-Report of Singapore Meeting on the Straits of Malacca and Singapore", *MIMA Researchers' Paper*, (Kuala Lumpur: MIMA, 2007), at 2

407 Cheah Kong Wai and Mohd Nizam Basiron, " Straits of Malacca and Singapore Case Study of Maritime Cooperation", at 7

408 *Ibid*

409 *Ibid*

410 Interview with a spokesperson of an international shipping association, Singapore, August 18th, 2010

411 *Ibid*

412 Cheah Kong Wai and Mohd Nizam Basiron, " Straits of Malacca and Singapore Case Study of Maritime Cooperation", at 6

straits states concern over sovereignty encroachment and users' demand for greater stake in straits management is an intricate process.

Having discussed the challenges in cooperation and cost sharing practices in the Straits of Malacca and Singapore, the main question to pose is what kind of cooperation arrangement that can fill these cooperation gaps. The next section discusses feasible cooperation options for the straits states and users of the Straits of Malacca and Singapore. It also explains limitations in the application of cooperation and cost sharing models to the Straits.

5.5 The Application of Cost Sharing Models to the Straits of Malacca and Singapore

Although voluntary contribution is deemed the preferred option to support navigational aids and pollution prevention measures in the Straits of Malacca and Singapore, there has been a call from the straits states to consider make certain payments for critical services compulsory.[413] In the light of this argument, this section analyses the legal feasibility of the application of a variety of cost sharing models that are previously discussed in chapter four to the Straits of Malacca and Singapore. It also explains limitations and obstacles in the application of these cost sharing models to the Straits. For this purpose this section is divided into three sub sections based on the three categories of cost sharing practices: cost recovery, fee for relevant states and fee for private users.

5.5.1 Costs Recovery Model

As previously explained in chapter four under the costs recovery model there are three cost sharing mechanisms. These are compensation arrangements under the 1969 Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP); the 1971 Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL) and finally, the International Oil Pollution Compensation (IOPC) Fund. These cost sharing agreements for liability and compensation provides a means for the government to regain the costs that they incurred for cleaning up pollution from ship owners (through their insurers) and cargo owners.

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[413] B.A. Hamzah, "Funding of Services in the Straits of Malacca: Voluntary Contribution or Cost Recovery?", *Singapore Journal of International and Comparative Law* (1999) 3, at 503

These three cases are relevant to discuss here because they show that although voluntary contribution has been a preferred burden sharing choice, various mandatory arrangements to share costs incurred from dealing with pollution prevention and control are not unusual practice. All these schemes aim to provide coverage of costs borne by straits states to take immediate remedial action to address danger of pollution damage. The three compensation mechanisms do not address burden sharing in the area of safety of navigation. Nevertheless, these examples of cost sharing in the areas of marine pollution can provide useful lessons for the establishment of burden sharing scheme in the area of safety of navigation. The TOVALOP, CRISTAL and IOPC Funds arrangements shows the need to develop an institution to manage and administer the fund, establish precise procedures to calculate contribution of each users and pay claims on behalf of users.

Looking at these three cases there are two intertwined issues that are worth considering. The first issue is defining the right amount contribution for stakeholders. A Malaysian scholar, Hamzah, argues that this issue can be resolved by setting a minimum working capital of U.S. $ 25 million for a recovery fund.[414] He based his calculation on total capital that the straits states need to provide additional navigational aids, improve capacity building and dealing with emergencies such as pollution or marine accidents.[415] The contribution issue is interlinked with the establishment of an appropriate cost sharing arrangement. Setting up a new cooperation arrangement is the second issue arisen from applying the recovery costs model to the Straits of Malacca and Singapore. In the costs recovery model straits states are required to be the one who bear the costs of delivering services to control pollution and provide navigational aids. These states can only ask for assistance to recover costs after providing these services. Under this circumstance, the costs can only be reimbursed with prior agreement between straits states and user states.[416] Hamzah claims that due to the complexity and tedious negotiation process for cost sharing the best solution is for users to contribute to the Revolving Fund, an existing compensation fund created by the strait states and Japan in 1981.

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414 *Ibid*
415 *Ibid*
416 *Ibid*

Although this solution seems practical to provide a timely respond to cost sharing needs in the Straits of Malacca and Singapore; yet ships navigating through the Straits come from various flag states and it would be difficult to base the contribution arrangement on a sub regional or regional fund. A sub regional or regional arrangement is also particularly problematic because most of these ships only transit through the Straits and do not call at the ports of the straits states. User states or shipping businesses that deem the regional arrangement burdensome to their activities could easily refuse to contribute to the fund. One important lesson shown by the TOVALOP, CRISTAL and the IOPC Funds is that all of these costs sharing arrangement are established at international level. Therefore, these mechanisms applied worldwide. They influenced most users and straits states worldwide. For the case of the Straits of Malacca and Singapore a cooperation scheme that applies at global level would be relevant since users of the straits come from around the world.

5.5.2. Fee for Relevant States

Chapter four has explained two cooperation schemes that belong to this cost sharing model. These include states' contribution to international ice patrol and the maintenance of two Red Sea lights. In both cases states provide certain annual payments to finance the operation of ice patrol in the North Atlantic and maintenance of navigational lights in the southern part of the Red Sea. These cost sharing practices are relevant to discuss in order to find a feasible cost sharing mechanism for the Straits of Malacca and Singapore. This is because the practices that fall under the fee for relevant states model demonstrate two important points. First these cooperation mechanisms show that applying specific fee for relevant states in order to improve the safety of navigation in key waterways is feasible. Under the cooperation schemes in North Atlantic and Red Sea user states are required to contribute a specific amount of contribution every year. The UK as the managing government for the maintenance of lights in the Red Sea and the U.S. as the state responsible for the management and operation of the patrol calculate the annual expenditure, assess and collect contribution of each government. Second, both the cooperation for the maintenance of navigational lights in the Red Sea and the North Atlantic ice patrol reveals a practical formula to work out the actual billing for each nation for their contribution that can be applied to the cost sharing formula in the Straits of Malacca and Singapore. As explained in chapter four in both cases the percentage of the total cargo tonnage

of each participating nation which navigates through the North Atlantic area or Red Sea has been used to measure contributions.

Both the North Atlantic and Red Sea cooperation show the importance of reaching cooperation arrangements among interested states before establishing mechanisms to calculate total costs and contribution for each state. In both cooperation arrangements all relevant states found it necessary to enter into agreement before evaluating costs. Under the two cooperation schemes interested states who are participating in the agreements have significant number of vessels transiting through the North Atlantic Sea and the Red Sea. In the case of the North Atlantic ice patrol the 13 participating states are those with most cargo which transits the North Atlantic area during the ice season. Similarly, in the case of cost sharing for the maintenance of lights in the Red Sea the 11 participating states were all nations with most total tonnage transiting through the Suez Canal. In the case of the Straits of Malacca and Singapore defining the user states and consequently, the primary contributors in the Straits of Malacca and Singapore would be far more difficult than in the North Atlantic Sea and the Suez Canal. This is because vessels from various flag states ply through the Straits of Malacca and Singapore. A number of states including Japan, Greece, United States, Great Britain and Singapore own most tonnage transits through the Straits.[417] Nevertheless, large amount of tonnage are also owned by other countries in the world although their presence is discretely played down due to the usage of vessels flying flags of convenience. Most vessels navigating through the Southeast Asian waterways including the Straits of Malacca and Singapore use flags of convenience.[418] More than three quarters of U.S. ships and most Japanese ships in South East Asia are "flagged out".[419] This circumstance would also create difficulty to determine the participating states and measure their contribution. A report produced by the U.S. Center for Naval Analysis confirms this as it claims that nationality is an ambiguous concept when applied to merchant shipping.[420] This is because of little correlation between nationality of registration and

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[417] John H. Noer and David Gregory, *CAB 96-0005 / March 1996 Maritime Economic Interests & the Sea Lines of Communication through the South China Sea: the Value of Trade in Southeast Asia* (Virginia: 1993, U.S. Center for Naval Analysis), at 6 available from http://www.cna.org/sites/default/files/research/4796000500.pdf. Last accessed October 30th, 2012.

[418] *Ibid*

[419] *Ibid*

[420] *Ibid*

nationality of owners and these two factors are often have insignificant "relationship to the economies shipping or receiving cargoes".[421] Considering the ambiguous concept of nationality in shipping, a global framework to resolve the problem is far more suitable. Cost sharing schemes to improve navigational safety and pollution prevention is likely to work better globally due to the fluidity of the nationality in the areas of merchant shipping.

In addition, as previously discussed in chapter three given the straits states limitation under the LOSC to endorse safety of navigation and anti pollution measures, a cooperation framework under the auspice of the IMO would be seen as a feasible option.[422] Legally it is recognized that the IMO is at the centre of most global cooperation dealing with the safety of navigation and pollution prevention and control.[423] As Article 41 (4) and (5) of the LOSC states straits states can only prescribe measures to improve the safety of navigation and to prevent pollution after referring their proposals to the IMO and after gaining approval from the IMO.[424]

5.5.3 Fee for Private Users

Chapter four has previously discussed three cooperation proposals that can be grouped into fee for private users cost model. These include the UK proposal for cost sharing practice in the Dover Strait, fee for compulsory pilotage at Torres Strait and the implementation of Light Dues in the UK. These three cases provide examples of arrangements between users and straits states to impose fees for critical services from private users which may provide insights in finding cost sharing arrangement in the Straits of Malacca and Singapore.

Although the U.K. proposal for cost sharing in the Strait of Dover has not been put into practice, however, as previously mentioned the principles for charging users put forward by the British government could be used as a guideline for possible future cost sharing arrangements in straits used for international navigation. This is because the four cost sharing principles as proposed by the U.K. underline the requirement not to impede innocent passage, discriminate vessels based on their flag states, link the charges only with costs incurred in

421 *Ibid*
422 B.H. Oxman (1999) at 411-412
423 *Ibid*., at 411
424 LOSC article 41(4) and (5); R.R Churchill and Lowe, A.V., *The Law of the Sea*, at 108

delivering specific services and avoid over-charging the users.[425] Although the U.K. proposal for cost sharing did not gain sufficient support from other states, there is a possibility for the U.K. government to drive forward the cooperation proposal through the European Union regional framework. Increasingly the EU is seen as an organization that can produce a stronger and quicker solution in comparison to the IMO.[426] The Erika disaster incident in 1999 shows that when the compensation fund available under the 1992 Convention on Civil Liability and Fund Convention was not sufficient to cover all pollution claims the IMO working group decision to revise the International Convention on Civil Liability for Oil Pollution Damage (CLC) and Fund Convention was attributable to the European Union (EU) action.[427] Most vessels navigate through the Channel and the Strait of Dover call at European ports, mainly North Continent ports including Rotterdam and Bremen.[428] Therefore, a regional mechanism to deal with cost sharing for the maintenance of navigational aids and pollution prevention measures is a feasible option for the straits states of the Dover Strait. However, a regional solution to work out cost sharing cooperation in the Straits of Malacca and Singapore is not the type of cooperation that could be easily implemented in these key waterways. Mainly this is because most ships sailing through the Straits of Malacca and Singapore call at ports outside the Southeast Asian region and use flags of convenience. Consequently cost sharing cooperation in the Straits need to be established at global and not at sub regional or regional level.

In the case of the Torres Strait, the practice of compulsory pilotage at the Strait raised a debate among international maritime community pertaining to whether the imposition of the pilotage hamper transit passage or serve as a legitimate measure to mitigate the risks of environmental damage.[429] There have been calls to consider the Straits of Malacca and Singapore as a

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425 Hasjim Djalal, "Funding and Managing International Partnership for the Malacca and Singapore Straits Consonant with Article 43 of the UNCLOS, 1982", at 469

426 Nicholas Gaskell, "Decision Making and the Legal Committee of the International Maritime Organization". The *International Journal of Marine and Coastal Law* (2003) 18:2 at 161

427 *Ibid.,* at 161-162

428 S. Gilman and G.F. Williams, "The Economics of Multi-Port Itineraries for Large Container Ships", *Journal of Transport, Economics and Policy* (1976) 10: 2, at 138-139

429 Donald R. Rothwell, "Compulsory Pilotage and the Law of the Sea: Lessons Learned from the Torres Strait", *ANU College of Law Research Paper* No. 12-06, at 10 available from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2020781. Last accessed November 1st, 2012; see also Robert Beckman, "PSSAs and Transit Passage- Australia's Pilotage System in the Torres Strait Challenges the

Particularly Sensitive Sea Area that would open the possibility to implement a compulsory pilotage system in the Straits.[430] As explained earlier in this chapter the narrow and shallow depths of the Straits of Malacca and Singapore coupled with high volume of traffic have created hazardous conditions in these waterways. Although the implementation of compulsory pilotage in Torres Strait since 2006 has set a precedent for the application of similar measure in the Straits of Malacca and Singapore, nevertheless, the IMO Revised Guidelines for the Identification and Designation of PSSAs required straits states to simultaneously obtain the IMO Marine Environment Protection Committee (MEPC) resolution on PSSAs and its approval on protective measures.[431] Given strong opposition from extra regional states, the U.S. and one of the littoral states, Singapore on the compulsory pilotage regime at Torres Strait an attempt to apply the same practice to the Straits of Malacca and Singapore is likely to generate a political row at the IMO.[432] Since the Straits of Malacca and Singapore are one of the key sea lanes for world trade, the implementation of a compulsory pilotage regime in the Straits hamper commerce. This concern was also raised by some states with regards to the implementation of compulsory pilotage at Torres Strait. Arguments have been put forward by maritime states that compulsory pilotage regimes impair the right of transit passage since ships need to stop to take pilot and pay for the service.[433] Addressing the perceived impact of compulsory pilotage on trade activities in the Straits of Malacca and Singapore is seen crucial in gaining support for driving forward the compulsory pilotage regime in the Straits from Singapore.[434]

IMO and UNCLOS*", Ocean Development & International Law* (2007) 38:4; Sam Bateman and Michael White, "Compulsorty Pilotage in the Torres Strait: Overcoming Unacceptable Risks to a Sensitive Marine Environment", *Ocean Development & International Law* (2009) 40:2

[430] Donald R. Rothwell, "Compulsory Pilotage and the Law of the Sea: Lessons Learned from the Torres Strait", at 19

[431] Nihan Unlu, "Straits of Malacca: protecting the Straits of Malacca and Singapore against piracy and terrorism" *International Journal of Marine and Coastal Law* (2006) 21, at 546-547; Mohd Hazmi bin Mohd Rusli, "The Application of Compulsory Pilotage in the Straits Used for International Navigation: A Study of the Straits of Malacca and Singapore" *Asian Politics & Policy* (2011) 3:4, at 513 as cited in Donald R. Rothwell, "Compulsory Pilotage and the Law of the Sea: Lessons Learned from the Torres Strait", at 19

[432] *Ibid*

[433] Robert Beckman, "PSSAs and Transit Passage- Australia's Pilotage System in the Torres Strait Challenges the IMO and UNCLOS*",* at 345

[434] Yohanes Sulaiman, "Wake Up, Indonesia? Lessons from Wikileaks", Jakarta Globe 2 September 2011 as cited in Donald R. Rothwell, "Compulsory Pilotage and the Law of the Sea: Lessons Learned from the Torres Strait", at 19

The third example of cost sharing measure that falls under the fee for private users model are Light Dues in the UK. The Light Dues shows a practical procedure to charge an appropriate rate for each relevant private user. As explained in chapter four under this scheme the amount of dues is calculated based on the net registered tonnage of the vessel.[435] Nevertheless, in contrast to the UK's right to impose the Light Dues on ships entering its ports the states surrounding the Straits of Malacca and Singapore cannot unilaterally apply the same measure for ships passing through the Straits. As explained in chapter three in regards of navigational safety Article 42 of the LOSC restricts the prescriptive jurisdiction of the straits states.[436] Although the LOSC allows states to designate sea lanes and prescribe traffic separation schemes in choke points, creating one-way-only lanes and provide publicity concerning all sea lanes and traffic separation schemes designated or prescribed by them,[437] however, strait states can only carry out these actions after referring their proposals to the competent international organization that is the IMO and gain its approval.[438]

5.6 Conclusion

This chapter explains that despite cooperation to improve the safety of navigation and pollution prevention and control measures in the Straits of Malacca and Singapore has shown significant development since the 1960s the cooperation practices are not trouble free. The concern on sustainability of funding to support cooperation in these two key areas remains problematic for the straits states and users. High volume of traffic in the Straits has left the burden for maintaining the safety of navigation and pollution prevention mainly on the shoulders of the strait states. In this backdrop strait states have been calling for an urgent need to find a workable cost sharing mechanisms with the users, both states and non states actor.

This chapter surveys a range of cost sharing practices in important waterways in the world. It points out to three important cost sharing models including the recovery costs model; fee for relevant states model; and fee for private user model. Having elaborated the three modes of

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435 *Ibid*

436 Robert Beckman, "PSSAs and Transit Passage- Australia's Pilotage System in the Torres Strait Challenges the IMO and UNCLOS*",* at 345; LOSC Article 42 (1)

437 LOSC article 41

438 LOSC article 41 (4) and (5); R.R Churchill and Lowe, A.V., *The Law of the Sea*, at 108

cooperation this chapter demonstrates that the necessity to develop cost sharing cooperation at global level has become a recurrent theme. This chapter argues that both for practical and legal reasons costs sharing in the Straits of Malacca and Singapore would be best served by cooperation through the IMO. The IMO has been generally acknowledged as the focus for most global maritime cooperation.[439] In term of practical reasoning, evidence points out that since ships transit through the Straits come from all around the globe it would be very difficult to design a cooperation arrangement at sub regional or regional level.

With respect to the legal consideration the use of global framework to discuss cost sharing arrangement provides the straits states with means to meet the LOSC requirement. The LOSC attributes specific functions of the IMO with respect to navigational safety and prevention and control of marine pollution; acknowledges the organization exclusive areas of competence and provides international recognition to the IMO's standards and practices.[440] As explained before in chapter two Articles 41, 42 and 44 of the LOSC enable strait states to provide navigational safety and pollution control measures. Yet, Article 42 of the LOSC only permits states to implement any navigational safety and pollution prevention measures on straits used for international navigation after receiving approval from a competent international organization.[441] The negotiations which led to the adoption of the LOSC clearly show that the IMO was the organization being thought of every time various articles of the convention refer to "competent international organization" in the singular and "reference was being made simultaneously" in regards to standards regulating the safety of navigation and prevention and control of marine pollution.[442] Without prior approval from the IMO the strait states cannot presume that they are "competent to implement such measures in international straits, in archipelagic sea lanes or in the

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439 Bernard H. Oxman, "Sub-regional, Regional and International Co-operation in Responding to and Deterring Transboundary Marine Pollution", at 411

440 Cleopatra Elmira Henry, *The Carriage of Dangerous Goods by Sea*. (London: 1985, Frances Pinter), at 49

441 James Harrison, *Making the Law of the Sea* (Cambridge: Cambridge University Press, 2011), at 192

442 V. Van Reenen, "Rules of Reference in the New Convention on the Law of the Sea, in Particular in Connection with Pollution of the Sea by Oil from Tankers", *Netherland Yearbook of International Law*, 9, 1981, at 3-44; A.H.Popp, "Recent Development in Tanker Control", *Canadian Yearbook of International Law*, 18, 1980, at 3-30; J.D. Kingham and D.M. McRae, "Competent International Organizations and the Law

EEZ".[443] Many cases demonstrate that early implementation of navigational safety or pollution prevention measure is impossible in the absence of cooperation arrangements and guidelines that need to be developed through the IMO.[444] This is particularly apparent in the case of the Convention for the Safe and Environmentally Sound Recycling of Ships. Maritime stakeholders gathered in the 2009 Hong Kong Conference called upon the IMO to urgently develop a number of guidelines that are crucial to the application of the convention. They realized early adoption of the convention is impossible without the IMO's requisite guidelines.[445]

The IMO mandate to promote, elaborate and develop technical standards on shipping and related activities is undisputed.[446] The organization regulatory activity mainly focuses on developing rules and standards in the field of safety of navigation and marine pollution. These two areas are at the heart of IMO competence.[447] In respect of navigational safety the IMO has adopted international standards and regulations for designing, constructing, handling of cargoes, and manning as well as operating the ships.[448] In the field of marine pollution the IMO has regulated international standards and procedures to prohibit harmful pollutants at sea, prevent accidental discharges.[449] The IMO has been promoting interdisciplinary, intergovernmental and inter-industry cooperative arrangements for combating pollution.[450] As the navigational safety and marine pollution issues are interrelated the presence of the IMO makes it possible to deal with these overlapping issues collectively on an international scale and therefore, enable states to reach faster and more effective results than those that they can acquire through unilateral or small group action.[451] However, this chapter does not suggest that a new global initiative under the IMO for the Straits of Malacca and Singapore is needed to be developed. Instead of building a new institution that may involve a costly and lengthy

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of the Sea*", Marine Policy*, 3, 1979, at 106-31 as cited in Cleopatra Elmira Henry, *The Carriage of Dangerous Goods by Sea*, at 49

443 James Harrison, *Making the Law of the Sea*, at 192

444 James Harrison, "Current Legal Developments International Maritime Organization", *The International Journal of Marine and Coastal Law* (2009)24, at 734

445 *Ibid*., at 734

446 Cleopatra Elmira Henry, *The Carriage of Dangerous Goods by Sea*, at 41

447 *Ibid.*, at 50

448 *Ibid*,.at 41

449 *Ibid*

450 *Ibid*

negotiation process, strait states and users of the Straits of Malacca and Singapore could adapt the current Cooperative Mechanism platform to a new system for charging users. This initiative was resulted from the IMO sponsored meetings. Ever since it's launched in September 2007 the IMO has continued to play a central role not only in convening meetings but also in urging users to contribute to finance the maintenance of navigational aids and environmental protection in the Straits. IMO's long term commitment to the Cooperative Mechanism is proven from the establishment of the IMO Malacca and Singapore Straits Trust Fund by this organisation to attract more users to sponsor projects indentify during the 2006 Kuala Lumpur Meeting.

Having surveyed the three cost sharing models and the important role of the IMO both in the areas of marine pollution control and the safety of navigation this chapter concludes that the IIP of the North Atlantic Sea could provide a very useful example for a cost sharing mechanism for the Straits of Malacca and Singapore. Speedy implementation of navigational safety measures under the IIP is impossible in the absence of cooperation arrangement and guidelines that had been developed through the IMCO (later known as the IMO).[452] Cooperation through the IMCO has enabled the participating states to develop mechanisms to manage the three services that are central to the safety of navigation in the North Atlantic including the destruction of derelicts in the northern part of the Atlantic Ocean, study and observation of ice conditions and a service of ice patrol and to cooperate in sharing the costs for performing these services.[453] Drawing from the IIP case study both users and strait states that are interested in the maintenance of the navigational safety and pollution prevention and control attempts in the Straits of Malacca and Singapore can set up a similar arrangement for the Straits.

Although the IIP provides the most useful analogy in formulating best practices for cost sharing cooperation in the Straits of Malacca and Singapore this chapter does not suggest that other existing cost sharing cooperation does not offer useful examples. The 1969 Tanker

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[451] *Ibid*

[452] James Harrison, "Current Legal Developments International Maritime Organization", *The International Journal of Marine and Coastal Law* (2009)24, at 734

[453] Article 6 and 7 of the SOLAS Convention 1914

Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP); the 1971 Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL), the International Oil Pollution Compensation (IOPC) Fund, the UK Light Dues and the Maintenance of Red Sea Lights offer useful devices to determine the contribution from users, In all of these cost sharing cooperation the total percentage of the cargo tonnage of each state has been used to calculate contributions. Initiative such as the 1992 Fund for instance has developed a very detail system to measure the total tonnage that becomes the basis to assess each state contribution. As previously explained in Chapter 4 under the 1992 IOPC Fund member states are required to provide the name, address and relevant quantities of oil received by individual private contributors.[454] Devising an instrument to measure the total tonnage is very important. Currently, there are a number of technologies that are used to monitor ships movements. Australian Border Protection Command for instance uses the Australian Maritime Information System (AMIS) and the REEFCE to track ships movement and any vessels entering their EEZ.[455] Similarly, for the Straits of Malacca and Singapore on November 2006 the strait states developed the Malacca Strait Patrols Information System (MSP-IS) and later in 2008 the Open and Analysed Shipping Information System (OASIS). The MSP-IS system provides real time information on the situation of the Strait of Malacca to enhance shared situation awareness and facilitate coordination among the strait states. The OASIS displays a near real time Recognised Maritime Picture (RMP) and a database of vessels, with more than 150,000 vessels.[456] Nevertheless, although the current navigation technology allows states to log in the number and name of vessels plying through their waters however, if these vessels do not call at the straits state port it would not be easy to know the total tonnage of these vessels. Under this circumstance cooperation from participating states in reporting the name, address and the total tonnage of their private sectors is deemed important to assist the success of the cooperation arrangement.

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454 IOPC Funds, "The International Oil Pollution Compensation Funds 2012"; Article 15(2) of the International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992.

455 Australian Navy, "Compulsory Pilotage in the Torres Strait".

456 Singapore Ministry of Defence, "Factsheet: Milestones of Malacca Strait Patrols", March 28th, 2008 available from http://www.mindef.gov.sg/imindef/news_and_events/nr/2008/mar/28mar08_nr/28mar08_fs.html. last accessed June 26th, 2011.

Similarly, the UK Light Dues offer a useful cooperation practice between the government and private sector. The arrangement for the provision of the navigational aids under the Light Dues is also designed with an intention of avoiding the negative impact of burden sharing on the shipping industry that is currently enduring economic recession and downturn in trade.[457] For this purpose the UK Light Dues are subjected to two caps, including a tonnage cap currently sets at 40,000 NRT (in April 2010) and as previously explained in Chapter 4 a voyage cap set at 9 voyages per year.[458] Through the implementation of such a system a vessel pays less "per call compared to a system of "flat rates" where voyage and tonnage caps were not in place".[459] This "caps system" would be useful to consider when formulating a cost sharing system for the Straits of Malacca and Singapore. In comparison to the UK Light Dues however, we need to be aware of the difficulties that states may encounter in the implementation process. In the case of Light Dues the payments are made by vessels that call at the UK ports. As explained earlier in this chapter most vessels transiting in the Straits of Malacca and Singapore do not call at the strait states' ports. Given this circumstance tonnage of these vessels cooperation from participating states in reporting the name, address and the total tonnage of vessels in their private sectors is vital to ensure the success of a cooperation mechanism.

Under the Cooperative Mechanism strait states can work with shipping companies through shipping associations that involve in the Cooperative Mechanism. Straits states send their calculation of the contribution to shipping lines or ships operators based on number of voyage that their vessels made in one year. The use of a number of technologies which are useful to monitor ships movements such as the Malacca Strait Patrols Information System (MSP-IS) and Open and Analysed Shipping Information System (OASIS) could assists straits states to log in number and name of vessels plying through their waters.

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[457] Atkins Limited, in association with Drennan Marine Consultancy Ltd, for the Department for Transport (UK), *Final Report March 2010: Assessment of the Provision of Marine Aids to Navigation around the United Kingdom & Ireland*, at 41 available from http://webarchive.nationalarchives.gov.uk/20111005180938/http://assets.dft.gov.uk/publications/assessment-of-the-provision-of-marine-aids-to-navigation-around-the-united-kingdom-and-ireland/navigationreport.pdf. Last accessed 4 December 2012.

[458] *Ibid*

Chapter 6 Conclusion

6.1 Summary

This research explains what types of burden sharing mechanisms could be established in the Straits of Malacca. It provides overview of feasible cooperation and cost sharing models that can be applied in the Straits of Malacca and Singapore.

This research begins by surveying the historical aspects of cooperation and cost sharing mechanisms in straits used for international navigation and non straits area. Evidence suggests that in the past cost sharing had been a common practices in a number of key waterways. Examples include the implementation of dues in the Straits of Danish and the Straits of Malacca in the 15th century. Nowadays, however, the implementation of dues is less common. The 1982 LOSC also strictly restricts strait states rights in imposing tolls to vessels passing through their straits. Strait states are also not allowed to charge tolls from ships navigating through their waterways merely to transit through the strait.[460] For strait states violating these rules will bring high economic implications. This is because they have to compensate for the ship, crew, cargo importers and even the consumer' economic loss.[461]

Article 26 of the LOSC however entitled strait states to impose charges for specific services such as pilotage and towage falls. Nevertheless, most services to install or maintain navigational aids and to prevent or control pollution fall outside the "specific services" category. This implies the need to cooperate to facilitate cost sharing. Article 43 of the LOSC sets the legal basis for cooperation between straits states and users.[462]

In finding a feasible cooperation mechanism to be applied in the Straits of Malacca and Singapore this research surveys various cost sharing practices that can be grouped into three categories: recovery costs model; fees for relevant states models and fee for private users

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459 *Ibid*
460 R.R Churchill and Lowe, A.V., *The Law of the Sea*, at 271
461 Mary George, "The Regulation of Maritime Traffic", at 39
462 LOSC article 43

model. The first cost sharing model is the recovery costs model**.** Under the Recovery Costs Model there are a number of compensation arrangements including the TOVALOP, CRISTAL and IOPC Fund. These three cooperation arrangements provide compensation for states affected by pollution damage. These examples of cost sharing in the areas of marine pollution can provide useful lessons for the establishment of burden sharing scheme in the area of safety of navigation. Regarding the Straits of Malacca and Singapore an important lesson drawn from the TOVALOP, CRISTAL and IOPC Funds arrangements is the need to develop an institution to manage and administer the fund, establish precise procedures to calculate contribution of each user and pay claims on behalf of users at global level.

The second cost sharing model is the fee for relevant states. The North Atlantic international ice patrol and the maintenance of two Red Sea lights fall under this category. Three important lessons can be grasped from this cooperation model. First these cooperation mechanisms suggest that implementing fees for relevant states is feasible. Second, the two cooperation schemes show a practical formula to charge relevant states. Finally, these cooperation schemes show the important of cooperation arrangement between states before charging the fees.

In contrast to the Red Sea and North Atlantic cases, in the case of the Straits of Malacca and Singapore, however, charging relevant states for navigational safety and marine pollution prevention measures could be very tricky. This is because most vessels plying through the Straits fly flags of convenience. A cost sharing mechanism is more likely to work if conducted globally through the IMO.

The third category of cost sharing is the fee for private users model. Three cases fall under this category including the cost sharing mechanism in the Dover Strait, fee for compulsory pilotage at Torres Strait and the implementation of Light Dues in the UK. These examples of cost sharing mechanisms show the importance of non discriminatory principle in implementing charges and only relate the charges with costs of providing services and prevent over charging.

The strait states of the Straits of Malacca and Singapore cannot unilaterally impose any charges upon vessels navigate through the Straits. The article 42 of the LOSC restricts the prescriptive jurisdiction of the straits states.[463] Strait states are able to designate sea lanes and prescribe traffic separation schemes after referring their proposals to the IMO and gaining the organization's approval.[464]

To conclude, the three costs sharing models suggest that the cost sharing cooperation in the Straits of Malacca and Singapore would be best conducted through the IMO. Since ships sailing through the Straits come from all parts of the world cooperating through the IMO is more practical than through a sub regional or regional arrangement. More importantly, for the straits states cooperating through the IMO meet LOSC requirements. The LOSC acknowledges the IMO's specific function in informing international standards and practices in the areas of navigational safety and prevention and control of marine pollution. In the absence of IMO approval strait states cannot presume that they are "competent to implement such measures in international straits, in archipelagic sea lanes or in the EEZ".[465]

Nevertheless, this research does not suggest that the establishment of a new global initiative under the IMO is necessary. Bearing in mind the costly and lengthy negotiation process to establish a new cost sharing initiative under the IMO, strait states and users of the Straits of Malacca and Singapore could incorporate a new system for charging users. The Cooperative Mechanism has been developed through the IMO sponsored meetings. The IMO has maintained its crucial role not only in convening meetings but also in attracting sponsors to fund various projects on safety of navigation and pollution control in the Straits. The adoption of a new system to charge into the Cooperative Mechanism platform can assist strait states in maintaining sustainable funding for the navigational safety and environmental protection in the straits.

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[463] Robert Beckman, "PSSAs and Transit Passage- Australia's Pilotage System in the Torres Strait Challenges the IMO and UNCLOS*",* at 345; LOSC Article 42 (1)

[464] LOSC article 41 (4) and (5); R.R Churchill and Lowe, A.V., *The Law of the Sea*, at 108

[465] James Harrison, *Making the Law of the Sea*, at 192

Given the important role of the IMO in establishing cooperation and cost sharing mechanism for this research, this research concludes that among nine cost sharing mechanisms explained in Chapter 4 the IIP at the North Atlantic Sea provides the most useful analogy in devising a cost sharing mechanism for the Straits of Malacca and Singapore. The IMCO (later known as the IMO) played a central role in facilitating the adoption of the SOLAS 1914 which set the legal foundation for the establishment of the IIP. The thirteen states interested in trans-Atlantic navigation cooperate and coordinate their action through the IMCO. Drawing from the IIP practices in the case of the Straits of Malacca and Singapore both users and strait states need to formulate a cooperation arrangement for burden sharing through the IMO. In the case of the IIP the operation of the ice patrol and the billing management are delegated to the U.S. As similar to the IIP the actual operation of navigational safety and marine pollution control could be delegated to the strait states.

Although the IIP provides a very useful analogy in formulating a cost sharing cooperation in the Straits of Malacca and Singapore, this research does not suggest that other existing cost sharing cooperation does not provide useful examples. As similar to the IIP, the 1969 Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP); the 1971 Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL), the International Oil Pollution Compensation (IOPC) Fund, the UK Light Dues and the Maintenance of Red Sea Lights offer best practices in determining the actual billing to users both the user states and the private sectors. In most cases the total percentage of the cargo tonnage of each state which participates in these cooperation schemes has been used to calculate contributions. Initiative such as the 1992 Fund for instance has developed a very detail system to measure the total tonnage that becomes the basis to assess each state contribution. As previously explained in Chapter 4 under the 1992 IOPC Fund member states are required to provide the name, address and relevant quantities of oil received by individual private contributors.[466] Devising an instrument to measure the total tonnage is very important. Currently, there are a number of technologies that are used to monitor ships movements. Australian Border Protection Command for instance uses the Australian Maritime Information

System (AMIS) and the REEFCE to track ships movement and any vessels entering their EEZ.[467] Similarly, for the Straits of Malacca and Singapore on November 2006 the strait states developed the Malacca Strait Patrols Information System (MSP-IS) and later in 2008 the Open and Analysed Shipping Information System (OASIS). The MSP-IS system provides a real time information on the situation of the Strait of Malacca to enhance shared situation awareness and facilitate coordination among the strait states. The OASIS displays a near real time Recognised Maritime Picture (RMP) and a database of vessels, with more than 150,000 vessels.[468] Nevertheless, although the current navigation technology allows states to log in number and name of vessels plying through their waters however, if these vessels do not call at the straits state port it would not be easy to know the total tonnage of these vessels. Under this circumstance cooperation from participating states in reporting the name, address and the total tonnage of their private sectors is deemed important to assist the success of the cooperation arrangement.

6.2 Recommendations on Approaches to Establishing Cost Sharing Cooperation in the Straits of Malacca and Singapore

A number of useful principles flow from the existing cost sharing cooperation in the world that could be adopted to develop a burden sharing mechanism for dealing with marine pollution and navigational safety in the Straits of Malacca and Singapore. These principles include:

- A critical point here is that all parties both strait states and users must agree in the first place to cooperate and discuss the possible cost sharing schemes with a good intention and peaceful manner. This is because strait states cannot impose charges upon users transiting through their waters without prior cooperation arrangement.
- Cooperation from participating states in reporting the name, address and the total tonnage of their private sectors is important to guarantee the success of the cooperation arrangement.

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466 IOPC Funds, "The International Oil Pollution Compensation Funds 2012"; Article 15(2) of the International Convention on the Establishment of An International Fund for Compensation for Oil Pollution Damage, 1992

467 Australian Navy, "Compulsory Pilotage in the Torres Strait".

468 Singapore Ministry of Defence, "Factsheet: Milestones of Malacca Strait Patrols", March 28th, 2008 available from http://www.mindef.gov.sg/imindef/news_and_events/nr/2008/mar/28mar08_nr/28mar08_fs.html. last accessed June 26th, 2011

- Key findings reveal that the more likely solution could be achieved by cooperating at through the IMO. Yet, this does not suggest that the establishment of a new institution under the IMO auspice is required. Strait states and users can adapt the Cooperative Mechanism to incorporate a new system for charging users. The Cooperative Mechanism was established through the IMO sponsored meetings. The IMO also has continued its active engagement in the Mechanism through the development of the IMO Malacca and Singapore Straits Trust Fund to complement the existing Aids to Navigation Fund in 2009.
- As a first step in developing a new cost sharing system. Strait states, users and the IMO can set up a resolution or guidelines for charging users.
- The cost sharing mechanism of the International Ice Patrol (IIP) in the North Atlantic that was developed through the signing of SOLAS 1914 provides the most useful analogy in forming a cost sharing mechanism for the Straits of Malacca and Singapore. This is because the cooperation was established at the global level through the IMO.
- The 1969 Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP); the 1971 Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL), the International Oil Pollution Compensation (IOPC) Fund, the UK Light Dues and the Maintenance of Red Sea Lights have shown us the total percentage of the cargo tonnage of each state which participates in these cooperation schemes could be used to measure each state contributions. The formula for annual contribution for each state is as follow:

$$\mathbf{C = (X/Y)\ Z}$$

X: Total Tonnage of State A
Y: Total Tonnage of All Participating States
Z: Total costs to maintain and improve navigational aids and pollution prevention measures

Although this formula is useful as a starting point to formulate a cost sharing scheme, it would be difficult to implement it in the Straits of Malacca and Singapore because most vessels travelling through the Straits comes from various countries around the globe and most of them use flags of convenience. One practical solution to address this

problem is by working with shipping companies through shipping associations that involve in the Cooperative Mechanism. Straits states send their calculation of the contribution to shipping lines or ships operators based on number of voyage that their vessels made in one year.

- The use of a number of technologies which are useful to monitor ships movements such as the Malacca Strait Patrols Information System (MSP-IS) and Open and Analysed Shipping Information System (OASIS) could assists straits states to log in number and name of vessels plying through their waters.
- Learning from the implementation of the UK Light Dues to avoid negative impact of cost sharing upon the shipping industries the burden sharing cooperation for the Straits of Malacca and Singapore could be subjected to tonnage cap and voyage cap. The Joint Committee or Joint Council through consensus could set a tonnage cap and voyage cap for a vessel per year.

6.3 Evaluation

This research uses a combination of primary and secondary materials. These primary materials are gathered through document study and interviews conducted during the author's field research in 2010 and 2011 in Indonesia and Singapore. Most of these primary materials, however, discussed about the challenges and concern surroundings the cost sharing cooperation in the Straits of Malacca and Singapore. Due to time and limited access to interviewee discussion on other cost sharing practices across the globe is mainly depicted from secondary resources. This limitation however will not influence the key findings and conclusions of this research. This is because explanation on practice of cooperation within the recovery costs; fees for user states and fees for private users' models are corroborated and confirmed by relevant government or private sector documents; websites; and academic articles.

6.4 Future Work

In terms of future work this research views the Straits of Malacca and Singapore in isolation from other key sea lanes in the Southeast Asia. It would be fruitful to research the reasons underpinning the lack of cooperation to maintain navigational safety and marine pollution in

other key sea lanes including the maritime tri-border area between Indonesia, Malaysia and the Philippines. Following the September 11th, 2001 terrorist attacks various discussions on the issue of maritime security in the Sulu and Sulawesi Sea have captured world attention. Nevertheless, there has been less attention given to cooperation in the area of navigational safety and marine pollution in these waters. The safety of navigation and marine pollution are important cooperation areas for this sea lane because this waterway has become an important alternative route for super tankers and larger vessels coming from the Middle East. Due to narrow and shallow conditions of the Straits of Malacca and Singapore most of these super tankers from the Indian ocean are required to pass through the Lombok Strait to the Makassar Strait and then finally to the Sulawesi Sea and the Pacific Ocean and Philippine waterway. Therefore, cooperation to improve the safety of navigation and prevent and control pollution in this area is deemed crucial not only for straits states but also for users.

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