The implications of the implementation of part iii of the united nations convention on the law of the sea (UNCLOS) 1982 to the safety of navigation and marine environmental protection in the straits used for international navigation: The review of policy and cooperation, and future direction of the cooperative mechanism in the straits of Malacca and Singapore

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The Review of Policy and Cooperation, and Future Direction of the Cooperative Mechanism in the Straits of Malacca and Singapore

By

NANDITYA DARMA WARDHANA
Indonesia

A dissertation submitted to the World Maritime University in partial fulfillment of the requirements for the award of the degree of

MASTER OF SCIENCE
In
MARITIME AFFAIRS
(Maritime Law and Policy)

Class of 2015
DECLARATION

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

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

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“*No bird soars too high if he soars with his own wings*”

-William Blake-
ABSTRACT


Degree: MSc

Due to the development of the international trade, the shipping industry has become one of the prime methods of carrying commodities. Commodities are usually shipped through the main international routes, including the main international straits, which are usually used for international navigation. To regulate the rights and obligations between the littoral States and user States in the international Straits, UNCLOS 1982 adopted provisions, which are related to the Straits Used for International Navigation regime. The Straits of Malacca and Singapore are part of this regime.

To enhance the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, the littoral States (Indonesia, Malaysia and Singapore) have developed policies and initiatives based on Part III of UNCLOS 1982. The littoral States also successfully established the Cooperative Mechanism in the Straits, to invite broader involvement from the user States, shipping industry and stakeholders in the enhancement of the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, under the spirit of burden sharing under Article 43 of UNCLOS 1982.

This research aims to review the implications of the implementation of Part III of UNCLOS 1982 in the enhancement of the safety of navigation and marine environment protection in the Straits of Malacca and Singapore, and also to review the current development of the Cooperative Mechanism and policies taken under the Tripartite Technical Experts Group (TTEG) on safety of navigation in the Straits.

Based on the marine accidents and marine pollution data in the Straits of Malacca and Singapore in the period of 2001 – 2014 and also from the meeting reports and other related sources, where the accidents and pollution were decreasing, it could be concluded that the implementation of Part III of UNCLOS 1982, in particular the establishment of Cooperative Mechanism, was effective in enhancing the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore. Further, all of the policies developed under TTEG and Cooperative Mechanism, are in accordance with Part III of UNCLOS 1982, and also with the prevailing rules and regulations.

KEYWORDS: Implementations, Part III of UNCLOS 1982, Safety of Navigation and Marine Environmental Protection, Policy and Cooperation, the Straits of Malacca and Singapore
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TTEG  Tripartite Technical Experts Group
UNCLOS III  The Third United Nations Conference on the Law of the Sea
VTS  Vessel Traffic Services
1. Introduction

1.1. Background

The Straits of Malacca and Singapore has unique characteristics. It stretches from the Andaman Sea to the South China Sea (±600 NM), with narrow, shallow and critical areas in some parts of the Straits. The Straits of Malacca and Singapore is also considered as one of the strategic straits in the world, which is used for international navigation and domestic navigation by the three littoral States (Indonesia, Malaysia, and Singapore).

The geographical location of the Straits, which are located between the Indian Ocean and the Pacific Ocean makes the Straits become one of the main shipping routes which are used to transport various goods. According to the BIMCO (2014), almost one third of the world’s traded goods are transported through the Straits of Malacca and Singapore. This makes the Straits considered as one of the busiest shipping lanes in the world.

The most difficult stretch in the Straits of Malacca and Singapore for navigation is in areas where the Traffic Separation Scheme (TSS) spans between Horsburgh lighthouse in the east and One Fathom Bank off Port Klang in the west. The TSS extends to ±250NM and the narrowest point in the TSS is at the Phillips Channel, which is about 1.9 NM in width. There were also several navigational hazards in the Straits of Malacca and Singapore, which are related to the shipwrecks and shoal (Rusli, 2009).

Based on the data from Marine Department Malaysia (2014), the number of vessels that reported under the Mandatory Ship Reporting System in the Straits of Malacca and Singapore (STRAITREP) in 2014 were 79,344 vessels, varying from very large crude carriers (VLCC’s), and container vessels to fishing vessels, which came from different flag States. Based on the projections, it was
predicted that there will be a significant increase of traffic in the Straits of Malacca and Singapore.

The Straits of Malacca and Singapore are also very vulnerable to the marine casualties. There were several accidents that occurred in the Straits of Malacca and Singapore, due to the high traffic and difficult geographical condition. The Straits also has a risk on the marine environmental disaster, since the high number of ships which pass through the Straits could result in pollution of the waters in the Straits.

In order to regulate the passage of foreign vessels to navigate not only in the Straits of Malacca and Singapore, but also in the other areas, which are related with the rights and obligations from both coastal States and user States, the United Nations adopted the United Nations Convention on the Law of the Sea (UNCLOS) 1982.

The UNCLOS 1982 developed a new legal framework concerning the right and responsibilities of the States in the six maritime zones, which are: Internal Waters, Archipelagic Waters, Territorial Waters, Contiguous Zone, Exclusive Economic Zone (EEZ), Continental Shelf, and High Seas. Each maritime zone contains its own legal status. Further, the UNCLOS 1982 also regulates the different passage regimes under the marine spaces. The passage regimes are the right of innocent passage, the right of transit passage and the right of archipelagic sea lane passage.

Article 19 of UNCLOS 1982 defines the innocent passage as “passage is innocent as it is not prejudicial to the peace, good order or security of the coastal State. The right of innocence passage applies to foreign vessels that navigate within the territorial waters”. While according to Article 53 (3) of UNCLOS 1982, the archipelagic sea lane passage, which applies in the archipelagic sea lane passage, could be define as:
“The rights of navigation and overflight in the normal mode solely for the purpose of continuous, expeditious and unobstructed transit between one part of high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone.”

The last passage regime under UNCLOS 1982 is the right of transit passage. Based on Article 38 (2) of UNCLOS transit passage is defined as:

“The freedom of navigation and overflight solely for the purpose of the continuous and expeditious transit of the Strait between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone.”

According to Rothwell (2010), the transit passage applies to foreign vessels within the territorial sea of an international strait which is subject to overlapping the territorial sea from the adjoining coast.

As mentioned, the regime related to the Straits Used for International Navigation is applied using the right of transit passage. It was developed in order to ensure that foreign vessels could have safe and expeditious passage through the international straits in order to carry out commercial and other activities.

The recognition of the transit passage regime in the international strait could be seen in the decision of the International Court of Justice (ICJ) on the Corfu Channel case (the United Kingdom v. Albania, 1949). According to Rothwell (2010), ICJ stated that during the time of peace, States have a right to send their warships through the Strait Used for International Navigation between two parts of the high seas provided that the passage was innocent. Further, it was stated that the vessel has a right of innocent passage that could not be prohibited and suspended by the coastal State.
On the Third United Nations Conference on the Law of the Sea (UNCLOS III) which started in 1973, the convention managed to draft the provisions related to the straits used for international navigation which applied between one part of high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone. The meeting also managed to draft the transit passage regime that is used in the Straits used for international navigation. Both provisions are later also mentioned in Part III of the UNCLOS 1982.

The UNCLOS 1982 also gives the opportunity for coastal States, user States, the shipping industry and other stakeholders to cooperate in the safety of navigation and marine environmental protection, based on the spirit of burden sharing of Article 43 of UNCLOS 1982. Further, under UNCLOS 1982 the Straits of Malacca and Singapore are considered as Straits Used for International Navigation, where the transit passage regime is applied.

In principle, the responsibility to ensure the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore is under the littoral States. The littoral States have the sovereignty and sovereign rights over the Straits, based on the settlement of Maritime Delimitation between the three States (Indonesia, Malaysia and Singapore). Based on these settlements the littoral States could implement and develop their national legislation and International Maritime Organization (IMO) conventions and regulations, which are related to the safety of navigation and marine environment protection. Further, the littoral States developed cooperation to enhance the safety of navigation and marine environmental protection, based on their rights over the waters.

According to Koh (1982), the cooperation of the three coastal States in the Straits of Malacca and Singapore was started when the Joint Statement was issued on 16 November 1971, when the three governments agreed to cooperate and established a body to coordinate the efforts for the safety of navigation and marine environment in the Straits of Malacca and Singapore. Since 1977, after
the commencement of the Joint Statement 1977, the coastal States jointly promoted the safety of navigation and marine environmental protection in the Straits by establishing a Tripartite Technical Experts Group (TTEG) on Safety of Navigation.

After the commencement of the series of meeting, which were sponsored by littoral States and IMO, under the IMO’s Protection of Vital Shipping Lanes Initiatives, which are the Jakarta Meeting 2005, the Kuala Lumpur Meeting 2006 and the Singapore Meeting 2007. Further, based on Article 43 of UNCLOS 1982, the littoral States established the Cooperative Mechanism in the Straits of Malacca and Singapore.

The said Mechanism was established to promote the cooperation between the littoral States, the user States, the shipping industry and stakeholders, in enhancing the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore. The Cooperative Mechanism in the Straits of Malacca and Singapore is comprised of the Cooperation Forum, the Project Coordination Committee. TTEG is also designated as the principal coordinating body of the littoral States in the Cooperative Mechanism

Based on Part III of UNCLOS 1982, TTEG and Cooperative Mechanism have developed various policies and initiatives, which are related to the enhancement of the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore. Further studies on the impact of the related policy and initiatives under TTEG and from the establishment of the said Cooperative Mechanism are needed, to show whether the system is working effectively to enhance the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore.

Research on this areas are necessary since there no research has been conducted to describe the influence of the implementation of Part III of UNCLOS 1982 to the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore.
1.2. Objectives

The objectives of this research are as follows:

1. To review and identify the implications of the implementation of Part III UNCLOS 1982, concerning Straits Used for International Navigation, in the enhancement of the safety of navigation and marine environment protection in the Straits of Malacca and Singapore;

2. To review the current development of the Cooperative Mechanism and the policy taken under TTEG on Safety of Navigation by littoral States in the Straits of Malacca and Singapore to enhance the safety of navigation and marine environmental protection;

3. To give the recommendations on the future direction of the Cooperative Mechanism in the Straits of Malacca and Singapore and on policy under TTEG, which could be implemented by the littoral States to improve the safety of navigation and marine environment protection in the Straits of Malacca and Singapore; and

4. To provide consolidated information concerning the cooperation in the Straits of Malacca and Singapore to enhance the safety of navigation and marine environmental protection, as well as the recommendation for the littoral States to have effective implementation of the policies and initiatives taken under TTEG and Cooperative Mechanism.

1.3. Methodology

This legal research will use the qualitative analysis method, by reviewing and analysing the implementation of UNCLOS 1982 in the Straits of Malacca and Singapore and other major Straits, reviewing the related literature, IMO Conventions, IMO regulations, national laws and legislation from littoral States, reports of the meetings under the Cooperative Mechanism in the Straits of Malacca and Singapore documents, and other sources.
1.4. Limitation of the Research

The subject of the research is limited to the implementation of UNCLOS 1982 as well as the other measures which were adopted by the coastal States, based on the IMO related Conventions and other related regulations. The issues that are being discussed in this research are also only limited to the safety of navigation and marine environment protection in the Straits of Malacca and Singapore, as the subject under Part III of UNCLOS 1982, and not related to the maritime security.

The research is also reviewing the marine casualty data which occurred in the Straits of Malacca and Singapore. The research will be limited by using data from the marine casualties from 2001 – 2014, which were obtained from the report of the three littoral States (Indonesia, Malaysia, and Singapore), and other references. Further, the research also studies the policy of the three littoral States by analysing the reports of the meetings under TTEG and the Cooperative Mechanism in the Straits of Malacca and Singapore, and analysing the related national laws and legislation from littoral States.

1.5. Structure of the Research

This research is organised into six chapters, namely:

1. Chapter one explains the background of the research, objectives, methodology, limitation of the study, and also the structure of the study;
2. Chapter two contains the general information of the Straits of Malacca and Singapore;
3. Chapter three explains the legal regime in the Straits of Malacca and Singapore;
4. Chapter four explains the cooperation to enhance the safety of navigation and marine environment protection in the Straits of Malacca and Singapore, and also related to the marine casualties in the Straits of Malacca and Singapore;
5. Chapter five contains the review of the present policy and cooperation in the Straits of Malacca and Singapore, and the future direction of the cooperation under the TTEG and the Cooperative Mechanism related to the safety of navigation and marine environmental protection;

6. Chapter six contains the conclusion and recommendation.
2. General Information of the Straits of Malacca and Singapore

2.1. Introduction

The Straits of Malacca and Singapore have unique characteristics. The two major Straits of the world, namely the Malacca Strait and the Singapore Strait, are under the territory of three littoral States, which are Indonesia, Malaysia and Singapore. The Straits of Malacca and Singapore were officially started being mentioned as one Strait, based on the Joint Statement made by the three littoral States on 16 November 1971.

The Straits is very important for the international trade since it is providing the shortest sea routes between the Indian Ocean and the Pacific Ocean. The routes have been considered as the vital shipping routes for international and domestics navigation, and they are also being considered as the major artery for marine communication and thus became increasingly important to the maritime world. According to Khalid (2012), the Straits of Malacca and Singapore are considered as one of the Sea Lines of Communication (SLOCs), which are the key maritime passageways that facilitate high shipping traffic volumes and used to transport key maritime trades.

According to Leifer (1978), the Straits started to be used in the 15th century and became more important to maritime trade since the opening of the Suez Canal in 1869. Further, since the 1950’s the Straits have become important for the carriage of oil and general cargo from the Persian Gulf, India and Japan. There are also roles of the European countries as well as Singapore, South Korea, Hong Kong and Japan to transport their export and import activities.

Moreover, the Straits are also known for its mineral resources, fisheries and aquaculture. The Straits have oil reserves and are famous for the fisheries and aquaculture for many centuries. In addition, based on the Ministry of Transportation Indonesia (2012), the Straits also have some areas that have rich and well-preserved sea flora and fauna ecosystem.
In this Chapter, the author will give a brief explanation of the current conditions of the Straits by explaining the related information on geographical conditions, hazards to navigation through the Straits and also to shows the importance of the Straits of Malacca and Singapore for the international and domestic shipping industry. With the understanding on current conditions of the Straits, it will give a clear background of the needs to promote the safety of navigation and marine environmental protection of the Straits of Malacca and Singapore.

2.2. Geographical Condition

Leifer (1978) stated that the Straits of Malacca and Singapore extend for approximately 600 NM, stretch from the Andaman Sea to the South China Sea, and are situated between the southwestern part of the South China Sea and the southeastern part of the Andaman Sea. The Malacca Strait located between the west coast of peninsular or west Malaysia and the east coast of the Indonesian island of Sumatra. While Singapore Strait located south of the island of Singapore and the south-eastern part of peninsular Malaysia and north of the Indonesian Riau Island. (See Figure 1)

Figure 1 : The Straits of Malacca and Singapore

The Strait of Malacca is bordered by Thailand, Indonesia and Malaysia while the Strait of Singapore is bordered by Singapore, Indonesia and Malaysia. The Strait of Malacca forms a converging waterway as it narrows to the south before joining the Strait of Singapore. According to Rusli (2012), the narrowest width of the Strait of Singapore is situated at the southern part of Singapore, where the breadth is slightly more than a kilometre.

The length of the Straits of Malacca and Singapore from the Andaman Sea to the South China Sea is ±600 NM, while the length of the TSS from One Fathom Bank to Horsburg which was designated by the three littoral States, is ±260 NM. (Ministry of Transportation, Indonesia, 2013)

2.3. Navigation Hazards through the Straits of Malacca and Singapore

The Straits of Malacca and Singapore are located in the tropical area, where the high humidity and the high amount of rainfall occur almost everyday. The currents in the Straits, especially on the edge of the Strait of Malacca and the Andaman Sea, are very strong and unstable. According to Rusli (2009), there are parts of the Straits that are very narrow and shallow because of siltation. Haze could also cause problems in the Straits because it could lead into poor visibility for vessels that are navigating through the Straits.

There are several hazards to navigation in the Straits of Malacca and Singapore, namely: (Rusli, 2012)

1. Ship wrecks that may impede navigation;

2. Small islands, isles and shoals in the South Eastern exit to the Strait of Singapore;

3. High navigational traffic in the Straits of Malacca and Singapore coupled with the narrowness of the Straits.
Figure 2 shows some of the critical areas in the Straits of Malacca and Singapore, especially in the TSS, which is divided into the narrow and shallow area, and also the crossing area with high navigational traffic. In total, there are six critical areas in the TSS, with the width of sea lane not more than ±3.7 NM, and with the depth not less than ±23 M.

**Figure 2: The Critical Areas on the Straits of Malacca and Singapore**

![Critical Areas Map](image)


### 2.4. The Importance of the Straits of Malacca and Singapore

The Straits of Malacca and Singapore has played an important role in the international maritime world. The geographical location of the Straits, which located between the Indian Ocean and the Pacific Ocean, makes the Straits become a strategic route not only for domestic navigation of the three coastal States but also for the international navigation passing through the Straits. The Straits of Malacca is also considered as the shortest sea route between the Persian Gulf and the Asian markets.
Based on the data of Marine Department Malaysia (2015), it was stated that there were 79,344 vessels navigating through the Straits of Malacca and Singapore in 2014, and it was predicted that there would be a significant increase in traffic in the Straits. The vessels which navigate through the straits was varied from VLCC, tanker vessels, LNG carriers, cargo vessels, container vessels, bulk carriers, Ro-Ro vessels, passenger vessels, livestock carriers, tugs, government vessels, and fishing vessels. As can be seen in Table 1, the highest users of the Straits are container vessels and tanker vessels, which reach almost 42,000 vessels per year.

Table 1: The traffic Data in the Straits of Malacca and Singapore

<table>
<thead>
<tr>
<th>Type of Vessel</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015*</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLCC/Deep Draft</td>
<td>4221</td>
<td>4333</td>
<td>4539</td>
<td>4732</td>
<td>4825</td>
<td>4993</td>
<td>2576</td>
</tr>
<tr>
<td>Tanker Vessel</td>
<td>16398</td>
<td>16247</td>
<td>16223</td>
<td>17345</td>
<td>18296</td>
<td>18765</td>
<td>9129</td>
</tr>
<tr>
<td>LNG Carrier</td>
<td>3330</td>
<td>3579</td>
<td>3830</td>
<td>4014</td>
<td>4248</td>
<td>4173</td>
<td>1981</td>
</tr>
<tr>
<td>Cargo Vessel</td>
<td>8560</td>
<td>8445</td>
<td>7996</td>
<td>7950</td>
<td>7613</td>
<td>6989</td>
<td>3483</td>
</tr>
<tr>
<td>Container Vessel</td>
<td>22310</td>
<td>24806</td>
<td>25552</td>
<td>24639</td>
<td>24658</td>
<td>25071</td>
<td>12595</td>
</tr>
<tr>
<td>Bulk Carrier</td>
<td>11186</td>
<td>11642</td>
<td>10851</td>
<td>11678</td>
<td>12658</td>
<td>13454</td>
<td>7350</td>
</tr>
<tr>
<td>Ro-Ro</td>
<td>2394</td>
<td>2624</td>
<td>2545</td>
<td>2980</td>
<td>2998</td>
<td>3146</td>
<td>1527</td>
</tr>
<tr>
<td>Passenger Vessel</td>
<td>1250</td>
<td>1071</td>
<td>877</td>
<td>861</td>
<td>1063</td>
<td>1041</td>
<td>503</td>
</tr>
<tr>
<td>Livestock Carrier</td>
<td>43</td>
<td>45</td>
<td>47</td>
<td>38</td>
<td>55</td>
<td>59</td>
<td>41</td>
</tr>
<tr>
<td>Tug Tow</td>
<td>598</td>
<td>545</td>
<td>414</td>
<td>529</td>
<td>563</td>
<td>676</td>
<td>229</td>
</tr>
<tr>
<td>Government Vessel</td>
<td>67</td>
<td>37</td>
<td>57</td>
<td>50</td>
<td>58</td>
<td>96</td>
<td>38</td>
</tr>
<tr>
<td>Fishing Vessels</td>
<td>61</td>
<td>20</td>
<td>20</td>
<td>52</td>
<td>27</td>
<td>51</td>
<td>26</td>
</tr>
<tr>
<td>Others</td>
<td>941</td>
<td>739</td>
<td>577</td>
<td>609</td>
<td>911</td>
<td>380</td>
<td>420</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>71359</strong></td>
<td><strong>74133</strong></td>
<td><strong>73528</strong></td>
<td><strong>75477</strong></td>
<td><strong>77973</strong></td>
<td><strong>79344</strong></td>
<td><strong>39998</strong></td>
</tr>
</tbody>
</table>

Source: Marine Department Malaysia, 2015
According to the Table 1, the world trade is very dependent on the Straits of Malacca and Singapore. By the figures of 79,344 per year in 2014, it can be estimated that almost 217 vessels transiting through the Straits each day. It means that nine vessels will pass through the Straits every hour. The research made by the Directorate General of Sea Transportation, Ministry of Transportation of Indonesia (2012) even stated that there would be an increasing number of vessels within five years. It was estimated that the vessels that will pass through the Straits in 2020 would reach almost 129,000 vessels per year.

The number of navigating vessels on the Straits of Malacca and Singapore will be increased due the prediction that the economic condition within the region of East Asia and South East Asia will continue to grow and produce goods as well as import mineral resources. The growth of the economy in the area and also as a result from the improvement of shipping technology, makes the size and type of vessels passing through the Straits become bigger. This means that the vessels will reach the maximum type and size in the Straits of Malacca and Singapore, with the so called “Malacca-max”, as shown in the Figure 3.

**Figure 3: Type and Size of Transiting Vessels on the Straits of Malacca and Singapore**

![Type and Size of Transiting Vessels](source)

Almost one third of the world’s traded goods are transported through the Straits. Based on the US Energy Information and Administration (2014), the Straits of Malacca and Singapore is considered as one of the world’s chokepoints for the maritime industry. It was stated that by blocking the chokepoint this can lead to substantial increases in total energy cost and world energy prices, since the disruptions of these routes could affect oil prices and add thousands of miles of transit in alternative routes.

The main commodities transported through the Straits of Malacca and Singapore are oil, coal, iron ore and minerals, which are exported from the Middle East to East Asia and North East Asia (Ho, 2009). While on the other side the containers bringing cars, electronics, and other consumer goods to Africa nations and the Middle East. Figure 4 and Table 2 show that the Straits of Malacca was transited by an estimated 15.2 million barrels of oil per day and also 4.2 trillion cubic feet of LNG per year in 2013.

Figure 4: The Volume of Crude Oil and Petroleum Products through world Chokepoints

All estimates in million barrels per day. Includes crude oil and petroleum products. Based on 2013 data.

Main Ports at the Straits of Malacca and Singapore

The Straits of Malacca and Singapore are not only used by transiting vessels to support the economy in other countries. The littoral States also used the opportunity to enhance their economic competitiveness. There are several main ports in the Straits of Malacca and Singapore that are used to support the economic condition in each littoral States. The main ports that are usually used are the Singapore ports, the Port Klang and Tg. Pelepas, which are located in Malaysia, and Belawan, which located in Indonesia.

As can be seen in Table 3, in 2013 the above mentioned ports play a very important role in the region. Singapore Port is one of the busiest ports in the world, and is also considered as the world major hub port. The four ports have also commenced development and expansion of their facilities to be able to receive and send more cargos.

Table 2: Oil and Liquefied Natural Gas (LNG) flows in the Straits of Malacca and Singapore

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total oil flows through Strait of Malacca</td>
<td>13.5</td>
<td>14.5</td>
<td>14.6</td>
<td>16.1</td>
<td>15.2</td>
</tr>
<tr>
<td>crude oil</td>
<td>11.9</td>
<td>12.8</td>
<td>12.9</td>
<td>13.3</td>
<td>13.4</td>
</tr>
<tr>
<td>refined products</td>
<td>1.6</td>
<td>1.7</td>
<td>1.7</td>
<td>1.8</td>
<td>1.8</td>
</tr>
<tr>
<td>LNG (Tcf per year)</td>
<td>1.0</td>
<td>1.9</td>
<td>2.5</td>
<td>3.2</td>
<td>4.2</td>
</tr>
</tbody>
</table>

Source: US Energy Information and Administration.

Table 3: The Volume of the Cargo Loading and Unloading at Ports in the Straits of Malacca and Singapore

<table>
<thead>
<tr>
<th>Ports</th>
<th>Country</th>
<th>Volume 2013 (Million TEU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>Singapore</td>
<td>32,600,000</td>
</tr>
<tr>
<td>Port Klang</td>
<td>Malaysia</td>
<td>10,350,000</td>
</tr>
<tr>
<td>Tanjung Pelepas</td>
<td>Malaysia</td>
<td>7,650,000</td>
</tr>
<tr>
<td>Belawan</td>
<td>Indonesia</td>
<td>3,100,000</td>
</tr>
</tbody>
</table>

Source: Ministry of Transportation of Indonesia and World Shipping Council 2013
3. Legal Regime of the Straits of Malacca and Singapore

As mentioned before in Chapter one, the implementation of the Straits Used for International regime was initially started when the UNCLOS 1982 was adopted and had entered into force. The UNCLOS 1982 has the role as the umbrella convention which gives the rights and obligations for States and also user States in the enhancement of the safety of navigation and marine environmental protection in the Straits Used for International Navigation. The implementation of Part III of UNCLOS 1982 itself is closely related with the maritime delimitation settlement and also the enforcement of the national legislation and the IMO conventions and resolutions.

In this chapter, the author would like to give a brief explanation on the development of the Straits Used for International regime, international customary law related with the application of the regime, the related IMO conventions and resolutions which are related with the regime, the explanation of the littoral States’ national legislation, and also the maritime delimitation conditions in the Straits. The explanation of these areas are necessary to give a clear understanding of the development and implementation of the Straits Used for International Navigation regime in the Straits of Malacca and Singapore.

3.1. UNCLOS 1982 Provision Related with the Straits Used for International Navigation

The International Law of the Sea has been developed over the years to regulate the rights and obligations of the States in the specific maritime zones. There were different interests between the coastal States and user States in the international straits. Based on these conditions, there are needs to ensure the freedom of navigation for transiting vessels which originated from foreign States. Further, the regulation is even more important, due to the high volume of international trade using the sea transportation. This happened because shipping was considered as the prime method of carrying commodities. The commodities were usually transported using the main international maritime routes, and
sometimes using the main international straits, which are usually used for international navigation.

Based on the fact that international straits have always had an important role on international trade, there are needs to develop particular provisions to regulate the Straits Used for International regime. The development of the regime could be observed prior to the adoption of the UNCLOS 1982, where it is already started to be discussed at *The Institut de Droit International*, in 1894-1912, until the enactment of UNCLOS 1982.

**3.1.1. Legal Status of the Straits of Malacca and Singapore under UNCLOS 1982**

After series of meetings and negotiations, during the commencement of the UNCLOS III, there were several issues that were agreed by the States who have an interest in the international straits. According to Churchill (1999), the convention manages to reach a compromise between the different interest from the coastal States and the user States of the international straits. The transit passage regime allows less coastal States control over transiting vessels than innocent passage and the regime also allows the same freedom of navigation as exist if the waters of the Straits constituted the high seas.

The main focus of part III of UNCLOS 1982 is the straits which are used for international navigation between one part of the high seas and the EEZ, and another part of the high seas or the EEZ, and the transit passage regime which is applicable within the straits. According Rothwell (2010), Part III of UNCLOS 1982 also made a categorization of the straits, namely:

1. Straits which are regulated in whole or in part by long standing international conventions (Article 35 (c) of UNCLOS 1982);
2. Straits where there exist a route through the high seas or EEZ (Article 36 of UNCLOS 1982);
3. Straits which are used for international navigation between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone (Article 37 of UNCLOS 1982)

4. Straits which exist between the mainland and an island where there exist seaward of the island a route through the high seas or EEZ (Article 38 (1) of UNCLOS 1982);

5. Straits used for international navigation between one part of the high seas or EEZ and the territorial sea of a foreign State (Article 45 of UNCLOS 1982).

In UNCLOS 1982, the Straits of Malacca and Singapore is considered as the Straits Used for International Navigation under Article 37 of UNCLOS 1982, where the Transit Passage regime is applied. It is related to the definition of the transit passage which available in Article 38 (2) of UNCLOS 1982. In the article, it was stated that transit passage means the exercise in accordance with this Part of the freedom of navigation and overflight solely for the purpose of continuous and expeditious transit of the strait between one part of the high seas or an exclusive economic zone and another part of the high seas or an Exclusive Economic Zone. In addition, based on Article 44 of UNCLOS 1982, in the Straits Used for International Navigation, the vessels cannot be hampered and suspended when practicing the transit passage.

3.1.2. The Rights and Duties of Littoral States and Ships in the Straits of Malacca and Singapore

Based on Article 39 (1) of UNCLOS 1982, during the transit passage the vessels and aircraft are obliged to comply with four duties, namely: proceed without delay through the Strait; refrain from any threat or use of force against the sovereignty, territorial integrity or political independence of States bordering the Strait; refrain from any activities other than those incident to their normal modes of continuous and expeditious transit unless rendered necessary by force majeure or by distress; and comply with other relevant provision of Part III of UNCLOS 1982.
Further, ships in transit passage are under duties to:

1. Comply with generally accepted international regulations, procedures, and practice for safety at sea, including the International Regulation for Preventing Collisions at Sea, and for the prevention, reduction and control of pollution from ships. (Article 39 (2) of UNCLOS 1982)

2. Refrain from carrying out any research or survey activities without the prior authorisation of the States bordering Straits. (Article 40 of UNCLOS 1982)

3. Respect applicable sea lanes and traffic separation scheme. (Article 41 (7) of UNCLOS 1982)

In the Article 41 of UNCLOS 1982, the littoral States may designate sea lanes and TSS for navigation in the Straits where necessary to promote the safe passage of vessels. According Yturriaga (1990), the States could only designating the said sea lanes when several requirements are met, which are as follows: its necessary to promote the safe passage of vessels; should conform with the “generally accepted international regulations”; need to be adopted by the competent international organization; and the States should indicate the designated sea lanes on the charts. Further, in Article 41 (5) of UNCLOS 1982 stated that, when more than two States bordering the Straits, the States should cooperate to develop the proposals for sea lanes and traffic separation scheme.

Under Article 42 (1) of UNCLOS 1982, the littoral States have the rights to adopt laws and regulations related to the safety of navigation, marine environmental protection, fisheries, fiscal, customs, immigration or sanitary laws and regulations of States bordering straits. However, according to Neher (2009), the authority of the littoral States to adopt the laws related with the transit passage is prescriptive authority only, which is different from the practice under the innocent passage regime through the territorial sea. The reason for that is, since according to the transit passage regime, the littoral States do not have the
authority to adopt laws and regulations which are stricter than international regulations and standards.

Article 42 (1) of UNCLOS 1982 is also related to the Article 233 of UNCLOS 1982. The article gives the rights to coastal States to enforce their national laws, if the foreign vessels committed violation of the laws and regulation mentioned referred into Article 42 (1) of UNCLOS 1982, and causing or threatening major damage to the marine environment.

Based on this, if the foreign vessels committed violation of the national laws of the coastal States and causing major damage to the marine environment, the coastal States could commence the necessary enforcement measures based on Article 220 of UNCLOS 1982, which are as follows; undertake the physical inspection and institute the proceedings including detention of the vessels.

Article 43 of UNCLOS 1982 requires user States and States bordering a Strait to cooperate in the establishment and maintenance in a Strait of necessary navigational and safety aids or other improvements in aid of international navigation, and for the prevention, reduction and control of pollution from vessels.

Article 43 of UNCLOS 1982 could initiate cooperation between the littoral States and the user States, and also the related stakeholders, such as the shipping industry, and also from international organization and non governmental organizations. The article allowed the littoral States to invite the involvement of the stakeholders to voluntarily contribute, in both direct funding or in kind, in order to enhance the safety of navigation and marine environmental protection, based on the burden sharing mechanism. This idea was arose due to the fact that the coastal States are bearing the economic burdens to ensure the safety of navigation and marine environment protection, without receiving any benefit, while on the other hand there were other user States and stakeholders that enjoyed the economic benefit by using the Straits.
3.2. Jurisprudence Related to the Straits Used for International Navigation

There are two main cases which are accepted as the jurisprudence and international customary law related to the legal regime in the straits used for international navigation, which are the Permanent of International Court of Justice (PCIJ) case, the S.S. Wimbledon case, and ICJ case, the Corfu Channel case.

3.2.1. The S.S. Wimbledon Case (The United Kingdom, France, Italy & Japan v. Germany, 1923)

The case is related with measures made by the German government on 21 March 1921, for refusing the English steamship Wimbledon to pass through the Kiel Canal because the ship carried 4,200 tons of ammunition and artillery stores from Salonica, Greece to a Polish naval base at Danzig. The reason for Germany to take these measures was because of their neutrality in accordance with the Russo-Polish war. The United Kingdom, France, Japan and Italy claims that Germany violated articles 380 to 386 of the Treaty of Versailles, which stated that the Kiel Canal should remain free and open to the vessels of commerce of war for all nations at peace with Germany on terms of entire equality (Brown, 2004).

On the judgment, the PCIJ declared Germany had no right to refuse entrance to the S.S Wimbledon because of the cargo that was carried. Kiel Canal should be considered as an international waterway, which is the connection between two parts of the high seas, and should be open to all vessels because the geographical condition of the canal could provide easier access to the Baltic Sea (PCIJ Reports of the Case of the S.S. Wimbledon (United Kingdom, France, Italy & Japan v. Germany), Judgement on 17 August 1923).

3.2.2. The Corfu Channel Case (The United Kingdom v. Albania, 1949)

According to O’Connell (1982), the case is related to the passage of the two British Royal Navy vessels in the Corfu Channel, which is located close to the
Greek island in the Mediterranean Sea, called Corfu, bordered by Greece and Albania. On 22 October 1946, during the passage, HMS Saumarez and HMS Volage, struck mines, which had been laid in the fairway, and caused 44 officers lost their lives, 42 officers were injured, and serious damage was caused to the two vessels. On 12 and 13 November 1946, the British forces arranged an operation called “Operation retail” on the Corfu Channel to sweep the mines. The United Kingdom asked for compensation for the losses due to the accidents however, the Albanian government refused to give such compensation, claiming that the British vessel had violated the international law by navigating the waters without having prior notification and authorization from Albania. Further, the United Kingdom filed the case against Albania to the ICJ.

Further, Brown (1994) also states that on the judgment of the Court stated that in times of peace States have a right to send their warships through straits used for international navigation between two parts of the high seas without prior authorization of a coastal State, provided that the passage is innocent. Unless otherwise regulated in an international convention, there is no right for a coastal State to prevent such passage through the straits in time of peace. Based on this judgment, the Court had decided that ships had unsuspended right of innocent passage through international straits.

Both cases, the S.S. Wimbledon Case and the Corfu Channel Case, were able to determine the non suspendable right of innocent passage of the foreign vessels which navigate through international straits. These judgements were later used to develop the transit passage regime in UNCLOS 1982.

3.3. IMO Conventions and IMO Resolutions Related to the Straits of Malacca and Singapore

3.3.1. IMO Conventions Related to the Straits of Malacca and Singapore

The littoral States are party to the UNCLOS 1982, and aside from that, the littoral States in the Straits of Malacca and Singapore, have ratified the related
IMO conventions on safety of navigation, maritime security and marine environment protection.


However, only Singapore has ratified the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA Convention) 1988, only Malaysia has ratified the International Convention for the Control and Management of Ship’s Ballast Water and Sediments (BWM) 2004, and only Indonesia has ratified the Special Trade Passenger Ships Agreement (STP) 1971 Convention. The list of conventions already ratified by the littoral States is listed in Appendix A.

Therefore, we could see that the three littoral States have already ratified important conventions related to the safety of navigation and marine environmental protection, which could also be applicable to the Straits of Malacca and Singapore. It shows that the littoral States have the commitment to enhance and to ensure the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore by ratifying the important IMO conventions.
3.3.2. IMO Resolutions and IMO Circular Related to the Straits of Malacca and Singapore

There are several IMO resolutions related with the Straits of Malacca and Singapore, namely:

1. IMO Resolution A. 375 (X) adopted on 14 November 1977 concerning Navigation Through the Straits of Malacca and Singapore.
   
   This resolution adopted the Traffic Separation Scheme and Rules for Vessel Navigating Through The Straits of Malacca and Singapore. The TSS in the Straits of Malacca and Singapore is shown in Figure 5.

2. IMO Resolution A. 476 (XII) adopted in 19 November 1981 concerning the amendment of the Navigation Through The Straits of Malacca and Singapore.
   
   This resolution adopted the revision on the Traffic Separation Scheme and Rules for Vessel Navigating Through The Straits of Malacca and Singapore.

   
   This resolution adopted the proposal made by the coastal States to enacted Mandatory Ship Reporting Systems (SRS) in the Straits of Malacca and Singapore (STRAITREP), as seen in Figure 6.
Figure 5: TSS in the Straits of Malacca and Singapore

Source: Indonesian Hydro – Oceanographic Navy Office and Ministry of Transportation, Indonesia, 2013

Figure 6: STRAITREP Operational Areas

Source: Maritime and Port Authority of Singapore, 2015.
The IMO Circulars related to the Straits of Malacca and Singapore, are as follows:

1. IMO circular SN.1/Circ.282 dated 27 November 2009 related with the Prohibition of Anchoring in the Straits of Malacca and Singapore.

   In this circular, the coastal States introduce the prohibition for vessels to anchor in all areas of the TSS, as well as between the landward limits of the TSS and approaches to the ports.

2. IMO circular SN.1/Circ.317 dated 4 December 2012 related to the Routeing Measures Other Than Traffic Separation Schemes.

   In this circular, the littoral States introduce the Recommendatory Measure for Vessels Crossing the TSS and Precautionary Areas in The Singapore Strait During Hours of Darkness.

3.4. Littoral States’ National Legislation Related to the Safety of Navigation and Marine Environment Protection

On this section, the author would like to give a brief review and description regarding the measures of Indonesia, Malaysia and Singapore, as coastal States, to adopt the international maritime conventions related with to safety of navigation and marine environmental protection into its national legislations.

3.4.1. Indonesia National Legislation Related to the Safety of Navigation and Marine Environment Protection

Besides ratifying the UNCLOS 1982 and several IMO conventions as stated on the previous sub chapter, Indonesia has also adopted the rules and regulations into its national legislation. There are several main regulations that are related with the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, namely:

1. Law of the Republic Indonesia Number 6 Year 1996 concerning Indonesian water.
This law is regulating the rights and obligation of the States based on the regulation stipulated under UNCLOS 1982. Section three of the Law, regulates the Right of Transit Passage in the Indonesian waters, especially regarding the implementation of the transit passage regime in the Straits of Malacca and Singapore.

2. Law of the Republic Indonesia Number 17 Year 2008 concerning Shipping. The Law Number 17 Year 2008 concerning Shipping is regulating maritime security, safety of navigation and marine environmental protection in general.

3. Government Regulation of Republic Indonesia Number 5 Year 2010 concerning Navigation. The said Government Regulation regulates the measures to ensure the safety of navigation in Indonesian waters, including in the Straits of Malacca and Singapore, and also the rules regulating COLREG 1972.

4. Government Regulation of Republic Indonesia Number 21 Year 2010 concerning Marine Environmental Protection. The Government Regulation regulates the measures to ensure the protection of marine environment in Indonesian waters, including in the Straits of Malacca and Singapore.

3.4.2. Malaysia National Legislation Related to the Safety of Navigation and Marine Environment Protection

Malaysia has ratified UNCLOS 1982 and the main IMO conventions, and further Malaysia enacted its own national legislation to implement the regulation of the UNCLOS 1982 and IMO Conventions. The main national regulations in Malaysia which are related to the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore are: (Marine Department Malaysia, www.marine.gov.my, 2015)
1. Merchant Shipping Ordinance 1952, and Merchant Shipping (Amendment and Extension) Act 2007;
   This Act contains regulations on the ship registry, seafarer’s rights, maritime safety and security, pollution from ships, liabilities of shipowners, wreck and salvage, and pilotage.
2. Merchant Shipping (Oil Pollution) Act 1994;
   This act contains regulations to ensure the protection of marine environment protection, especially from oil pollution.
3. Merchant Shipping (Collision Regulations) Order 1984;
   This order contains the regulation of the prevention collision at sea based on the COLREG 1972.
   This order contains additional regulations on the Merchant Shipping (Collision Regulations) Order 1984, especially to add the Rules for Vessels Navigating through the Straits of Malacca and Singapore, which were adopted by IMO.

3.4.3. Singapore National Legislation Related with the Safety of Navigation and Marine Environment Protection

In addition to the ratification of UNCLOS 1982 and IMO conventions, there are two Singapore’s national legislations statute/act that regulates the safety of navigation and marine environmental protection, namely: (Maritime Port and Authority, www.mpa.gov.sg, 2015)
1. Merchant Shipping Act (Chapter 179)
   This Act contains the regulation which is related to the registration of ships, standard on manning and crew based on the STCW 1978, as amended, and also the safety of navigation.
2. Prevention of Pollution of the Sea Act (Chapter 243)

This act contains the regulation which is related to the measures to enhance the marine environment protection as well as the regulation which aims to prevent pollution originating from sea.

3.4.4. Findings on the Littoral States’ National Legislation Related to the Safety of Navigation and Marine Environment Protection

Based on the littoral States’ national legislation which related to the safety of navigation and marine environment protection, in addition to the ratified UNCLOS 1982 and the important IMO conventions, the littoral States have also developed and regulated the conventions into their national legislation, to be enforced in their waters. From the list of national legislation, it could be stated that the littoral States have already given their commitments and efforts to enhance the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, by strengthen their national legislation framework in accordance with international law, especially with the Article 42 of UNCLOS 1982.

3.5. Maritime Delimitation in the Straits of Malacca and Singapore

In addition to the implementation of Part III UNCLOS 1982, the settlement on maritime delimitation between States in the Straits of Malacca and Singapore also plays an important role to enhance the safety of navigation and marine environmental protection. The settlement, which was conducted by using the relevant Article in UNCLOS 1982 and the Geneva Convention 1958, is important because littoral States need to practice their sovereignty and sovereign rights, given by UNCLOS 1982, including practicing their domestic rules and regulation to prevent collisions of ships as well as protecting the environment at sea.

This chapter will only describe and analyse the maritime delimitation between Indonesia-Malaysia and Indonesia-Singapore, since the Straits of Malacca and
Singapore are mainly bordered by Indonesia. There are only few parts of the Straits that need to be delimitated by Malaysia and Singapore.

3.5.1. Maritime Delimitation Between Indonesia and Malaysia in the Straits of Malacca and Singapore

Based on the agreement signed on the 17 March 1971, Indonesia and Malaysia had settled the territorial sea delimitation of the Malacca Strait. Since some parts of the Malacca Strait width are less than 24 nm, the territorial sea delimitation between the two States was drawn by equidistance line based on the provision of the Geneva Convention on the Territorial Sea and Contiguous Zone, 1958. Figure 7 shows that there are already several areas agreed by both governments, however, there are a few areas in the Singapore Strait which have not yet been settled by both governments.

Figure 7: The Territorial Sea Delimitation Between Indonesia and Malaysia in the Strait of Malacca

Source: Indonesian Hydro – Oceanographic Navy Office and Ministry of Transportation, Indonesia, 2013

However, on the Continental Shelf, both governments have an agreement which was signed on 27 October 1969. Both governments managed to settle the Continental Shelf line based on the Geneva Convention on the Continental
Shelf, 1958, since UNCLOS III just started on the 1976. The agreed continental shelf delimitation in the Straits of Malacca, is shown in Figure 8.

**Figure 8: The Continental Shelf Delimitation Between Indonesia and Malaysia in the Strait of Malacca**

For the EEZ, both States have not yet agreed on the establishment of the line, since there is an issue related to the EEZ delimitation not yet settled. The Malaysian government stated that the Continental Shelf and EEZ are the same line, as mentioned in their declaration when Malaysia ratified UNCLOS 1982. On the other hand, Indonesia views that the EEZ and Continental Shelf are two separate lines that need to be further negotiated.

### 3.5.2. Maritime Delimitation Between Indonesia and Singapore in the Straits of Malacca and Singapore

Since the width on the Singapore Strait is less than 24 nm, both States agreed to only discuss the Territorial Sea delimitation. Both States managed to settle almost every segment of the Singapore Strait. Based on the Ministry of
Transportation of Indonesia (2014), there are three segments that were negotiated on the territorial sea delimitation negotiation between both States, which are the Eastern segment, middle segment, and Western segment. The middle segment, which was signed on 25 May 1973, is the first segment agreed by both States. The Western segment agreement was signed on 10 March 2009, and the latest agreement which was reached on the Eastern segment, was signed on 3 September 2014.

In the negotiation for the Western segment and the Eastern segment, Indonesia used the archipelagic baselines in accordance with Article 47 of UNCLOS 1982, while Singapore used the normal baselines in accordance with Article 5 of UNCLOS 1982. Both governments also agreed to use special circumstances, by taking into consideration the traffic conditions and other circumstances in the Singapore Strait, in accordance with Article 15 of UNCLOS 1982. Currently there is only one trijunction part involving Malaysia, which has not been settled.

The illustration of the delimitation between Indonesia and Singapore is shown in Figure 9.

**Figure 9: The Territorial Sea Delimitation Between Indonesia and Singapore in the Strait of Singapore**

3.5.3. **Findings on the Maritime Delimitation in the Straits of Malacca and Singapore**

From the facts already described, it shows that the littoral States manage to nearly settled the maritime delimitation in the Straits of Malacca and Singapore, based on the international law, in example UNCLOS 1982 and Geneva Convention 1958, and with the spirit of understanding and cooperation among the littoral States. As the member of the Association of Southeast Asian Nation (ASEAN), the littoral States has also agreed to promote the peaceful settlement of dispute related to the maritime delimitation.

Further, the territorial sea delimitation between Indonesia-Malaysia and Indonesia-Singapore in the Straits of Malacca and Singapore has almost been settled, it also shows that the littoral States have the sovereignty over the Straits. Based on the jurisdiction in the Straits, the littoral States could regulate and implement the rules and regulation which are related to the safety of navigation and marine environmental protection, as well as the fisheries, customs, fiscal, immigration and sanitary, as shown on section 3.4, in the Straits of Malacca and Singapore, based on Article 42 of UNCLOS 1982.
4. Cooperation to Enhance the Safety of Navigation and Marine Environment Protection in the Straits of Malacca and Singapore

4.1. Littoral States’ Initiatives to Enhance the Safety of Navigation and Marine Environment Protection in the Straits of Malacca and Singapore

Before the adoption and enactment of UNCLOS 1982, especially related to the provision on the Straits Used for International Navigation, there were debates between the coastal States’ interests on the safety, security and marine environmental protection on its waters, and the user States’ interest on right of international navigation in the International Strait.

The debate was started when the Straits of Malacca and Singapore gained the acknowledgement as one of the busiest and vital Straits that used in international trade. Because of its strategic roles for international trade, there were concerns related to the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, especially because the Straits has very unique characteristics, and is widely known to be among the most difficult routes to navigate. According to Djalal (2006), the concerns led into the attempt by several States to have greater involvement in the management and operation of the Straits of Malacca and Singapore, as well as making the status of the Straits under the “free transit” regime.

Further, to ensure and to promote the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, as well as to declared that the waters in the Straits are under the sovereignty of the littoral States, the three Straits States issued several initiatives, which are the Joint Statement 1971, Agreement on Safety of Navigation in the Straits of Malacca and Singapore 1977 and Joint Statement on Safety of Navigation in the Straits of Malacca and Singapore 1977.

The initiatives were needed to ensure cooperation between littoral States to promote the safety of navigation and marine environmental protection, and at the
same time implement and enforce their national legislation regarding the safety of navigation and marine environmental protection, based on the generally accepted international regulation.

4.1.1. Joint Statement 1971

After the Torrey Canyon accident, which occurred in 1967, there were attempts from the littoral States to cooperate and coordinate their views of and policy in the Straits of Malacca and Singapore, especially related to the legal regime and measures on the safety of navigation. Based on Koh (1982), in principle, the littoral States would like to maintain the Straits to be a zone of peace, freedom and neutrality, and also free from any form of interference from other States. It means that the littoral States would like to maintain the legal regime of the Straits under full sovereignty of the littoral States.

After several years of consultation, in the Ministerial meetings in October and November 1971, the littoral States finally manage to issued a Joint Statement on 16 November 1971, which basically stated that the Safety of Navigation is the responsibility of the littoral States, the needs to promote the safety on navigation in the Straits of Malacca, and the statement that the Straits of Malacca and Singapore is not an international strait. According to Djalal (2006), the Joint Statement was an important milestone in the cooperation in the Straits of Malacca and Singapore, especially related to the issue of the management of the Straits on the safety of navigation related matters. (See Appendix B)

After the statement, it could be implied that for the safety of navigation matters, the Straits of Malacca and Singapore was considered as one integrated strait, and it is under the responsibility of the three coastal States. The three littoral States will also manage and operate the Straits of Malacca and Singapore, through the cooperation body that should be composed of only the three coastal States concerned, to coordinate efforts for the safety of navigation in the Straits of Malacca and Singapore.
Further, according to Koh (1982), the joint statement also highlighted that Indonesia and Malaysia did not consider the Straits as International Straits because they only recognised the application of the innocent passage in accordance with the rules and regulations related to territorial seas in the Straits, and not under free transit regime. The reason for this is that because at the time the compromise regime under UNCLOS 1982 had not yet been adopted, and there were still debates on the status of the Straits, whether it was under the innocent passage regime or under the free transit regime.


As a follow up of the Joint Statement in 1971 and as a result of the Showa Maru incidents, which occurred on 6 January 1975, when the grounded vessels spilled almost 54,000 barrels of oil in the Singapore Strait, the three Littoral States agreed to meet and discuss the possible measures that could be taken to prevent and to promote and also to reconfirm their position in the Straits of Malacca and Singapore in relation to the safety of navigation and marine environment protection. (Djalal, 2006)

One of the results of the series of meetings held by the littoral States is the Agreement on Safety of Navigation in the Straits of Malacca and Singapore 1977, which was signed by the Ministers for Foreign Affairs from Indonesia, Malaysia, and Singapore, in Manila on 24 February 1977.

The agreement basically contains the statement of the three littoral States to further promote the cooperation to enhance the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, and to materialise all the proposals for the recommendations and initiatives made trilaterally by the littoral States since 1971.
The agreement itself also agreed to adopt the measures and recommendations in The Joint Statement on Safety of Navigation in the Straits of Malacca and Singapore 1977, to keep the Straits open and safe for the international navigation. (See Appendix C)

The important measures adopted by the littoral States on the Joint Statement were the establishment of TSS, the designation of the Under Keel Clearance (UKC) as well as reporting procedures. After several meetings, the littoral States agreed to designated the 3.5 Metres UKC in the Straits of Malacca and Singapore. Based on Djalal (2006), this issue was considered as one of the most controversial issues, since there were different points of view between Indonesia and Malaysia, and on the other hand Singapore. Initially, Indonesia and Malaysia wanted to have a high safety margin, while on the other hand Singapore would like to accommodate bigger draught and tonnage vessels.

Financial matters are also one of the issues that were addressed by the littoral States in the Joint Statement. In one of the paragraph of the Joint Statement, the littoral States stated that the financial burden caused by the implementation of the TSS should not only be imposed on the littoral States but also on the user. This statement was an embryo for the cost burden sharing cooperation used by the littoral States on the Cooperative Mechanism, which was established in 2007. The other measures adopted are related to pilotage, reporting procedures, compulsory insurance and installation of safety devices.

Further, based on the Joint Statement, the proposal for the establishment of TSS in the Straits of Malacca and Singapore, and the Rules for Vessels Navigating through the Straits of Malacca and Singapore, was adopted by Inter-Governmental Maritime Consultative Organization (IMCO) with IMCO Resolution A. 375 (X) on 14 November 1977.

During the signing of the agreement, the littoral States also agreed to adopt the Guidelines for Senior Officials and Technical Expert Group on Safety of
Navigation in the Straits of Malacca and Singapore, as the initiatives to establish the TTEG on the Safety of Navigation in the Straits of Malacca and Singapore.

In principle, the adoption of the Agreement on Safety of Navigation in the Straits of Malacca and Singapore 1977 and The Joint Statement on Safety of Navigation in the Straits of Malacca and Singapore, has demonstrates and highlighted the commitment of the littoral States to cooperate in order to materialise all proposals of the safety of navigation and anti-pollution measures.

4.2. The Establishment and Development of the Cooperative Mechanism in the Straits of Malacca and Singapore

After several years of discussion in the UNCLOS III, the UNCLOS 1982 managed to regulate the framework of the cooperation between the littoral States and user States. Article 43 of UNCLOS 1982 specifically stated that user States and States bordering the Strait should by agreement cooperate in the enhancement of the safety of navigation and marine environmental protection.

Due to the roles of the Straits of Malacca and Singapore for international trade, IMO identified the Straits of Malacca and Singapore as an important example to highlight the security, safety and environmental protection matters. As a result, IMO decided to hold a high level meeting to promote and consider ways and means of enhancing the safety, security and environmental protection in the Straits. This meeting was held under the IMO’s Protection of Vital Shipping Lanes Initiative, aiming to demonstrate the seriousness of IMO to the protection of the world’s most strategic shipping lanes (Ho, 2009).

In total there were three meetings conducted under the IMO’s Protection of Vital Shipping Lanes Initiative, which are the Jakarta Meeting 2005, Kuala Lumpur meeting 2006, and Singapore Meeting 2007. Prior the commencement of the meetings, the littoral States also held a meeting in Batam to discuss the framework of the discussion of the series of meetings which were held under IMO’s initiatives. The outcomes of the series of meetings were the development
of a framework of cooperation between the user States and the littoral States, known as the Cooperative Mechanism. The mechanism was a historic breakthrough because for the first time the cooperation under Article 43 of UNCLOS 1982 was implemented in the Straits Used for International Navigation.

In this section, the author would like to explain and analyse the establishment and the development of the Cooperative Mechanism in the Straits of Malacca and Singapore, prior and after the series of meetings between IMO and littoral States.

4.2.1. Batam Joint Statement 2005

The Batam Meeting was held at Batam, Indonesia, on 1-2 August 2005. The meeting was attended by the Minister for Foreign Affairs of each littoral States, and coincided with the commencement of the Fourth Tripartite Ministerial Meeting of the littoral States. According Ho (2009), the meeting aimed to agree on several basic rules that should be addressed by the littoral States during the Jakarta Meeting, and the other meetings under the cooperation of IMO and littoral States.

The Batam Joint Statement basically highlighted and reaffirmed the outcomes of the Joint Statement 1971 and Joint Statement 1977, and also stated the basis on which the littoral States would cooperate with user States in any measures related to the Safety, security and marine environmental protection. The content of the Batam Joint Statement is shown in Appendix D.

4.2.2. Jakarta Meeting in the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection, 2005

As a follow up of the 93rd and 94th IMO Council decision on IMO’s Protection of Vital Shipping Lanes Initiatives, IMO and the littoral States held the first meeting related to the Straits of Malacca and Singapore, in Jakarta on 7-8 September 2005. According to IMO (2005), the Jakarta Meeting 2005 was held
to provide a forum to discuss with the aim of agreeing on a framework of co-operation to enhance the safety of navigation, environmental protection and security in the Straits of Malacca and Singapore.

The Jakarta Statement has agreed on several matters, namely: (IMO, 2005)

1. Continue to supported and encourage the work of the TTEG on Safety of Navigation in enhancing the safety of navigation and marine environment protection in the Straits of Malacca and Singapore;
2. The possibility to establish a mechanism by littoral States to meet regularly with user States, the shipping industry and others stakeholders, including exploring the burden sharing options;
3. The efforts should be made under the existing arrangements, such as the TTEG mechanism;
4. The needs to promote, build and expand cooperative and operational arrangements of the three littoral States, including the Tripartite Technical Expert Group on Maritime Security and coordinated maritime patrol.

During the meeting the littoral States managed to agree to discuss the measures to establish the mechanism to cooperate with the user States, shipping industry and other stakeholders on the safety of navigation and marine environment protection in the Straits of Malacca and Singapore. However, according to Ho (2009), although the main reason for IMO to hold the meeting was to address the security issues in the Straits of Malacca and Singapore, the littoral States did not share the same views. The littoral States felt that the existing forum to discuss maritime security in the Straits was already sufficient, and there were no urgent needs to develop and establish another forum to address these matters. The littoral States further stated that there were already the ASEAN Regional Forum (ARF), the meetings of the chiefs of defence forces of the littoral States and the Western Pacific Naval Symposium, to address the issues related to maritime security in the Straits of Malacca and Singapore.
It can be seen that the littoral States considered the security issues in the Straits of Malacca and Singapore under their exclusive jurisdiction, without any interference from other States to address these matters. The littoral States believe that the arrangements made by the littoral States by conducting the coordinated air and sea patrols and also information exchanges, were already sufficient to address the security issues. The argument was supported by Ho (2009), which stated that the littoral States only allowed the cooperation in the capacity building and information exchange on the security related issues.

4.2.3. Kuala Lumpur Meeting 2006

As mandated, after the commencement of the Jakarta Meeting in 2005, IMO and the littoral States held the follow up meeting in Kuala Lumpur on 7-8 September 2006. Based on IMO (2006), the meeting was held in order to have further discussion on the recent developments relating to the safety, security and environmental protection of the Straits of Malacca and Singapore. Further, the meeting was also held to develop mechanisms and programmes to facilitate cooperation to ensure that the Straits were open and safe to international navigation, and also to discuss the possible burden sharing mechanism.

The highlight of the Kuala Lumpur meeting 2007 was the proposal of the establishment of the mechanism of cooperation, called the Cooperative Mechanism, between the littoral States, user States and other Stakeholders on the safety of navigation and marine environmental protection, as a form of the burden sharing principle which is encourage under Article 43 of UNCLOS 1982. Further, six initial projects had also been identified to be implemented under the proposed Cooperative Mechanism.

4.2.4. Singapore Meeting 2007

The Singapore Meeting was the last meeting which was held by the IMO in cooperation with the littoral States, under IMO’s Protection of Vital Shipping Lanes Initiatives. The meeting was held in Singapore on 4-6 September 2007.
The outcome of Singapore Meeting was reconfirmation and the launching of the Cooperative Mechanism between the littoral States and user States on safety of navigation and marine environment protection in the Straits of Malacca and Singapore.

The establishment of the Cooperative Mechanism could be considered as an achievement and also historic breakthrough, since for the first time the littoral States could engage and involve user States, the shipping industry and other stakeholders to participate and share the responsibility of maintaining and enhancing the safety of navigation and marine environmental protection in the Straits, based on the burden sharing principle, as stipulated in Article 43 of UNCLOS 1982.

The Cooperative Mechanism in the Straits of Malacca and Singapore was established to promote dialogue and facilitate close cooperation between the littoral State, user States and other Stakeholders. The mechanism also works on the several principles, namely: (IMO, 2007)

1. Reaffirming the sovereignty, sovereign rights, jurisdiction and territorial integrity of the littoral States over the Straits;
2. It is consistent with the international law and in particular Article 43 of UNCLOS;
3. Its was established within the framework of the TTEG on the Safety of Navigation in the Straits of Malacca and Singapore and that primary responsibility is over the safety of navigation and environmental protection in the Straits;
4. Recognising the interest of user States and other Stakeholders and the role they could play, and the cooperation should be on a voluntary basis.

The Cooperative Mechanism was comprised of the three components, which are Cooperation Forum (CF), Project Coordination Committee (PCC), and Aids to Navigation Fund (ANF). According to IMO (2007), the components include
discussion forum as well as the avenues for littoral States, the shipping industry and other stakeholders to contribute, with in-kind or direct contributions, to the projects or initiative of the Straits. IMO is also involved in the Cooperative Mechanism, to facilitate the participation of IMO member States. Further, TTEG will also be the principal coordinating body of the littoral States in the Cooperative Mechanism. The components and functions of the Cooperative Mechanism could be seen in Figure 10.

![Diagram of the Cooperative Mechanism](image)

**Figure 10: The Components of the Cooperative Mechanism**

The Cooperative Mechanism components have the following duties: (IMO, 2007)

1. Cooperation Forum (CF)

   The CF is the main avenue for user States, the shipping industry and other stakeholders to be invited to meet and hold open discussion with the littoral
States. It serves to promote general dialogue and exchange of views on issues of common interest in the Straits.

2. Project Coordination Committee (PCC)

PCC, which comprises the littoral States and sponsors of projects, will oversee the coordination of the implementation of the projects of the Straits. The PCC will enable the sponsors of projects to have a role in the overall project planning and implementation.

3. Aids to Navigation Fund (ANF)

ANF was established in order to ensure that there is long-term and sustainable means of financing the maintenance of critical aids to navigation in the Straits. ANF will provide the means for all users of the Straits to contribute financially towards the maintenance of the aids to navigation in the Straits.

Further to the establishment of the Cooperative Mechanism, during the Singapore Meeting 2007, the littoral States also agreed to implement and continue to discuss the six initial projects proposed in the Kuala Lumpur Meeting 2006.

4.3. Policy and Initiatives Developed Under Tripartite Technical Expert Group (TTEG) and Cooperative Mechanism in the Straits of Malacca and Singapore

In principle TTEG and Cooperative Mechanism adopted two different policies and initiatives. TTEG drafted and adopted the policy and initiatives, based on Part III of UNCLOS 1982. This draft will be proposed and discussed by the littoral States to enhance the safety of navigation and marine environmental protection, with the presence of the user States and other invited parties as observers, however, without any rights to interfere the decision making process during the meeting. Further, the regulatory measures by the littoral States need to be proposed to the IMO for its approval. After adoption by IMO, all vessels
exercising transit passage through the Straits of Malacca and Singapore will be obliged to comply with this policies and initiatives.

On the other hand, the Cooperative Mechanism implements and manages the identified initiatives stipulated in the projects of the Straits proposed by the littoral States, in cooperation with the interested user States, shipping industry and stakeholders, under the burden sharing principle. However, the initiatives should be discussed and endorsed by the TTEG forum first before its implementation.

On this section, a brief explanation and analysis of the policies and initiatives that have been developed under TTEG and Cooperative Mechanism will be described.

4.3.1. Policy and Initiatives under TTEG

As mentioned in Chapter 3, there were several policies that had been agreed by the TTEG and further were adopted by the IMO, and in accordance with the provision on Part III of UNCLOS 1982. More in depth explanation related to the policies already developed and adopted by TTEG are described as follows:

1. The adoption of the Traffic Separation Scheme (TSS) and Rules for Vessel Navigating Through The Straits of Malacca and Singapore.

   The adoption of the TSS in the Straits of Malacca and Singapore by IMO through the IMO Resolution A.375(X) on 14 November 1977, was considered to be the first outcomes from the TTEG. Regarding Rules for Vessel Navigating through the Straits of Malacca and Singapore, they also regulated the Deep Water Routes for the Deep Draught Vessel, the requiring the vessels that pass through the Straits should have at least 3.5 Metres UKC, and should be advised to navigate not more than 12 knots.

2. The adoption of the amendment of the Traffic Separation Scheme and Rules for Vessel Navigating through The Straits of Malacca and Singapore.
There were two amendments made for the Traffic Separation Scheme and Rules for Vessel Navigating through the Straits of Malacca and Singapore. The first amendment was adopted through the IMO Resolution A.476 (XIII) on 19 November 1981, and the 2nd amendment was adopted through the 69th IMO Maritime Safety Committee Meeting by the document MSC 69/22/Add.1 on 1 June 1998. Regarding the latest amendment, the most important regulation is the mandatory requirement for vessels to navigate not more than 12 knots in the specific designated areas and the obligation to participate in the SRS.

3. The adoption of the Mandatory Ship Reporting Systems in the Straits of Malacca and Singapore.

The 69th IMO Maritime Safety Committee also adopted Resolution MSC. 73 (69) which was adopted on 19 May 1998, concerning mandatory SRS. The said mandatory SRS mainly required the vessels passing through the Straits to report to the VTS authorities in the nine designated areas.

4. The adoption on the Prohibition of Anchoring in the Straits of Malacca and Singapore.

The issue of the Prohibition of Anchoring in the Straits of Malacca and Singapore is regulated in IMO circular SN.1/Circ.282 dated 27 November 2009 related to the Prohibition of Anchoring in the Straits of Malacca and Singapore. The circular mainly regulates the prohibition for vessels to anchor within the TSS in the Straits of Malacca and Singapore, in accordance with Rule 10 of COLREGs.

5. The adoption of the Recommendatory Measure for Vessels Crossing the Traffic Separation Scheme (TSS) and Precautionary Areas in the Singapore Strait During Hours of Darkness.

In IMO circular SN.1/Circ.317, the littoral States regulated the recommendatory measure for vessels crossing the TSS and precautionary areas in the Singapore Strait during the hours of darkness. Basically this
measure was adopted since the high traffic movement including vessels crossing the Singapore Strait, and there is a need to have additional signal equipment for vessels during the hours of darkness.

Since the establishment of TTEG, there were several policies and initiatives that could be highlighted and could be considered to make an impact on the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore. It can be observed that these policies only focus on the safety of navigation and not on the marine environmental protection. The reason for this is because the mandate on the Joint Statement on Safety of Navigation in the Straits of Malacca and Singapore 1977, only focused on the Safety of Navigation. Even though there is a provision in the Statement which is related with the marine environmental protection, there was no clear mandate given to specifically address the issues. After the 38th TTEG which was held in 2013, based on the Malaysia proposal, it was agreed that the marine environment issues need to be addressed formally at the TTEG, as a part of the meeting agenda.

Currently there are several issues that are being discussed by the littoral States at the TTEG, which are the development roles of the VTS in the Straits of Malacca and Singapore, the Voluntary Pilotage Service, Emergency Towing Vessel, and also the various issues under the Marine Electronic Highway (MEH) in the Straits of Malacca and Singapore, as the newly integrated issues on the TTEG.

From these issues, the voluntary pilotage service discussion on the TTEG received the most attention not only by the littoral States but also by user States, the shipping industry and the stakeholders, since there are fears that the littoral States would implemented the pilotage services on mandatory measures, as a applied in the Torres Strait.

The issue of MEH is also becoming one of the important issues discussed by the littoral States. The MEH is the project that is managed by IMO in cooperation with the littoral States, to improve maritime safety and reduce environmental
damage in the Straits of Malacca and Singapore, by developing and installing the necessary infrastructures and system. In the 37th of TTEG Meeting in 2012, the littoral States agreed that the TTEG would take over the decision making and coordinating role from the MEH Project Steering Committee (comprised of littoral States, IMO, World Bank, and other partners), on the management and the operational issues of the MEH.

4.3.2. **Projects and Initiatives under Cooperative Mechanism**

There were several projects that were proposed by the littoral States to enhance the safety of navigation and marine environmental protection. To adopt the project, the littoral States need to endorse the new project in the TTEG forum, based on the recommendations and discussions with the user States, the shipping industry and other stakeholders, in the CF, one of the Cooperative Mechanism components. The interested parties will then give the necessary contribution, in kind or direct contribution. Further, according to Ho (2009), the littoral States and the contributing parties will discuss the implementation of the projects through the PCC. In addition, for the implementation of the Project related with the maintenance and replacement of critical Aids to Navigation in the Straits of Malacca and Singapore, the interested parties could contribute to the ANF, where the contributing parties could channel their contribution directly to the Secretariat of ANF, which will be led by one of the littoral States on a rotational basis.

There are six initial projects that were proposed by the littoral States at the inauguration of the Cooperative Mechanism in 2007, and as per September 2014 there are 8 projects developed as seen in Table 4.
Table 4: Straits Projects Under the Cooperative Mechanism in the Straits of Malacca and Singapore

<table>
<thead>
<tr>
<th>NR.</th>
<th>PROJECT NAME</th>
<th>CURRENT STATUS</th>
<th>REMARKS</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Straits Project-1: Removal of wrecks on the Traffic Separation Scheme in the Straits of Malacca and Singapore</td>
<td>On going</td>
<td>Led by Malaysia</td>
</tr>
<tr>
<td>2.</td>
<td>Straits Project-2: Co-operation and capacity building on Hazardous and Noxious Substances (HNS) Preparedness and Response in SOMS</td>
<td>On going</td>
<td>Led by Malaysia</td>
</tr>
<tr>
<td>3.</td>
<td>Straits Project-3: Demonstration Trial of Automatic Identification System Class-B Transponders on Small Vessels in the Straits of Malacca and Singapore</td>
<td>Completed</td>
<td>Led by Singapore</td>
</tr>
<tr>
<td>4.</td>
<td>Straits Project-4: Setting up of a Tide, Current, Wind Measurement System for the Straits</td>
<td>Completed</td>
<td>Led by Singapore</td>
</tr>
<tr>
<td>5.</td>
<td>Straits Project-5: Replacement and Maintenance of Navigation Aids to Navigation in the Straits</td>
<td>On going</td>
<td>Led by Indonesia</td>
</tr>
<tr>
<td>6.</td>
<td>Straits Project-6: Replacement of Aids to Navigation Damaged by the Tsunami in December 2004</td>
<td>Completed</td>
<td>Led by Indonesia</td>
</tr>
<tr>
<td>7.</td>
<td>Straits Project-7: Feasibility Study on Establishing Emergency Towage Vessel Services in the SOMS</td>
<td>Completed</td>
<td>Led by Singapore</td>
</tr>
<tr>
<td>8.</td>
<td>Straits Project-8:</td>
<td>Completed</td>
<td>Led by Singapore</td>
</tr>
</tbody>
</table>
The littoral States managed to identify several main projects that needed to be funded by the user States and stakeholders. The projects were divided into two different initiatives, which are two projects related with marine environmental protection, while the rest is the projects related with safety of navigation. Currently there are only three out of seven projects that are still ongoing, and during the 7th PCC, in 2014, the littoral States came up with seven proposals for new projects to be further discussed and developed before officially launched as one of the projects of the Straits.

4.4. The Involvement and Roles of User States and Stakeholders

The involvement and the roles of the user States and the stakeholders were very important to promote and ensure the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore. In principle, the user States wanted to ensure that the Straits were safe and open for international navigation.

During the negotiations on the establishment of the Cooperative Mechanism, there were debates concerning the definition of the user States in Article 43 of UNCLOS 1982. At the Jakarta Meeting in 2005, the three littoral States agreed to include the user States, as well as the shipping industry and other stakeholders, which have an interest in the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, as the parties to cooperate under Article 43 of UNCLOS 1982. The user States were not the only party that needs to cooperate and contribute, because the industry and other stakeholders also received benefits from the Straits. It was supported by Ichioka (2014), who stated that the industries concerned should further contribute to the
Cooperative Mechanism, as they are direct beneficiaries of safe passage in the Straits.

According to Djalal (2009), from the early of 1970’s, prior to the establishment of the Cooperative Mechanism, Japan, as one of the user States, already played an active role in the Straits of Malacca and Singapore, through the involvement of the Nippon Foundation and Malacca Strait Council (MSC). They are the major contributors to support the littoral States in enhancing the safety of navigation and marine environmental protection.

For the measures related to the safety of navigation, according to MSC (2005), Japan, through MSC, contributed a total of 13,2 billion Yen (USD 113 million) for the maintenance and transfer of technology of aids to navigation, research and studies on the safe of navigation, from 1968 to 2005. And according to Ho (2009), Japan also pledged a total of 1,5 billion Yen (USD 13 million) for environmental protection from 1973 to 2005. The main contributor for the Malacca Strait Council is the Nippon Foundation, which funded almost 74 percent of the funding, while the Japanese Maritime Foundation, the Japanese government and the Association of Related Industries shared the rest of the funding.

Further, for the additional measures on the environmental protection, according to Ministry of Transportation of Indonesia (2014), Japan through the MSC, also contributed 400 million Yen as the principal sum of the Revolving Fund (RF) for the Straits of Malacca and Singapore, which was established on 11th February 1981, to enable the Littoral States to take immediate remedial action in the event of any incident of oil pollution caused by ships in the Straits of Malacca and Singapore.

After the establishment of the Cooperative Mechanism, there were several parties that gave their contribution to the projects of the Straits under the Cooperative Mechanism, namely: (4th-6th PCC Meeting, 2012-2014)
   In this project, Germany pledged USD 100,000 through the IMO Malacca and Singapore Straits Fund.

2. Straits Project 2: Cooperation and Capacity Building on Hazardous and Noxious Substance (HNS) Preparedness and Response in the Straits.
   In this project, Australia, China and USA conducted training and capacity building on the HNS preparedness, while IMO Straits Fund pledged USD 50,000 to the Project.

3. Straits Project 3: Demonstration trial of AIS-B transponders on small vessels in the Straits of Malacca and Singapore
   Australia in cooperation with Singapore completed the project, while Japan and IMO also involved on the projects.

   China pledged USD 550,000, while India contributed USD 1,87 million and technical expertise.

5. Straits Project 5: Replacement and Maintenance of Aids to Navigation in the Straits of Malacca and Singapore.
   As per September 2014, the total contribution received by the Aids to Navigation Fund (ANF) secretariat, which used to manage the contribution for the project 5, was USD 19,3 million. The biggest contributors are the Nippon Foundation (USD 7,3 million), International Foundation for Aids to Navigation (IFAN) (USD 4 million) and Malacca Strait Council (USD 2,8 million).

   In this project, China was the only States that showed an interest in the project-6.
7. Straits Project 7: Feasibility Study on Emergency Towing Vessel (ETV) Service in the Straits of Malacca and Singapore
   
   The IMO pledged USD 50,000 to fund this project.

8. Straits Project 8: Concept study on Real Time Monitoring of Under Keel Clearance in the Straits of Malacca and Singapore.
   
   The project was supported by Australia and IMO.

9. Industry led project;
   a. Analysis of Marine Casualties, by ICS;
   b. Port Reception Facilities Directory in the Straits of Malacca and Singapore, by INTERTANKO;
   c. Establishment of the Safe Passage Pamphlet, by BIMCO.

The contributions from the shipping industry are very important for the Cooperative Mechanism. According to Terashima (2009), voluntary contribution from the shipping industry’s Corporate Social Responsibility (CSR), would bring a positive impact on the cooperation in the Straits, and therefore, their positive response to and consideration of the cooperation is very crucial.

Even though there were already several contributions made by the user States and other stakeholders, there is a trend that the contributions have been decreasing in the past few years. The shipping industry unlikely gives direct contribution to the projects of the Straits, instead, they developed their own industry led projects.

The effort to invite broader involvement from the shipping industry, as one of the parties, receiving benefits from the Straits, has been conducted by the littoral States with the commencement of the 3+1 meeting of the littoral States and the International shipping industry (represented by the International Chamber of Shipping (ICS), the Baltic and International Maritime Council (BIMCO), and INTERTANKO), hosted by Indonesia and facilitated by the Nippon Foundation, on 12 July 2010. As a result of the outcomes of the meeting, the Industry agreed
to propose several industry led projects in the safety of navigation and marine environmental protection.

4.5. Marine Accidents in the Straits of Malacca and Singapore

Due to the geographical conditions as well as the high traffic volume and movements in the Straits of Malacca and Singapore, it makes the Straits very vulnerable to the accidents which cause casualties and make an impact on the marine environmental protection in the Straits of Malacca and Singapore.

According to Rusli (2011), there were 888 accidents that occurred in the Straits of Malacca and Singapore from 1978 to 2003. Further, between 2001 – 2007 there were 236 maritime casualties in the Straits. In the period of 1971 – 2007 there were also six major cases related to the marine environmental damage. The number shows that there was a high number of accidents and cases related to the marine environment occurring before the establishment of the Cooperative Mechanism. The major accidents occurred between 1971 and 2007 could be seen in Appendix E.

Based on the report of the TTEG Meeting from 2008 until 2014, in total there were 67 accidents occurred in the Straits of Malacca and Singapore, as mentioned in Table 5. The cause of these accidents varied due to nature, human error and technical matters. From the 67 accidents, there were also major accidents as seen in Appendix F. Further, after 2007 there was only one case related with marine environmental damage. From the figures, even though there were still several accidents occurring in the Straits, it can be seen that there is a decreasing number of accidents as well as the cases related to marine environmental damage during the period of 2008-2014 compared with the period of 2001-2007.
Table 5: Marine Accidents and Marine Environmental Damage Cases in the Straits of Malacca and Singapore, 2008-2014

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MARINE CASUALTIES</th>
<th>CASES RELATED TO ENVIRONMENTAL DAMAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>2009</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>2011</td>
<td>11</td>
<td>-</td>
</tr>
<tr>
<td>2012</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>2013</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>2014</td>
<td>11</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>67</td>
<td>1</td>
</tr>
</tbody>
</table>


Based on Rothwell (2010), there are 265 straits which are considered as international straits. Amongst these straits, there are several straits considered as the major straits of the world.

On this section, the author would like to analyse and give examples of how the law of the sea applies to the main international straits and also how the international straits were managed and operated. The main straits that will be further described are the Turkish Straits, the Strait of Gibraltar, the Torres Strait, and the Strait of Dover.
4.6.1. Turkish Straits

The Turkish Straits are a very important route which connects the Black Sea and the Mediterranean Sea. The Turkish Straits are comprised of two straits, which are the Dardanelles and Bosphorus. The Turkish Straits were managed and operated by the Turkish government based on the Montreux Convention 1936, the convention regarding the regime of the Straits and signed on 20 July 1936. According to Rothwell (2010), the Turkish Straits could be included as Straits which are regulated by a long standing convention, based on Article 35 of UNCLOS 1982. The Montreux Convention 1936, clearly stated the freedom of transit and navigation of any vessels in the Turkish Straits.

Further, since Turkey hold the sovereignty over the Straits, the Turkish Government could commence the necessary measures to control the high number of vessels passing through the Straits and also to ensure the safety of navigation and marine environmental protection in the Straits. According to Rothwell (2010), based on the Montreux Convention 1936, the Turkish government has rights to collect the fees from the vessels that navigating through the Straits and also to do sanitary controls of the vessels. The Turkish Government also took several safety measures, namely the establishment of TSS and its rules, the establishment of SRS, VTS, and e-navigation.

4.6.2. The Strait of Gibraltar

The Strait of Gibraltar, which is located between Spain, Morocco, and also Gibraltar, the British Overseas Territory, connects the Mediterranean Sea with the Atlantic Ocean. The location of the Strait is very strategic since it provides the main seaborne routes of the Mediterranean Sea with the Atlantic Ocean. Based on Rothwell (2010), in 2006, estimate traffic of the East–West traffic through the Straits are 65,000 vessels per year, while the North-South traffic through the Straits reached almost 30,000 vessels per year.
Since the Strait of Gibraltar is located between Spain, Morocco, and also Gibraltar, it makes the management and operating of the Strait a very sensitive issue. Even though there are three States that have an interest in managing the Strait, and many States use the Strait, there are no cooperation established to manage and operated the Strait. According to Hayashi (2002), the government of Spain considered the management of the Strait as national obligation and took the responsibility to carry out the measures related with safety of navigation and marine environment protection, including the establishment of VTS in the Strait and Search and Rescue operations.

There were three main Treaties, used as the legal basis to manage the Straits, which are the 1713 Treaty of Utrecht between Spain and United Kingdom, 1904 Anglo-French Declaration between United Kingdom and France, which had control over the North African coast, and also 1912 Franco-Spanish Convention between France and Spain, which basically mentioned the freedom of navigation through the Straits was guaranteed (Rothwell, 2010).

4.6.3. Torres Strait

The Torres Strait, which is located on territory between Australia and Papua New Guinea, is a very important route that connecting Indonesian waters and the Indian Ocean with the Pacific Ocean. It is also an important navigation route between the east coast of Australia, New Zealand and main ports in Asian countries. There are several critical areas for navigation through the area, due to the condition of the Strait where a number of reefs and shoal as well as the narrow channel are present.

In 1997, based on the Australian government proposal, which supported by the Papua New Guinea government, IMO adopted mandatory SRS in the Torres Strait. Further, in 2003 both governments declared the Torres Strait as a Particularly Sensitive Sea Areas (PSSA), which was approved by IMO. According to Oral (2006), based on this PSSA, both governments developed
Associated Protective Measures (APMs), which are the establishment of a two-way route as routeing measures and mandatory pilotage services. The coastal States also improved their aids to navigation facilities, including SRS and VTS (REEFVTS).

The designation of the compulsory pilotage service itself received an objection from many States, for example the United States and Singapore, because it is considered against the provision in Part III of UNCLOS 1982, where the coastal States could not hamper and impede transit passage (Womble, 2012).

4.6.4. **The Strait of Dover**

The Strait of Dover is located between the United Kingdom and France, and it was considered as one of the busiest and most important strait in the world. According to Oral (2010), it was estimated that 100,000 vessels per year transited the Strait of Dover, and many accidents had occurred in this strait. The United Kingdom and France developed cooperation to enhance the safety of navigation and marine environmental protection in the Strait of Dover by designating the TSS, the Channel Navigation Information Service (CNIS) and the mandatory reporting system (CALDOVREP). The two governments have successfully operated and managed the Straits, and each government bears all costs incurred on the installation and maintenance of the facilities on the strait.

4.6.5. **Conclusion on the States’ Practices on the Management and Operational of the International Straits**

Based on these examples, there were similar geographical conditions that made the Straits be under Part III of UNCLOS 1982, which is the Straits Used for International Regime. However, the Turkish Strait and the Straits of Gibraltar also fall under Article 35 (c) of UNCLOS 1982, where Part III of UNCLOS 1982 regime does not apply to the Straits where the passage is regulated by long standing international conventions. In the Turkish Strait, the passage is regulated by the Montreux Convention 1936, while in the Strait of Gibraltar the passage
is regulated by the 1713 Treaty of Utrecht between Spain and the United Kingdom, 1904 Anglo-French Declaration between United Kingdom and France, and also 1912 Franco-Spanish Convention between France and Spain. Hence, the coastal States on both Straits could have the jurisdictions to manage and operate the Straits.

The Torres Strait and the Strait of Dover are a good example for the Straits of Malacca and Singapore, on how coastal States could cooperate in enhancing the safety of navigation and marine environmental protection. However, there was no involvement of the user States and stakeholders regarding cooperation. The coastal States bear all the cost on the operation of these Straits.

After the description of the State practices on the Turkish Strait, the Strait of Gibraltar, Torres Strait, and the Strait of Dover, it can be concluded that the coastal States need to adopt several basic measures to enhance the safety of navigation and marine environmental protection, namely designation of a routeing system, for example TSS, the designation of SRS, the designation of the VTS, the designation of pilotage services, the usage of e-navigation, and also the designation of PSSA.

The designation of TSS, the designation of SRS, and designation of VTS had already been implemented by the littoral States in the Straits of Malacca and Singapore. However, there are other measures that could be used by the littoral States, such as the designation of pilotage service, the usage of e-navigation and also the designation of PSSA.
5. The Review of the Current Policy and Cooperation in the Straits of Malacca and Singapore


5.1.1. Introduction

As explained in the previous chapters, Part III of UNCLOS 1982 basically regulated the compromised provision which accommodates the interest of the coastal States and the user States of the international straits. The provision in Part III of UNCLOS 1982, which regulates the Straits Used for International Regime, managed to accommodate the interest of the coastal States to ensure that the international Straits is under the sovereignty and sovereign rights of the coastal States, while at the same time also accommodates the interest of the user States to keep the international straits open for international navigation.

The implementation of Part III of UNCLOS 1982 is also important to ensure that the Straits could remain safe to navigate, while also preserving the marine environment condition within the Straits. There are several articles that are directly associated with these issues. Further, after the UNCLOS 1982 came into force, the littoral States in the Straits of Malacca and Singapore already conducted several measures in accordance with the provision in Part III of UNCLOS 1982.

The form of the implementation of Part III of UNCLOS 1982 in the Straits of Malacca and Singapore could be seen in the initiatives taken by littoral States in strengthening their national legislation, based on the related international rules and regulations, and also by the cooperation established by the littoral States in developing initiatives and policy. The most important result from the implementation of Part III of UNCLOS 1982 was the establishment of the Cooperative Mechanism in the Straits of Malacca and Singapore, which
encourages the burden sharing principle in the enhancement of the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, by involving the user States, shipping industry and also other stakeholders.

The effective implementation of Part III of UNCLOS 1982 in the Straits of Malacca and Singapore and its implications to the safety of navigation and marine environmental protection is closely related to the number of marine accidents as well as the number of oil pollution accidents which occurred in the Straits.

In this chapter the author would like to review and analyse the implications of the implementations of Part III of UNCLOS 1982 to the safety of navigation and marine environmental protection and the problem faced by the littoral States to implement the provision effectively, based on the fact and the legal basis which already explained and described in the previous chapters.

5.1.2. The Review on the Implementation of Part III UNCLOS 1982 by the Littoral States to Enhance the Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore

In the Straits of Malacca and Singapore, the implementation of Part III of UNCLOS 1982 to enhance the safety of navigation and marine environmental protection, could be observed in the application of several articles under Part III of UNCLOS 1982. The main articles that could be used are as follows:

1. Article 41 of UNCLOS 1982 which regulates the littoral States rights to designate the sea lanes and TSS to promote the safe passage of ships;
2. Article 42 of UNCLOS 1982 which regulates the littoral States rights to adopt laws and regulation relating to transit passage through Straits;
3. Article 43 of UNCLOS 1982 which regulates cooperation between the littoral States and user States to promote the safety of navigation and marine environmental protection; and
4. Article 44 of UNCLOS 1982 which regulates the duties of the littoral States to give appropriate publicity to any danger to navigation in the Straits.

In the implementation of the Article 41 of UNCLOS 1982, the littoral States have designated the TSS and rules for vessels navigating through the Straits of Malacca and Singapore. The littoral States designated the TSS through the IMO in 1977, by adoption of IMO Resolution A. 375 (X) concerning Navigation through the Straits of Malacca and Singapore, and it was further amended in 1982, by the adoption of IMO Resolution A. 476 (XII) concerning the amendment of the Navigation through The Straits of Malacca and Singapore and on 1998, by the adoption of IMO Resolution MSC. 73 (69).

These measures were in accordance with the requirements stipulated in the Article 41, which are as follows: it was considered necessary to promote the safe passage of the vessels (Article 41(1) of UNCLOS 1982); it was in accordance with the generally accepted international regulations, namely SOLAS 1974 Ships’s Routeing and COLREG’s 1972 (Article 41 (3) of UNCLOS 1982); it was adopted by the IMO (Article 41 (4) of UNCLOS 1982); and the littoral States developed the cooperation to formulate the proposals (Article 41(5) of UNCLOS 1982).

The designation of TSS, which worked as safety measures in the Straits of Malacca and Singapore, before the establishment of the Cooperative Mechanism in 2007, has proven to effectively enhance the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore. The opinion was supported by Beckman (2009), which stated that the measures manage to improve the safety of navigation in the Straits and also reduce the threat of marine pollution. The report of the Partnerships in Environmental Management for the Seas of East Asia (1998) also stated that the designation of the TSS in the Straits of Malacca and Singapore has been very helpful in reducing the accidents in the Straits.
For the implementation of Article 42 of UNCLOS 1982, as mentioned in Chapter 3.3 and Chapter 3.4, the littoral States have already ratified the important IMO Conventions as well as adopted the national legislations which related to the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore.

The littoral States basically already developed comprehensive legislative frameworks by adopting several regulations as their national legislation, as stated at chapter 3.4, and also ratified the important IMO conventions. In total, there are 24 important IMO conventions, which have already been ratified by the littoral States. Thus, it can be concluded that the littoral States have good commitment and interest as well as the political will in ensuring that the Straits of Malacca and Singapore remains safe and clean for international navigation, by complying with international regulations and standards.

The implementation of Article 42 of UNCLOS 1982 is also related to the clause in Article 39 (2) of UNCLOS 1982, where the vessels practicing the transit passage must comply with the general accepted international regulations, procedures and practices for safety at sea and prevention and control of pollution from vessels. According to the study by the IMO on the Implications of United Nations Convention on the Law of the Sea for the International Maritime Organization (2012), the relevant IMO instruments that were referred by the Article 39(2) and Article 42 of UNCLOS 1982, are SOLAS, COLREG, Load Lines, STCW and MARPOL, which the littoral States are parties to. Therefore, it can be stated that all the ships practicing the transit passage in the Straits of Malacca and Singapore must comply with the SOLAS, COLREG, Load Lines, and MARPOL, even if the flag State of the ships is not a party to these conventions.

The main issue, which is related to the effective implementation of the national legislation, is the level of enforcement that may be undertake by the littoral States to enforce their national legislation as well as the international regulations.
and standards within the Straits Used for International Navigation. Based on Article 42(2) of UNCLOS 1982, there is limitation on the enforcement of the national laws and regulations. It was stated that the laws and regulations should not have the practical effect of denying, hampering or impairing the right of transit passage.

According to Churchill (1999), the littoral States’ jurisdiction over ships in transit passage is narrower than the jurisdiction over vessels in innocent passage. It means that the laws and regulations of the littoral States could not be fully enforced, when vessels exercise transit passage. Further, based on the commentary on the Law of the Sea, Virginia University (1993), vessels exercising the transit passage may not be inspected, arrested, detained, seized, refused passage that would impair the right of transit passage. However, it can be argued that aside from this prescriptive jurisdiction, the littoral States could fully enforce their laws and regulations if the ship enters the States’ Port or other internal waters, or when there are security threats from the vessels, and also if the vessels are causing or threatening major damage to the marine environment as stated in Article 233 of UNCLOS 1982.

Due to the prescriptive jurisdiction of the littoral States with the objective to ensure vessels that are proceeding on transit passage comply with the international regulations and standards that adopted by the littoral States, the enforcement by the flag States and the port States are extremely crucial. According to Beckman (2009), the general obligations of littoral States regarding the vessels navigating through the Straits Used for International Navigation is that they should not hamper and suspend the transit passage.

The examples of measure that may suspend and/or hamper the transit passage are the closures of the two main Straits in Indonesia, Sunda Strait and Lombok Strait, which reckoned as one of the important shipping lines and one of International Strait. According to Rothwell (1990), these accidents occurred on 1988, because the government of Indonesia temporarily closed the Straits to
conduct the military exercises. Since the measures took place at the archipelagic waters that considered as the normal routes for international navigation, hence, the measures are violating the rights of the archipelagic sea lane passage. Further, based on the Article 54 of UNCLOS 1982, the provision on the archipelagic sea lane passage regime applies _mutatis mutandis_ to transit passage regime. It means that these actions may be considered as measures that could suspend and/or hamper the transit passage.

According to Table 6 and Figure 11, the number of littoral States’ flag vessels above 300 GT involved in accidents is considered low, if compared with the total number of vessels which register under the littoral States’ flag. On average, there were only three accidents occurring per year, which involved the littoral States’ flag vessels, from 2007-2014, while in aggregate there are 4,458 vessels registered under the littoral States’ flag. It shows that the littoral States successfully implemented their laws and regulations related to the flag States’ obligations and also Port State Control over their national flag’s vessels.

### Table 6: The Number of Vessels Registered on the Littoral States

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>NUMBER OF SHIPS</th>
<th>DEAD WEIGHT TONNAGE (THOUSAND DWT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>1,609</td>
<td>13,391</td>
</tr>
<tr>
<td>Malaysia</td>
<td>531</td>
<td>9,212</td>
</tr>
<tr>
<td>Singapore</td>
<td>2,318</td>
<td>103,391</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>4,458</strong></td>
<td><strong>125,994</strong></td>
</tr>
</tbody>
</table>

Further, according to the report of the status of the Aids to Navigation in the Straits, made by the littoral States at the TTEG meeting from 2007 – 2014, shows that the littoral States had also conducted the replacement and maintenance to ensure the proper operation of the aids to navigation. The littoral States have also operated and managed the VTS center as well as the Coastal Radio Station to assist the vessels which were passing through the Straits of Malacca and Singapore. These measures show that the littoral States have conducted their obligation as coastal States.

Based on these facts, basically the implementation of Article 42 of UNCLOS 1982 by the littoral States has proven to also positively contribute to the enhancement of the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, by the adoption of laws and regulations related to the coastal States’ obligation, flag State obligation, and also port State obligation.
control. It is also means that the littoral States already has the sufficient national legislation, which is related to the safety of navigation and marine environmental protection.

The successful implementation of the said national laws and regulations, which are based on the Article 42 of UNCLOS 1982, also shows that the settlement and arrangements of the maritime delimitation has an important role and connection to enhance the safety of navigation and marine environmental protection. As mentioned in Chapter 3.5, the littoral States have almost completed all the territorial sea delimitation in the Straits. The completion of the maritime delimitation would create legal certainty over the status of the Straits, and would be important measures for enabling the littoral States to implement their laws and regulations, which are related to the safety of navigation and marine environmental protection, in the Straits of Malacca and Singapore under their jurisdiction.

Regarding Article 44 of UNCLOS 1982, which is related to the obligations for the littoral States to give appropriate publicity to any danger to navigation in the Straits, basically the littoral States have adopted the regulation into the national legislation, since its also regulated in the SOLAS 1974, where all littoral States have already ratified it. Regulation 4 of Chapter V, SOLAS 1974 already gives the obligation for the States to publish navigational warning.

5.1.3. The Review of the Implementation of Article 43 of UNCLOS 1982 to Enhance the Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore

The implementation of Article 43 of UNCLOS 1982 is related to the establishment of the Cooperative Mechanism in the Straits of Malacca and Singapore on 2007. This mechanism, which involves the user States and stakeholders, was acknowledged to be a historic breakthrough for the cooperation in the Straits Used for International Navigation.
Regarding the implementation of Article 43 of UNCLOS 1982 in the Straits of Malacca and Singapore, there were questions related to the definition of the user States. If looking at the definition of States at the Article 1 of Montevideo Convention 1933 on the Rights and Duties of States, it was mentioned that the States, as the subject of international law should possess, namely: a permanent population, defined territory, government and capacity to enter into relations with the other States. The Article 6 of Vienna Convention 1969 on the Law of Treaties also stated that the States should possess capacity to conclude the treaties.

If it is solely dependent on the definition on both conventions, it means that the cooperation should only be commenced between the littoral States and the flag States of the vessels that navigate through the Straits of Malacca and Singapore. However, there were also needs to involve the shipping industry and other stakeholders that actually received the benefit from the Straits. Therefore, the approach made by the littoral States during the establishment of the Cooperative Mechanism to include and involve the shipping industry and other stakeholders which has an interest with the Straits, as part of user States, were considered still under the spirit of the cooperation and burden sharing principle under Article 43 of UNCLOS 1982.

After the establishment of the Cooperative Mechanism in 2007, there were needs to find out whether the mechanism effectively enhances the safety of navigation and marine environmental protection. The result of the effective implementation of the Cooperative Mechanism, through its straits projects, could be found on the marine casualties data, the major pollution incidents that occurred in the Straits of Malacca and Singapore and also from the number of contributions received from the user States.

Basically, the Cooperative Mechanism is considered as a successful mechanism to enhance the safety of navigation and marine environmental protection, since it could manage the interest of the user States, the shipping industry, and the
littoral States to developed the outcome that is beneficial for all. The success was also because the whole process involved all stakeholders, conducted under the support of IMO, and consistent with UNCLOS 1982 (Ho, 2009).

Further, according to Figure 12, after the establishment of the Cooperative Mechanism in the Straits of Malacca and Singapore, 67 accidents occurred, and there was only one case which resulted in environmental damage. Furthermore, 888 marine accidents occurred in the period 1978-2003, while in the period 2001 – 2007 there were 236 accidents.

On average there were 33.71 accidents occurred per year in the 2001-2007 period, while there were only 9.57 accidents on average from 2008 to 2014. It shows numbers of accidents was decreasing after the Cooperative Mechanism was established in 2007.

**Figure 12: Comparison on the Marine Accidents in the Straits of Malacca and Singapore, 1978-2014**

![Figure 12: Comparison on the Marine Accidents in the Straits of Malacca and Singapore, 1978-2014](image)

Figure 13 shows that before the establishment of the Cooperative Mechanism in 2007, six major pollution occurred in the Straits of Malacca and Singapore, with 685,000 barrels quantity of oil spilled. While after 2007, there was only one major accident, with only 21,125 barrels of oil spilled. This shows that the number of marine pollution incidents was also decreasing after the Cooperative Mechanism was established in 2007.

Figure 13: Marine Pollution in the Straits of Malacca and Singapore, Before and After the Establishment of Cooperative Mechanism in 2007

Therefore, it can be concluded that the Cooperative Mechanism, which was implemented under Article 43 of UNCLOS 1982, was effective in enhancing the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore.

The Cooperative Mechanism is also considered effective because the littoral States managed to invite high involvement of the user States, the shipping industry and stakeholders, which can be shown by the total number of
contributions received by the littoral States on the Straits Projects. According to Table 7, the Straits Projects managed to attract contributors from the user States, the shipping industry and stakeholders.

However, on the other hand, from the contribution received by the ANF, one of the Cooperative Mechanism components to manage and operate the fund for Straits Project-5, it could be seen that even though there are several contributors that continue to contribute, in general, the contributions trends to ANF is decreasing (see Figure 14). It shows that the littoral States need to further promote and invite a broader involvement of the user States and other stakeholders, in order to ensure the continuous operation of the Cooperative Mechanism.

Table 7: The Contributions on the Straits Projects (as per September 2014)

<table>
<thead>
<tr>
<th>Nr</th>
<th>Name of The Projects</th>
<th>Total Contributions</th>
<th>Total Contributors</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>1.</td>
<td>Straits Project-1</td>
<td>USD 100,000</td>
<td>2</td>
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<tr>
<td>2.</td>
<td>Straits Project-2</td>
<td>USD 50,000</td>
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<tr>
<td>3.</td>
<td>Straits Project-3</td>
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<td>3</td>
<td>In kind contributions</td>
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<tr>
<td>4.</td>
<td>Straits Project-4</td>
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<tr>
<td>5.</td>
<td>Straits Project-5</td>
<td>USD 19,300,000</td>
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<tr>
<td>6.</td>
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</tr>
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<td>7.</td>
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<tr>
<td>8.</td>
<td>Straits Project-8</td>
<td>-</td>
<td>2</td>
<td>In kind contributions</td>
</tr>
</tbody>
</table>

Source: 4th - 7th Project Coordination Committee (PCC) Meeting Reports, 2010-2014
5.1.4. Problems with the Implementation of Part III UNCLOS 1982 by the Littoral States in the Straits of Malacca and Singapore

In the implementation of Part III of UNCLOS 1982, there were several problems that needed to be addressed, in order to make the cooperation and policy made by the littoral States under the TTEG and Cooperative Mechanism to be implemented sustainably and effectively.

Further, the main problem faced by the littoral States in implementing the Article 43 of UNCLOS 1982 is there was no integrated blue print policy made by the littoral States, to have a better and clearer plan of the policies and initiatives. These initiatives are important for the littoral States, to have more organised and consistent direction to enhance the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, thus,
the littoral States could have more time needed to prepare for the implementation of the policies and initiatives, and also to overcome the political, economic and socio cultural implications that might occur. The blue print would also be use as the reference for the future works of the Cooperative Mechanism.

The other problems were that, there was no harmonization of the laws and regulations of the littoral States related to the safety of navigation and marine environmental protection. Harmonization is necessary to support the effective implementation of policies and initiatives under TTEG and the Cooperative Mechanism.

For the implementation of the Cooperative Mechanism, the main task faced by the littoral States is how to ensure the sustainable operation of the Cooperative Mechanism and also sustainable contribution. According to Rusli (2011), the Cooperative Mechanism has gone through positive developments in recent years. However, the developments have been moving slowly and have not kept pace with the increasing volume of vessels transiting the Straits of Malacca and Singapore.

The littoral States also need to invite a broader involvement from IMO and convince the user States, and especially the shipping industry, and other stakeholders to contribute to the Cooperative Mechanism in the Straits of Malacca and Singapore. It was a difficult task to invite broader involvement from the interested parties, since Article 43 of UNCLOS 1982 does not provide an enforcement mechanism to ensure cooperation by the user States and other stakeholders. Further, according to Beckman (2009), there was difficulty from the shipping industry to make voluntary contributions due to their fear that the contributions would make precedence in others Straits Used for International Navigation.

Despite of these difficulties, the littoral States need to find a specific scheme and mechanism to invite broader involvement from the shipping industry and other
stakeholders. The scheme should include the adoption of new initiatives that attract the shipping industry and stakeholders. IMO could also play an important role by further promote the Cooperative Mechanism as well as to encourage the major user States of the Straits to contribute as well as more involvement in the implementation of the Straits projects in the Cooperative Mechanism.

5.2. The Review of the Policy and Initiatives Developed under Tripartite Technical Experts Group (TTEG) and Cooperative Mechanism

As mentioned on Chapter 4.3, TTEG managed to adopt several policies to enhance the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore. The review of the main policies which were adopted by TTEG are, namely:

1. The adoption of the TSS and Rules for Vessel Navigating Through The Straits of Malacca and Singapore and its amendments.
   The adoption of the TSS and its rules is in accordance with Part III of UNCLOS and also with SOLAS 1974 Regulation V/10 concerning Ship’s Routeing. As mentioned, the designation of TSS has proven to enhance the safety of navigation and marine environmental protection by providing more organized and safe passage through the Straits.

2. The adoption of the Mandatory Ship Reporting Systems in the Straits of Malacca and Singapore.
   The adoption of the Mandatory SRS in the Straits of Malacca and Singapore (STRAITREP), was also considered as an important measures taken by the littoral States, since it has improved control, monitoring and organizing TSS traffic by the littoral States. Further, this measure was in accordance with the SOLAS 1974 Regulation V/10 concerning Ship Reporting System.
   Due to the number accidents which involving the movement of the vessels, there are needs to amend and extend the roles of the VTS to control the movement of ships, by giving navigational assistance.
3. The adoption on the Prohibition of Anchoring in the Straits of Malacca and Singapore.
This measure is in accordance with the Rule 10 of COLREG’s 1972, and it is important to ensure the rights of transit passage on the Straits.

4. The adoption of the Recommendatory Measure for Vessels Crossing the Traffic Separation Scheme (TSS) and Precautionary Areas in the Singapore Strait During Hours of Darkness.
These measures are also important to ensure the safe passage during the hours of darkness, especially due to the high numbers of vessels navigating and crossing in the Straits of Malacca and Singapore.

For the initiatives and projects under the Cooperative Mechanism, the review will be focus on the identified eight projects and the industry led projects under the Cooperative Mechanism, namely:

1. The Project 1: Removal of Wrecks in the Traffic Separation Scheme in the Straits; the project is important to ensure that vessels could navigate through the Straits safely;

2. Project 2: Cooperation and Capacity Building on Hazardous and Noxious Substance (HNS) Preparedness and Response in the Straits; the project is important for the littoral Straits to overcome the incidents involving HNS;

3. Project 3: Demonstration trial of AIS-B transponders on small vessels in the Straits of Malacca and Singapore; this project was important to see the effectiveness of installing the AIS class B on small vessels under 300 GT, while also to allow tracking of small vessels under 300 GT in the Straits;

4. Project 4: Setting Up of a Tide, Current and Wind Measurement System for the Straits; this project was initiated to give the real time data of currents, tides and winds in the Straits of Malacca and Singapore, to the vessels navigating through the Straits;

5. Project 5: Replacement and Maintenance of Aids to Navigation in the Straits of Malacca and Singapore; the project is considered important to
ensure the safe passage of vessels, by replacing and maintaining the critical aids to navigation in the Straits;

6. Project 6: Replacement of Aids to Navigation destroyed or damaged by the tsunami in December 2004; this project is also related to the important roles of aids to navigation in the Straits. The aim is to replace the aids to navigation which were destroyed by tsunami incidents in 2004;

7. Project 7: Feasibility Study on Emergency Towing Vessel (ETV) Service in the Straits of Malacca and Singapore; this project is also important to examine the feasibility and requirements of ETV services in the Straits of Malacca and Singapore;

8. Straits Project 8: Concept study on Real Time Monitoring of Under Keel Clearance (UKC) in the Straits of Malacca and Singapore; this project is important to study the UKC monitoring using AIS in Deep Draught Vessel (DDV);

9. Industry led project;
   a. Analysis of Marine Casualties, by International Chamber of Shipping (ICS);
   b. Port Reception Facilities Directory in the Straits of Malacca and Singapore, by INTERTANKO;
   c. Establishment of the Safe Passage Pamphlet, by BIMCO.

The three projects which were initiated by the shipping industry are very important to show the industry commitment in the Straits of Malacca and Singapore, and also to identify the gaps and problems which are related to marine casualties, to give more information on the Port Reception Facilities and also to publish the safe passage pamphlet of the Straits, which could be used by the littoral States to adopt and develop related policies and initiatives.

Based on the said analysis, it can be observed that in principle, the policies adopted by TTEG and also the identified eight projects and the industry led
projects under the Cooperative Mechanism, were implemented in accordance with Part III of UNCLOS 1982 and with the international regulations and standards. In addition, the implementation of these measures were also considered very important to enhance the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore.

However, based on the policies and initiatives made by the littoral States, it can be seen that there was still lack of regulation for the operation of vessels less than 300 GT/non SOLAS vessels, which adopted by the TTEG. This measure is necessary since there are high numbers of vessels less than 300 GT/non SOLAS vessels crossing and operating in the Straits, as ferry vessels or as fishing vessels. These gaps need to be addressed by the littoral States, since it could affecting the passage of the vessels in the Straits of Malacca and Singapore, and further could affect the safety of navigation and marine environmental protection in the Straits.

5.3. Future Direction of the Policy under Tripartite Technical Experts Group (TTEG) and Cooperation under Cooperative Mechanism Which Related to the Safety of Navigation and Marine Environmental Protection

For the future direction of the TTEG and the Cooperative Mechanism, there are several measures that need to be implemented by the littoral States, in order to have sustainable cooperation and contribution in the Straits of Malacca and Singapore. These measures need to be conducted, due to the increasing trend and demand on the use of the Straits, as the effect of the global and regional economic development at the regions that are connected through the Straits, and further, as the follow up of new problems and challenges faced by the littoral States in order to keep the Straits open and safe for international navigation, while still protecting the marine environment.

Based on the description in Chapter 5.1.4 of the problems in implementing Part III of the UNCLOS 1982, and from the Chairman Summary of the 7th
Cooperation Forum Meeting (2014), there were problems and challenges that could be identified, namely:

1. There was no integrated blue print policy made by the littoral States, to have a better and clearer plan of the policy and initiatives in the Straits of Malacca and Singapore;
2. There was no harmonization of the laws and regulations of the littoral States related to the safety of navigation and marine environmental protection;
3. How to ensure the sustainable operation of the Cooperative Mechanism and also sustainable contribution;
4. The needs to promote effective IMO conventions ratification and implementation;
5. The needs to developed new policy and initiatives related to marine environmental protection, in example: Ballast Water Management, Air emission and Green fuel;
6. There are needs to regulate the operation of the vessels less than 300 GT/non SOLAS vessels in the Straits.

Based on these problems and challenges, there are several measures that could be taken by the littoral States to develop the policy and initiatives, to overcome the problems and as the future direction of the cooperation under TTEG and Cooperative Mechanism, namely:

1. To commence data collection, research and analysis, and risk assessment and in the Straits of Malacca and Singapore;
2. Based on the data collection as well as the research, the littoral States could identify the required areas to be developed;
3. Based on the identified required areas to be developed, the littoral States could developed the blue print on the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, not only to have clear and consistent direction of the policy and initiatives under
TTEG and the Cooperative Mechanism but also to synergise the new projects with the existing projects;

4. Coordination and consultations with IMO, user States, the shipping industry and stakeholders, to have a better feedback and involvement;

5. To developed public awareness related to the activities of the TTEG and the Cooperative Mechanism, to further invite broader involvement of the user States, the shipping industry and stakeholders.

Further, Figure 15 shows that the highest number of accidents caused by the collision and grounding. Therefore, littoral States should take measures to control the traffic movements in the Straits of Malacca and Singapore, using the extended roles of VTS, without suspending and hampering the rights of transit passage, in accordance with Part III of UNCLOS 1982. These measures that could be taken by the littoral States could follow the practices of the other Straits Used for International Navigation, where they manage to improve their infrastructure related to the usage of e-navigation and the roles of VTS to control the traffic movements, and also providing the pilotage services and the usage of e-navigation.

**Figure 15: Caused of the Casualties/Accidents in 2008-2014**

Source: 32th TTEG - 38th TTEG Meeting Reports, 2007-2014
Further to future initiatives in the safety of navigation, the littoral States need to develop measures on marine environmental protection. This issue is also an important matter that needs to be highlighted by the littoral States. Because there are rich biodiversity and ecosystems in the Straits of Malacca and Singapore, they are vulnerable to pollution from the shipping activities. Furthermore, there are needs to develop initiatives related to the Ballast Water Management, air emission, reception facilities and places of refuge, which have never been discussed before by the littoral States.

In terms of the said rich biodiversity and ecosystems condition in the Straits of Malacca and Singapore, there have been discussions on the needs to further studies of possibility designating the Straits as one of the PSSA, with the recommended APMs, which could likely be voluntary pilotage and extended roles of VTS.

After analysing the existing policies and initiatives, as well as the marine casualties data from 2008-2014, there are several areas/issues that could be further regulated by the littoral States, namely:

1. To adopt the policy related to the voluntary pilotage services in the Straits of Malacca and Singapore;
2. To promote the usage of e-navigation, as being introduced by the Norwegian Coastal Administration, on the Secured, efficient and safe maritime traffic management in the Straits of Malacca and Singapore (SESAME STRAITS) and also synergise it with the Marine Electronic Highway (MEH) in the Straits of Malacca and Singapore;
3. To extend the VTS roles, by enhance the VTS function to provide navigational assistance and the designation of VTS guidelines;
4. To adopt the policy related to marine environmental protection, such as Ballast Water Management, air emission and reception facilities;
5. To adopt the regulation on the operation of the vessels less than 300 GT/non SOLAS vessels in the Straits;
6. To revise the Rules for Vessel Navigating Through the Straits of Malacca and Singapore, by accommodating the use of e-navigation and provisions related to marine environmental protection;

7. To study the possibility to adopt the regulation on places of refuge in the Straits of Malacca and Singapore, and study the designation of PSSA in the Straits of Malacca and Singapore.

The study of the place of refuge in the Straits of Malacca and Singapore was raised because there was an urgent need to designate places of refuge for vessels which need assistance in the Straits of Malacca and Singapore.
6. Conclusion and Recommendations

6.1. Conclusion

The Straits of Malacca and Singapore have unique characteristics. It stretches from the Andaman Sea to the South China Sea, with narrow, shallow and critical areas in some parts of the Straits. The Straits of Malacca and Singapore is also considered as one of the most strategic straits in the world, which is used for international navigation and domestic navigation by three littoral States (Indonesia, Malaysia, and Singapore), and its also considered as one of the choke point of the world trade, as well as one of the SLOCs.

Because its geographical conditions, the Straits of Malacca and Singapore are included as one of the Straits Used for International Navigation under Part III of the UNCLOS 1982, where the right of transit passage is applicable in its the waters.

Based on this legal status, the littoral States should manage to cooperate and further enhance the safety of navigation and marine environmental protection. Further, under Article 43 of UNCLOS 1982, the littoral States could also cooperate with the user States, the shipping industry and also other stakeholders.

Further, based on the research made, the implications of Part III of UNCLOS 1982 to the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore should be found. It could be concluded that the provision of Part III of UNCLOS 1982 has proven to effectively enhance the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore.

Furthermore, based on the marine accidents as well as the marine pollution incidents data from 1978 – 2014, it was found that the numbers of accidents as well as the marine pollution decreased after the establishment of the Cooperative Mechanism. It can be observed that the mechanism was effective in enhancing the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore.
It is also considered effective because the littoral States managed to invite high involvement of the user States, the shipping industry and stakeholders, which can be shown by the total number of contributions received by the littoral States for the Straits Project.

Regarding the implementation of policies and initiatives under the TTEG on safety of navigation and also under the Cooperative Mechanism, in principle it is in accordance with UNCLOS 1982 and the prevailing international regulations and standards. The implementation is considered as very important measures to enhance the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore.

For the future direction on the policy and initiatives under the TTEG on safety of navigation and also under the Cooperative Mechanism, there are several areas and issues that could be further developed and regulated by the littoral States, namely:

1. To adopt voluntary pilotage services in the Straits of Malacca and Singapore;
2. To use of e-navigation, as introduced by the Norwegian Coastal Administration, on the secured, efficient and safe maritime traffic management in the Straits of Malacca and Singapore (SESAME STRAITS), which should be synergise with the Marine Electronic Highway (MEH) in the Straits of Malacca and Singapore;
3. To extend the VTS roles, by implementing the VTS function to provide navigational assistance and the designation of VTS guidelines;
4. To adopt a policy related to marine environmental protection;
5. To adopt the regulation on the operation of the vessels less than 300 GT/non SOLAS vessels in the Straits;
6. To revise the Rules for Vessel Navigating through the Straits of Malacca and Singapore, by accommodating the use of e-navigation and provision which related to marine environmental protection; and
7. To study the possibility of adopting the regulation on places of refuge in the Straits of Malacca and Singapore, and study the designation of PSSA in the Straits of Malacca and Singapore.

6.2. Recommendations

Based on the facts and conclusion above, the author would like to give recommendations for the littoral States to further enhance the safety of navigation and marine environmental protection in the Straits of Malacca and Singapore, namely:

1. The littoral States need to develop and regulate new initiatives on the safety of navigation and marine environmental protection, based on the identified areas on Chapter 6.1;
2. The littoral States need to cooperate to develop the blue print of the policies and initiatives, to synchronise all the new projects with the existing projects;
3. The littoral States need to invite broader involvement from IMO, the shipping industry and stakeholders;
4. The littoral States need to have a scheme and plan to ensure the sustainable cooperation and contribution in the Straits of Malacca and Singapore;
5. The littoral States need to give more focus not only on the safety of navigation aspects, but also on marine environmental protection; and
6. The littoral States need to encourage the implementation of a mechanism of cooperation based on Article 43 of UNCLOS 1982 in the other Straits Used of International Navigation.
REFERENCES


**IMO Documents/Circulars**

IMO Resolution A. 375 (X) adopted in 14 November 1977 concerning Navigation through the Straits of Malacca and Singapore.

IMO Resolution A. 476 (XII) adopted in 19 November 1981 concerning the Amendment of the Navigation through the Straits of Malacca and Singapore.

IMO Resolution MSC. 73(69) adopted in 19 May 1998 concerning the Mandatory Ship Reporting Systems in the Straits of Malacca and Singapore.

IMO circular SN.1/Circ 282 dated 27 November 2009 related with the Prohibition of Anchoring in the Straits of Malacca and Singapore.

IMO circular SN.1/Circ.317 dated 4 December 2012 related to the Routeing Measures Other Than Traffic Separation Schemes.

IMO (2005), The 23rd IMO Extraordinary Session Council Meeting, Protection of Vital Shipping Lanes; The Jakarta Meeting, 16 September 2005 (C/ES.23/8)


IMO (2007), Singapore Meeting in the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection; The Cooperative Mechanism Between the Littoral States on Safety of Navigation and Environmental Protection in the Straits of Malacca and Singapore, 16 August 2007 (IMO/SGP2.1/1)

**Report of the Meetings**


The 4th Cooperation Forum (CF) meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2011.

The 5th Cooperation Forum (CF) meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2012.

The 6th Cooperation Forum (CF) meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2013.

The 7th Cooperation Forum (CF) meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2014.

The 4th Project Coordination Committee (PCC) meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2011.

The 5th Project Coordination Committee (PCC) meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2012.

The 6th Project Coordination Committee (PCC) meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2013.

The 7th Project Coordination Committee (PCC) meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2014.

The 9th Aids to Navigation (ANF) Committee Meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2012.

The 10th Aids to Navigation (ANF) Committee Meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2013.

The 11th Aids to Navigation (ANF) Committee Meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2013.
The 12th Aids to Navigation (ANF) Committee Meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2014.

The 13th Aids to Navigation (ANF) Committee Meeting under the Cooperative Mechanism on Safety of Navigation and Marine Environmental Protection in the Straits of Malacca and Singapore, 2014.
### Appendix A: List of Conventions Ratified by the Littoral States

<table>
<thead>
<tr>
<th>Nr.</th>
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<td>Certification and Watchkeeping for Seafarers (STCW) 1978</td>
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<td>19.</td>
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<th>Incidents by Hazardous and Noxious Substances (OPRC-HNS Protocol), 2000</th>
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<td>24.</td>
<td>International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004</td>
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Source: IMO, 2015.
Appendix B: The Joint Statement 1971

The Joint Statement by Indonesia, Malaysia and Singapore, on 16 November 1971, contain:

(i) The three governments agreed that the safety of navigation in the Straits of Malacca and Singapore is the responsibility of the coastal States concerned;

(ii) The three governments agreed on the need for tripartite cooperation on the safety of navigation in the two straits;

(iii) The three governments agreed that a body for cooperation to co-ordinate efforts for the safety of navigation in the Straits of Malacca and Singapore be established as soon as possible and that such body should be composed of only the three coastal States concerned;

(iv) The three governments also agreed that the problem of safety of navigation and the question of internationalization of the Straits are two separates issues;

(v) 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 innocent passage. The Government of Singapore takes note of the position of the Government of the Republic of Indonesia and Malaysia on this point.

(vi) On the basis of this understanding, the three governments approved the continuation of the hydrographic survey.
Appendix C: The Joint Statement in Safety of Navigation in the Straits of Malacca and Singapore, 1977

The Joint Statement was held in Manila on 24th February 1977 to consider measures to enhance the safety of navigation and to promote close cooperation and coordination on anti-pollution policy and measures in the Straits of Malacca and Singapore. The meeting adopted the following measures:

(i) Vessel maintain a single Under Keel Clearance (UKC) of at least 3.5 metres at all times during the entire passage on the Straits of Malacca and Singapore;
(ii) The establishment of the Traffic Separation Scheme (TSS);
(iii) Deep Draught Vessels (DDV), which have draughts of 15 metres and above, are required to pass through the designated Deep Water Routes;
(iv) The improvement of the aids to navigation to support the TSS;
(v) To maintain the existing voluntary reporting procedure;
(vi) The principle of voluntary pilotage through critical areas in the Straits of Malacca and Singapore;
(vii) VLCC and DDV are advised to navigate at speed of not more than 12 knots during the critical areas;
(viii) The improvement of charts and tidal data;
(ix) The implementation of rule 10 COLREG’s 1972 at TSS;
(x) The implementation of the TSS should not pose a financial burden on the coastal States and the necessary funds be obtained from users;
(xi) A contingency plan to deal with marine pollution be formulated;
(xii) All tankers and vessels navigating through the Straits of Malacca and Singapore should be adequately covered by insurance.
Appendix D: The Batam Joint Statement, 2005

The Batam Joint Statement was held in Batam on 1-2 August 2005 to discuss matters pertaining to the safety of navigation, environmental protection and maritime security in the Straits of Malacca and Singapore. The statement contains:

1. The primary responsibility related with the safety of navigation, environmental protection, and maritime security in the Straits of Malacca and Singapore lies with the littoral States.

2. Every measure undertaken in the Straits should be in accordance with international law including UNCLOS 1982. Further, the littoral States acknowledged the interest of user States and other international agencies and the role they could play in the Straits.

3. Agreed to continue the discussion on the maritime security within the framework of ASEAN and ASEAN Regional Forum (ARF).

4. Acknowledge the good work carried out by the Tripartite Technical Experts Group on Safety of Navigation in the Straits of Malacca and Singapore.


6. The meeting agreed to welcome the assistance of the user States, relevant international agencies, and the shipping community in the areas of capacity building, training and technology transfer, and other forms of assistance in accordance with UNCLOS 1982.
### Appendix E: Major Accidents in the Straits of Malacca and Singapore, 1971-2007

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Date</th>
<th>Vessel Name</th>
<th>Type of Oil and HNS</th>
<th>Quantity of Spillage (barrels)</th>
<th>Location and Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>June 1971</td>
<td>Arabiyah (208,000 dwt)</td>
<td>Crude</td>
<td>-</td>
<td>Malacca Strait/Aground</td>
</tr>
<tr>
<td>2.</td>
<td>June 1971</td>
<td>Eugene&amp;Niarchos (212,000 dwt)</td>
<td>Crude</td>
<td>-</td>
<td>Malacca Strait/Aground</td>
</tr>
<tr>
<td>3.</td>
<td>18 May 1972</td>
<td>Meijin Maru (201,319 dwt)</td>
<td>Crude</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>4.</td>
<td>18 May 1972</td>
<td>World Duality (96,000 dwt)</td>
<td>Crude</td>
<td>-</td>
<td>Singapore/ Collision</td>
</tr>
<tr>
<td>5.</td>
<td>1972</td>
<td>Myrtea (210,000 dwt)</td>
<td>Crude</td>
<td>-</td>
<td>Malacca Strait/Grounding</td>
</tr>
<tr>
<td>6.</td>
<td>6 January 1975</td>
<td>Showa Maru (237,698 dwt)</td>
<td>Crude</td>
<td>54,000</td>
<td>Singapore Strait/Grounding</td>
</tr>
<tr>
<td>7.</td>
<td>12 July 1978</td>
<td>Tadotsu</td>
<td>Crude</td>
<td>293,000</td>
<td>Malacca Strait/unknown</td>
</tr>
<tr>
<td>8.</td>
<td>20 September 1992</td>
<td>Nagasaki Spirit and Ocean Blessings</td>
<td>Crude</td>
<td>100,000</td>
<td>Malacca Strait, Collision</td>
</tr>
<tr>
<td>9.</td>
<td>15 October 1997</td>
<td>Evoikos and Orapin Global</td>
<td>Crude</td>
<td>175,000</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td></td>
<td>Date</td>
<td>Location</td>
<td>Type</td>
<td>Tonnage</td>
<td>Outcome</td>
</tr>
<tr>
<td>---</td>
<td>------------</td>
<td>----------------</td>
<td>----------</td>
<td>---------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>10</td>
<td>21 July 1999</td>
<td>Sun Vista</td>
<td>Fuel Oil</td>
<td>14,000</td>
<td>Malacca Strait/Sinking</td>
</tr>
<tr>
<td>11</td>
<td>3 October 2000</td>
<td>Natuna Sea</td>
<td>Crude</td>
<td>49,000</td>
<td>Singapore Strait/Sinking</td>
</tr>
<tr>
<td>12</td>
<td>2004</td>
<td>MV. Hyundai</td>
<td>-</td>
<td>-</td>
<td>Malacca Strait/Sinking</td>
</tr>
<tr>
<td>13</td>
<td>30 July 2007</td>
<td>MV. Maersk Kimi</td>
<td>Container Vessel</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>14</td>
<td>16 February 2007</td>
<td>Chacabuco</td>
<td>Container Vessel</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
</tbody>
</table>

### Appendix F: Major Accidents on the Straits of Malacca and Singapore, 2008-2014

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Date</th>
<th>Vessel Name</th>
<th>Type of Vessel</th>
<th>Casualties / Oil Spill</th>
<th>Location and Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>8 October 2008</td>
<td>Pos Freedim (30,743 GT)</td>
<td>Bulk Carrier</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>2.</td>
<td>8 October 2008</td>
<td>Theo T (40,013 GT)</td>
<td>Tanker</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>3.</td>
<td>11 November 2009</td>
<td>MSC Kalina (151,559 GT)</td>
<td>Container Vessel</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>4.</td>
<td>11 November 2009</td>
<td>Aljalaa (59,164 GT)</td>
<td>Tanker</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>5.</td>
<td>8 February 2009</td>
<td>Trianon (49,792 GT)</td>
<td>Car Carrier</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>6.</td>
<td>8 February 2009</td>
<td>Yantze Star (147,012 GT)</td>
<td>Tanker</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>7.</td>
<td>3 May 2009</td>
<td>Takasago Maru (149,047 GT)</td>
<td>Tanker</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>8.</td>
<td>3 May 2010</td>
<td>Brisbane (77,298 GT)</td>
<td>Bulk Carrier</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>9.</td>
<td>25 May 2010</td>
<td>MT. Bunga Kelana 3</td>
<td>Tanker</td>
<td>21,125 barrels</td>
<td>Malacca Strait/Collision</td>
</tr>
<tr>
<td></td>
<td>Date</td>
<td>Vessel Name</td>
<td>Type</td>
<td>Action</td>
<td>Location</td>
</tr>
<tr>
<td>---</td>
<td>----------------</td>
<td>----------------------</td>
<td>---------------</td>
<td>--------</td>
<td>---------------------</td>
</tr>
<tr>
<td>10.</td>
<td>25 May 2010</td>
<td>MV. Waily</td>
<td>Bulk Carrier</td>
<td>-</td>
<td>Malacca Strait/Collision</td>
</tr>
<tr>
<td>11.</td>
<td>19 February 2011</td>
<td>Hellespont Tatina (56,324 GT)</td>
<td>Tanker</td>
<td>-</td>
<td>Malacca Strait/Aground</td>
</tr>
<tr>
<td>12.</td>
<td>19 June 2011</td>
<td>Al Rawdah</td>
<td>Container Vessel</td>
<td>-</td>
<td>Singapore Strait/Aground</td>
</tr>
<tr>
<td>13.</td>
<td>4 January 2012</td>
<td>Seeb (GT. 164,359)</td>
<td>Tanker</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>14.</td>
<td>17 April 2012</td>
<td>KWK Esteem (56,943 GT)</td>
<td>Tanker</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>15.</td>
<td>26 June 2012</td>
<td>MT. Medelin Atlas (27,985 GT)</td>
<td>Tanker</td>
<td>-</td>
<td>Malacca Strait/Collision</td>
</tr>
<tr>
<td>16.</td>
<td>6 September 2012</td>
<td>Bao Chang (50,697 GT)</td>
<td>Bulk Carrier</td>
<td>-</td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>17.</td>
<td>2 July 2013</td>
<td>Atlantic Hero (38,871 GT)</td>
<td>Bulk Carrier</td>
<td></td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>18.</td>
<td>21 June 2014</td>
<td>Lord Vishnu (51,917 GT)</td>
<td>Car Carrier</td>
<td></td>
<td>Singapore Strait/Collision</td>
</tr>
<tr>
<td>19.</td>
<td>5 July 2014</td>
<td>Hisui (45,815 GT)</td>
<td>LPG Carrier</td>
<td></td>
<td>Singapore Strait/Collision</td>
</tr>
</tbody>
</table>

Source: 32th TTEG Meeting Reports until 39th TTEG Meeting Report, 2007-2014.'