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CHAPTER FOUR SUB-REGIONAL MANAGEMENT OF HNS SHIPPING IN THE STRAITS OF MALACCA. 4.1 INTRODUCTION This Chapter assesses on the adequacy of sub-regional cooperation and management for a response action plan for HNS incidents in the Straits of Malacca. In the event of an HNS pollution incident occurring in Malaysian territorial waters of the Straits of Malacca, there is no mechanism for notification or for a coordinated response national contingency action plan vested in a competent administration or dedicated response equipment. The key players it is said will be the Department of Marine and the Department of Environment who are developing the framework for this area. Malaysia has some cooperative arrangements with Singapore and it is expected that the two countries will cooperate in the event of a chemical spill as for an oil spill. 1 Malaysia and Indonesia are concerned in protecting the marine environment in the Straits of Malacca from ship-sourced or accidental pollution arising from a marine accident, such as a collision or grounding, or which is intentional as a consequence of normal ship operations, such as tank clearing or pumping bilges. 2 This chapter proposes and develops a sub-regional response action plan for a HNS spill followed by a national response action plan in the Straits of Malacca. To do this, the chapter focuses on current trends in sub-regional management of the Straits of Malacca for (1) oil spill containment; (2) strait States and user States cooperative mechanisms for enhancing the safety of navigation for ships through the 1982 LOSC and 1 See ITOPF, Malaysia Country Profile 2009. 2 Bateman Sam, Ho Joshua, Chan Jane, “Good Order At Sea In Southeast Asia” S.Rajaratnam School Of International Studies, Nanyang Technological University, Policy Paper 2009. IMO Conventions; (3) establishment of a new cooperative mechanism for the straits (4) Japanese contributions; (5) voluntary contributions from shipping companies; (6) corporate social responsibility in HNS shipping; and (7) regional planning and cooperation that should be taken into account by the three strait States of Malaysia, Indonesia and Singapore and (8) cost-benefit analysis and guidelines for Maritime Cooperation in Enclosed and Semi-Enclosed Seas And Similar Sea Ares of the Asia Pacific; (9) Pilotage Services in the Straits of Malacca; (10) the Australian model for chemical spills and (11) development of a sub-regional response action plan for HNS spills. 4.2 OIL SPILLS CONTAINMENT The technology for detecting oil spills has advanced and the Synthetic Aperture Radar is available to identify and trace oil spills. 3 IMO adopted the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 in order to

provide for an international system of cooperation in the event of major oil spill incidents. 4 IMO urged the each member state to set up a regional alert system to facilitate cooperative activities. 5 Malaysia and Singapore have ratified the Protocol on Preparedness, Response and Co- operation for Pollution Incidents by Oil 1990. 6 However, Indonesia has not ratified the OPRC 1990. "Project on Oil Spill Preparedness and Response in the ASEAN Seas Area" or the ASEAN-OSPAR Project is to improve the capability of ASEAN countries to deal with large-scale oil and hazardous and noxious substances spill incidents in the ASEAN region. 7 3 Bateman Sam, Ho Joshua, Chan Jane, “Good Order At Sea In Southeast Asia” S.Rajaratnam School Of International Studies, Nanyang Technological University, Policy Paper 2009. 4 ASEAN-OSPAR PROJECT, http://www.nmc.com.sg/asean-ospar.html , 5 September 2010. 5 Ibid. 6 Ibid. 7 Ibid. The ASEAN-OSPAR project is based on the ASEAN Oil Spill Response Action Pelan (OSRAP). OSRAP provides the tool for coping with major oil spill incidents that are beyond the capability of a single country. 8 The Japanese government and governments of six ASEAN countries have conducted the Oil Spill Preparedness and Response (OSPAR) project in the ASEAN sea area including the Straits of Malacca and Singapore. Japan has donated oil spill combating equipment and setting up an information network system. The Petroleum Association of Japan has provided over USD 10 million for establishing OSPAR, of which about USD 2 million was allocated to Malaysia. The establishment of a Revolving Fund for cleanup operations in the event of oil spill in 1981. Japan has contributed Y400 million. 9 Currently, the Revolving Fund stands at about S$6.18 million. The objective of the Revolving Fund is to allow any of the strait States to take an advance for use in combating an oil spill from a ship. 10 The amount of advance taken by strait States is be repaid into the fund when compensation is received from the FUND Convention. 11 The Revolving Fund is controlled by a revolving Fund committee. 12 The strait States manage the Fund, one representative from each state and each committee serves for five (5) years. 13 The Revolving Fund is a good model for future co-operation between straits States and user States as shown in the Memorandum of Understanding between the States parties: 8 ASEAN-OSPAR PROJECT, http://www.nmc.com.sg/asean-ospar.html , 5 September 2010. 9 Ahmad, Hamzah ,ed., op. cit., 247. 10 Ibid. 11 Ibid. 12 Ahmad, Hamzah, ed., op. cit, 217. 13 77. Supra at 217. Memorandum Of Understanding 14 Between The Governments Of Indonesia, Malaysia And Singapore On The One Part And The Malacca Strait Council For And On Behalf Of The Japanese Non Governmental Associations On The Other Part For The Establishment And Operation Of A Revolving Fund To Combat Oil Pollution From Ships In The Straits Of Malacca And Singapore. WHEREAS the Straits of Malacca and Singapore is a major waterway for international navigation; AND WHEREAS The Malacca Strait Council for and on behalf of the Japanese Non-Governmental Associations (hereinafter referred to as the Japanese side) is desirous of assisting the three Coastal States of Indonesia, Malaysia and Singapore in combating oil pollution from ships and for this purpose has offered to donate to the three Coastal States a sum of Yen 400 million to constitute a revolving fund; AND WHEREAS the three Coastal States have agreed to accept the donation from the Japanese side in accordance with the understanding set out hereunder. Now this Memorandum records the understanding set out hereunder. Now this memorandum records the understanding as follows: a) The sum of Yen 400 million (hereinafter referred to as the sum) shall constitute a revolving fund to be known as the Straits of Malacca and Singapore Revolving Fund (hereinafter referred to as the Fund) to be maintained, administered and 14 77. Supra at 217. operated in accordance with the arrangement described in the attached Annex. The three Coastal States may, however, accept additional sums for the Fund from sources other than those mentioned above. b) The Fund shall be maintained and operated by the three Coastal States on a rotational basis as specified in paragraph 4 of the attached Annex. c) On the signing of this Memorandum, the Japanese side shall duly transfer the Sum to an account designated by the Coastal State first maintaining and operating the Fund for and on behalf of the three Coastal States in accordance with paragraph 2 above. The transfer shall take place not later than 31 st March, 1981. d) Should any question arise which is not dealt with in this Memorandum or the attached Annex the same shall be resolved by consultation among parties. IN WITNESS WHEREOF the representatives of the parties have hereunto set their hands. Done this eleventh day of February, 1981. for the Government of Indonesia for the Government of Malaysia for the Government of Singapore for the Malacca Strait Council for and on behalf of the Japanese non-Governmental Association. The advance requested of the Revolving Fund by Malaysia on 6th October 1992 was for US $580,000. Indonesia's application on 20th October 1992 was for US $ 660,000. The advances were made following the collision between the Nagasaki Spirit and Ocean Blessing. The benefit of the Fund is that it enables the strait States to prepare and equip themselves

financially, in handling oil spills. The strait States have shown effective cooperation in dealing with any oil spill incident. In future, the Revolving Fund should obtain more contribution from the original donors or getting support from other user States besides Japan. There is currently no designated spill notification point or competent authority for HNS, but the Marine Department and the Department of the Environment is likely to be key players and are developing the country's capability in this area. 15 There is currently no national contingency plan for neither HNS nor dedicated response equipment. 16 Cooperative arrangements exist with Singapore whereby both countries would provide assistance in the event of an oil or chemical spill. 17 As there is no fund to assist in combating chemical spills, it is submitted that perhaps another Fund should be introduced for combating HNS pollution and this Fund should have contributions from Japan and other donors as well. 18 4.3 STRAIT STATES AND USER STATES COOPERATIVE MECHANISMS FOR ENHANCING THE SAFETY OF NAVIGATION FOR SHIPS THROUGH THE 1982 LOSC AND IMO CONVENTIONS The strait States have incurred tremendous financial costs in enhancing the safety of navigation and for the protection of the marine environment of the strait. The estimated cost in managing the Straits of Malacca by Malaysia in 1993 was RM 613,000 for the cost of deploying vessels and aircraft against sea-robberies, piracies and other illegal activities. 19 The cost of purchasing aircraft and vessels for activities in the Straits of Malacca was 15 The International Tanker Owners Pollution Federation Limited (ITOPF) 2009, Country Profiles (A Summary of Oil Spill Response Arrangements & Resources Worldwide) www.itopf.com/country_profiles , 28 May 2010. 16 Ibid. 17 Ibid. 18 Ibid. 19 Ahmad, Hamzah, ed., op. cit., 135. An example of the cost to maintain the Strait of Malacca by Malaysia in the year 1993. 5.2.1 Article 42, 1982 LOSC estimated at RM 64 million. In the year 1984 till 1993, The Royal Malaysian Navy spent approximately RM 70 million for hydrography-related services, that is, services including surveys, charting, tide tables production, notices to mariners and others in the Straits of Malacca. The government of Malaysia spent RM 180 million to purchase two hydrographic vessels which were essential to hydrographic activities. In 2008, Deputy Prime Minister, Datuk Seri Najib Razak recently revealed that the nation spent more than RM 200 million on providing and maintaining various aids to navigation in the straits, as part of Malaysia's commitment to ensuring the safety and environmental protection of the straits. 20 4.4 THE 1982 LOSC AND IMO CONVENTIONS Article 42, the 1982 Law of the Sea Convention on Laws and regulations of States bordering straits relating to transit passage states that States bordering the straits may adopt amongst others, laws and regulations relating to transit passage through straits, in respect of all or any of the following: a) the safety of navigation and the regulation of maritime traffic, as provided in Article 41 21 ; and b) the prevention, reduction and control of pollution, by giving effect to applicable international regulations regarding the discharge of oil, oily wastes and other noxious substances in the strait; For the implementation of Article 41 (1) the 1982 LOSC, to enhance the safety of navigation and regulation of maritime traffic, states bordering straits may designate sea lanes and prescribe traffic separation scheme for navigation in straits. 20 H.M.Ibrahim, Straits safety not just littoral states' burden, New Straits Times, 25 November 2010, 22. 21 Article 41 of 1982 LOSC: Sea lanes and traffic separation schemes in straits used for international navigation. For the implementation of Article 41(3) and (4) the sea lanes and traffic separation schemes shall conform to generally accepted international regulations and the need to refer proposals to the IMO for adoption. As in the context of HNS, strait States are required to ratify the 1996 International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea which has not been enforced as yet. This situation means that there is no regime on liability and compensation for HNS available to secure any incident of HNS in the Straits of Malacca. The parties involved in an incident of HNS in the Straits of Malacca have no system of liability and compensation for HNS damage except perhaps that of tortuous liability arising within the State in whose waters the incident occurred. If the HNS Convention were to come into force in the near future, the implementation of the convention into domestic laws of the strait states are equally important. There is also the problem that the straits states will usually take some time to ratify the HNS convention. In other words, base from the record of ratification of the convention by the strait States, a late ratification of the 1996 HNS Convention demonstrates a weakness on the part of the strait States. As to date 22 , Malaysia, Indonesia and Singapore have not ratified the HNS Convention 1996 and together with the latest amendment of the HNS Convention Protocol 2010. This observation confirms that the Straits of Malacca is in a difficult situation if there is an incident of HNS as there is no regime of liability and compensation available. There are other conventions which are indirectly related to HNS that need to be assessed for the status of ratification by the

strait States. Malaysia, Indonesia and Singapore have ratified the International Convention for the Prevention of Pollution from Ships, 1973 22 http://www.imo.org/includes/blastDataOnly.asp /data_id=24status-x, 28thFebruary2009. as modified by the Protocol of 1978 (MARPOL 73/78), Annex I/II (Oil and Noxious Substances in Bulk). 23 The 2000 OPRC-HNS Protocol highlights the regional cooperation and planning obligations required for chemical spills. Singapore has ratified the Protocol on Preparedness, Response and Co-operation for Pollution Incidents by Hazardous and Noxious Substances 2000 (OPRC/HNS) 24 but both Malaysia and Indonesia have not ratified the OPRC HNS 2000. Thus, the ratification of the above important international conventions are not harmonized by the strait States, thus raising the difficulty in taking further action by the strait States through regional cooperation in the Straits of Malacca. In order to implement the conventions related to HNS shipping in the Straits of Malacca, the strait States need to ratify the 1996 HNS Convention and Protocols (the 2010 HNS Convention Protocol 2010 and the OPRC HNS 2000) and enforce them through the strait States domestic laws. Article 43 highlights the cooperation required between the strait States and user States in managing the safety of navigation and prevention of pollution is stipulated in Article 43 25 as follows: User States and States bordering a strait should by agreement co-operate: a) in the establishment and maintenance in a strait of necessary navigational and safety aids or other improvements in aid of international navigation; and b) for the prevention, reduction and control of pollution from ships. 23 Ibid. 24 Ibid. 25 Article 43of 1982 LOSC. In 2007, a great deal of financial and technical support from the user States has been forthcoming under Article 43 based on the arrangement made IMO and cooperation from the strait States and the user States. As known, there are two kinds of ships navigating through the Straits of Malacca, the ships that do not stop at any strait States ports (in particular in Malaysian ports) and the ships that stop at the port whereby the strait States collect port dues from those particular ships. 26 The ships that pass through the Straits of Malacca without stopping at the strait States ports have been highlighted as the "free- rider" 27 as they do not have to pay anything for the passage but the strait States are under obligation to ensure that passage is safe. This situation may have seemed unfair to the straits States because shipping statistics show that there is an increase in the number of ships navigating through the strait carrying oil and HNS cargoes as the expenditures of maintaining and upgrading the strait is burdensome when compared to the capacity of the strait states. While strait States have to set aside some finances for the safety of international navigation through their straits, it is fair to state that the international shipping community has come forward in assistance in cash or kind for the upkeep of the good order of the Straits. The trend of the "free rider" is no longer accurate as recently shown in the contribution made by the user States and stakeholders in the six (6) projects identified by the strait States through the Co-operative Mechanism in October 2009. 28 Another interpretation to alleviate the financial burden of the strait states would be, it is submitted, to interpret the term "user States" as not being confined to States per se but to include the shipping companies, cargo owners, insurance brokers and the commercial 26 Beckman, Robert, “The Role of Shipping Companies in Co-Operative Mechanisms to Enhance Navigational Safety in the Straits of Malacca and Singapore”, Symposium On The Enhancement Of Safety Of Navigation And The Environmental Protection Of The Straits Of Malacca And Singapore, (Kuala Lumpur, 13-14 March 2007). 27 7. Supra at 199. 28 However the trend of “free rider” is no longer accurate as recently shown in the contribution made by the user States and stakeholders in the six (6) projects identified by the strait States through the Co-operative Mechanism in October 2009. News taken from http://www.mpa.gov.sg/sites/global_navigation/news_center/mpa_news /mpa_news_details , 26 Mei 2010. and trading activities that use the strait. 29 Furthermore, as the term "user State" is not well defined in the 1982 LOSC, literally it does refer to States that use the strait and includes the owner of the ship who benefits from the international strait and different sets of people who at the same time benefit from the trade such as shipping companies, cargo owners and insurance brokers. According to Beckman, although the language in Article 43 is hortatory because the word "should" is used, the language when read in light of its context and purpose seems to require that user states negotiate in good faith with strait States to attempt to reach an agreement to co-operate. 30 Satya Nandan, one of the key persons responsible for drafting Part III of the 1982 LOSC, suggested that if user States refuse legitimate requests for co- operation, this may amount to an abuse of right under Article 300 of the 1982 Law of the Sea Convention as follows. 31 Good faith and abuse of rights. States Parties shall fulfill in good faith the obligations assumed under this Convention and shall exercise the rights, jurisdiction and freedoms recognized in this Convention in a manner which would not constitute an abuse of right. In addition, the

provisions on compulsory binding dispute settlement in Part XV are available to resolve any dispute between user states and strait states on the interpretation and application of Article 43. 32 29 The expansion definition of user states in Article 43 the 1982 Law of the Sea Convention has been agreed by the representatives from Japan (Nippon Foundation), Malaysia (Maritime Institute of Malaysia), Indonesia (Center for Southeast Asian Studies) and Singapore (S. Rajaratnam School Of International Studies) in the Symposium On The Enhancement Of Safety Of Navigation And The Environmental Protection Of The Straits Of Malacca And Singapore, (Kuala Lumpur 13-14 March). 30 22. Supra at 204. 31 Ibid. 32 Ibid. 4.5 ESTABLISHMENT OF A NEW COOPERATIVE MECHANISM FOR THE STRAITS In September 2005, Jakarta held a meeting (arranged by IMO) in an attempt to strengthen cooperation between strait States and user States in order to enhance safety of navigation and environmental protection in the strait. It was decided at the meeting that the strait States should identify and prioritize specific needs to ensure safety of navigation and protection of the marine environment. 33 On the other hand, the user states should respond to those scientific needs which included provisions of resources, capacity building, training and technical support. The rationale to discuss the 2007 symposium because it specifies the needs which relate to chemical pollution by ships which involved the cooperation and capacity building on HNS response centers located in Malaysia and Singapore. Nevertheless the rest of the specified needs of the strait States discussed later in this chapter are also relevant to be examined as the other five (5) identified projects is important for the securing the safety of navigation and the protection and preservation of the straits from marine pollution. The Kuala Lumpur meeting on the Straits of Malacca and Singapore in 2007 addressed the existing and evolving mechanisms of cooperation and explored modalities for future collaboration among stakeholders. The strait States had identified six (6) projects as follows: 34 a) Removal of wrecks in The Traffic Separation Scheme in the Straits of Malacca and Singapore. There are twelve (12) wrecks that have been identified; those wrecks which are buried in or near Malaysian and Singapore waters. The cost to clear the 33 7. Supra at 199. 34 Djalal, Hashim"The Role Of The Users For The Enhancement Of The Safety And The Protection Of Environment Of The Straits of Malacca And Singapore In Relation With UNCLOS 1982" Symposium On The Enhancement Of Safety Of Navigation And The Environmental Protection Of The Straits Of Malacca And Singapore, (Kuala Lumpur 13-14 March 2007). wreck is estimated at US $19,000,000. 35 It would take five (5) years to clear the wrecks. From the list of identified projects, the removal of ship wrecks is the most expensive project to be handled. b) Cooperation and capacity building on hazardous and noxious substances (HNS) preparedness and response in the Straits of Malacca and Singapore. There are six (6) proposed locations for HNS response centers in Malaysia and Singapore. The cost of the project is estimated to be US $ 3,500,000. c) Demonstration project of class B automatic identification system (AIS) 36 transponder on small ships. The cost of the project is estimated to be US $ 400,000 for about six (6) months. d) Setting up tide, current and wind measurement systems for the Straits of Malacca and Singapore to enhance navigational safety and marine environment protection; it is estimated that this project will run for four (4) years, with a review of the system at the end of the fourth year. Twelve (12) locations for the measurement system have been suggested. It is estimated that initial capital for the installation of the equipment will cost about US$ 774,400.00. The cost for the first year upon commission of shore station would be about US$ 66,000, while cost for subsequent annual maintenance up to fourth year of operation would be US$561,000. The whole cost for four (4) years is estimated to be US$1,401,400. 35 Another ship wreck of CC Hyundai 105 was found near the Traffic Separation Scheme in the Indonesian waters near Batam. 36 The Automatic Identification System (AIS) are designed to be capable of providing information about the ship to other ships and to coastal authorities automatically. Regulation 19 of SOLAS Chapter V-Carriage requirements for shipborne navigational systems and equipment-sets out navigational equipment to be carried on board ships, according to ship type. In 2000, IMO adopted a new requirement (as part of a revised new chapter V) for all ships to carry automatic identification systems(AISs) capable of providing information about the ship to other ships and to coastal authorities automatically. The regulation requires AIS to be fitted aboard all ships of 300 gross tonnage and upwards engaged on international voyages, cargo ships of 500 gross tonnage and upwards not engaged on international voyages and all passenger ships irrespective of size. The requirement became effective for all ships by 31 December 2004. Ships fitted with AIS shall maintain AIS in operation at all times except where international agreements, rules or standards provide for the protection of navigational information. The regulation requires that AIS shall: provide information-including the ship's identity, type, position, course, speed, navigational status and other safety-

related information-automatically to appropriately equipped shore stations, other ships and aircraft; receive automatically such information from similarly fitted ships; monitor and track ships; and exchange data with shore- based facilities. http://www.imo.org/Safety/mainframe.asp?topic_id=754 , 30 May 2010. e) Replacement and maintenance of aids to navigation in the Malacca and Singapore Straits. There are twenty nine (29) selected aids to navigation in the Straits of Malacca and Singapore. Most of the selected aids are in Indonesian waters. The cost of replacement and maintenance is estimated at US$ 18,225,000 and the project will take ten (10) years to complete. f) Replacement of aids to navigation damaged by the tsunami disaster of December 2004. There are seven (7) aids to navigation in the Straits of Malacca that were destroyed by the tsunami which ruptured Acheh. The cost of replacement of the aids to navigation is estimated at US$ 276,000. The total cost of these identified projects is estimated about US $42,802,400. Apart from the six (6) identified projects, a proposal for cooperation procedure was presented to promote dialogue and facilitate close cooperation between the strait States, user States, shipping industry and other stakeholders. At the meeting, China offered and declared to contribute financially to replace the navigational aids destroyed by the tsunami. 37 This means China is the second User State to contribute to improved navigational aids in the Straits of Malacca. It was agreed at the IMO meeting in Kuala Lumpur that the projects were to be sponsored by the user States based on voluntary arrangements. 38 The said meeting discussed the basic concept of sovereignty of the strait States, the realization of cooperation based on the Law of the Sea Convention 1982 and the clarification of corporate social responsibility of user industries. 39 It is a moral 37 29. Supra at 206. 38 Explanatory Note for the Symposium, " Symposium On The Enhancement Of Safety Of Navigation And The Environmental Protection Of The Straits of Malacca And Singapore, (Kuala Lumpur, 13-14 March 2007). 39 Ibid. obligation on the User State to contribute towards the maintenance, management and replacement of navigational aids because they use them. The Singapore- IMO Meeting on the Straits of Malacca and Singapore was held from 4 th to 6 th September 2007, hosted by Singapore. 40 The Singapore meeting witnessed the "Co-operative Mechanism", which consists of three components namely the Cooperation Forum, the Project Coordination Committee and the Aids to Navigation Fund. The Nippon Foundation had expressed willingness to fund up to one-third of the needs of the Fund, while the Republic of Korea and the United Arab Emirates announced their intention to contribute to the Fund. 41 The list of the Tripartite Technical Expert Group and the current status and sponsorship of each project is summarized 42 below: Project1 - Removal of wrecks in the Traffic Separation Scheme. Malaysia has identified eleven (11) critical wrecks and the next stage is a hydrographic survey (to be conducted as part of the Marine Electronic Highway project) and further risk assessment work. Project 2 - Cooperation and capacity building on Hazardous and Noxious Substance (HNS) preparedness and response. A "needs assessment" by a combined team the United States of America and China has already been completed. Australia pledged support through the provision of expertise. 40 IMO- Enhancement of Safety, Security and Environmental Protection in The Straits of Malacca and Singapore, The Singapore Shipping Association Newsletter, 6 th September 2007, 27 th February 2009,<http//72.14.235.132 /search?q=rUnZflh3xyoJ:www.ssaorg.sg/library/SSA0403001/.. 41 Ibid. 42 Ibid. Project 3 – Demonstration project of Class B AIS in small ships. Australia, Japan and Republic of Korea have all undertaken to support the project. Project 4 – Setting up tide, current and wind measurement system to enhance navigational safety and marine environmental protection. China has undertaken to complete a "need assessments" towards the end of 2007. Project 5 – Replacement and maintenance of aids to navigation in the Straits which are missing, damaged or beyond economic repair. Japan and Republic of Korea offered support. Project 6 – Replacement of aids to navigation damaged by the tsunami in December 2005. China has completed a field survey and is engaged in technical discussion with Indonesia. It has been reported that the United States of America and Japan have donated radars and patrol boats to Indonesia 43 A proposal was drawn up in a consensus document, though which is not legally binding, at the end of a symposium on the enhancement of safety of navigation and environmental protection in the Straits of Malacca and Singapore 2007. The symposium was organized by the Maritime Institute of Malaysia (MIMA), Centre for Southeast Asian Studies, S.Rajaratnam School for International Studies Nanyang University, Singapore and the Nippon Foundation of Japan. According to the Director-General of MIMA, a proposed formula for ships plying the Strait of Malacca to pay for the security of the waterway estimated at US$40 million (RM140 million) may be planned to be put into a special fund. 43 7. Supra at 199. The said RM140 million would be generated if every ship using the waterway contributed one cent per deadweight tonnage (DWT) to the proposed

Malacca Straits Fund. At present, an estimated four billion DWT transits the straits annually, which does not include the smaller tug boat. The symposium had proposed that the fund be set up to provide a channel for users to voluntarily provide financial support for maintenance and safety in the Straits of Malacca. The Director-General of MIMA added that those using the waterway should recognize their corporate social responsibility towards the promotion of navigational safety and voluntarily provide assistance to the straits States. 44 The Nippon Foundation and the Round Table of International Shipping Associations convened the International Symposium on the Safety and Protection of the Marine Environment in the Straits of Malacca and Singapore, which was held in Kuala Lumpur, Malaysia on 24 th November 2008. 45 The purpose of the Symposium was to share updated information and exchange views among the straits states, user States of the straits, along with the Nippon Foundation and the Round Table of International Shipping Associations, on the latest developments following the launch of the Cooperative Mechanism at the 2007 IMO Singapore Meeting, and to discuss the various contributions by stakeholders, including the shipping industry, under the framework of the Cooperative Mechanism to ensure safety and protection of the marine environment. 46 The symposium was a successful platform for the Cooperative mechanism. Voluntary contributions came from The Nippon Foundation that contributed US$2.5 million to the Aids of Navigation 44 Symposium On The Enhancement Of Safety Of Navigation And The Environmental Protection Of The Straits of Malacca And Singapore, (Kuala Lumpur, 13-14 March 2007). 45 The symposium was attended by 175 participants from Indonesia, Malaysia and Singapore, the International Maritime Organisation, Round Table of International Shipping Association, representatives of the maritime industry and other stakeholders. Information on joint statement is taken from Joint Statement on Safety and Protection of the Marine Environment in the Malacca Straits, The Nippon Foundation, 1 st December 2008, 27 th February 2009, <http://www.nippon-foundation.or.jp/eng/news/2008/20081201MalaccaSymposiumJointStatement.... 46 Ibid. Fund, followed by Japanese Ship owners' Association that contributed US$700,000 and the Middle East Navigational Aid Service (MENAS) that contributed US$1 million. 47 Recently, Singapore hosted the 2 nd Co-operation Forum from 14 to 15 October 2009. 48 The Co-operation Forum is part of the Co-operative Mechanism which is a key platform for the three littoral States and the international maritime community to collaborate on issues relating to the Straits. 49 The Co-operative Mechanism has been making good progress through its three pillars: the Co-operation Forum; the Straits Projects; and the Aids to Navigation Fund. Beyond the Co-operation Forum and Straits projects, Japan, the United Arab Emirates and organizations such as the Nippon Foundation, Malacca Strait Council, and the Middle East Navigation Aids Service have made significant contributions to the Aids to Navigation Fund. 50 The IMO Straits of Malacca and Singapore Trust Fund complements the Aids to Navigation Fund. 51 The current status of the six (6) projects are outlined as: 52 firstly; the removal of wrecks led by 47 The Nippon Foundation and Round Table of International Shipping Associations; Recognizing the strategic significance of the Straits for the regional and global economy and the importance of enhancing safety and protection of the marine environment in the Straits; Recognizing also the importance of the role of the IMO, the user states, the Nippon Foundation, Round Table Shipping Association and other stakeholders in cooperating with the littoral states in promoting and enhancing safety and protection of the marine environment in the straits, Commended the significant efforts of the littoral states in enhancing safety and protection of the marine environment in the straits with the launch of the Co-operative Mechanism, in particular for establishing the Fund in April 2008 and for the successful completion of the assessment survey of identified aids to navigation in the Straits in September 2008, Welcomed with appreciation the commitment of the financial contribution of US$700,000 by the Japanese Shipowners' Association, as the pioneer contributor from the members of Round Table of International Shipping Association, towards safety and protection of the marine environment in the Straits and the global economy, Welcomed also with appreciation the contribution from MENAS of US$1 million pledged for 2009 and the hope that this would become an annual donation to the Fund on behalf of international ship owners. Noted with appreciation the significant contribution of IMO and the industry associations to the development of the Marine Electronic Highway Project and its potential for enhanced safety of navigation and protection of the marine environment. Noted the significance of the initiation of the Symposium by the Nippon Foundation and Round Table of International Shipping Association and the need to continue the dialogue. Noted also the importance of voluntary contributions under the concept of Corporate Social Responsibility by all stakeholders including the shipping industry to ensure sustainable safety and protection of the marine environment in the straits. Agreed to strengthen their joint efforts to promote understanding among the

parties concerned regarding enhancing safety and protection of the marine environment in the straits. Expressed deep appreciation to Malaysia for being host country of the Symposium on behalf of the strait states. Ibid. 48 “IMO Fund raises Straits co-operation to a new high”, The Maritime and Port Authority, 26 May 2010, http://www.mpa.gov.sg/sites/global_navigation/news_center/mpa_news/mpa_news_detail . 49 Ibid. 50 Ibid. 51 Ibid. 52 Ibid. Malaysia to which India has committed providing the three littoral States at the Naval Hydrographic School in Goa in November 2009, secondly the co-operation against HNS incidents (led by Malaysia) and a joint site assessment survey conducted by the US and China on development of a HNS databank and a regional Standard Operating Procedure, whereby Australia contributed its technical expertise to develop the HNS Databank; thirdly the Automatic Identification System Class-B transponders (led by Singapore), whereby Australia and Singapore prepared the project design and implementation plan: Japan has contributed 10 transponders and Singapore acquired 20 additional transponders through the IMO Straits Trust Fund: fourthly to establish wind, tide and current measurement system (led by Singapore), China has adopted a desktop assessment study while a site assessment conducted by China and India in July 200 : fifthly the navigational aids (led by Indonesia), the Nippon Foundation has contributed US$ 1.351 million towards the ANF for the site survey for this project and the Japanese Government committed US$200,000 towards one or two navigation aids for this project; finally the replacement of navigation aids damaged by the tsunami off the Sumatran coast (led by Indonesia) which China has undertaken to replace all seven (7) navigation aids. To date the Aids to Navigation Fund receives contributions from Japan, the United Arab Emirates, the Nippon Foundation, the Middle East Navigation Aids Service and the FUND totals at US$7.326 million. 53 Indonesia, Malaysia and Singapore have concluded a Joint Technical Arrangement with IMO to institutionalize an IMO Trust Fund and the Fund receives contributions of US$1 million from Greece. 54 To sum up the recent development of the good progress of the Co-operative Mechanism was highlighted by the Singapore's Transport Minister and Second Minister for Foreign Affair's: "the challenge was to sustain interest and keep the momentum going, not 53 Ibid. 54 Ibid. only to entrench progress but also to encourage further participation and contributions from existing as well as new stakeholders". 55 The idea of user states assisting strait States is not new. History showed that user states had collaborated with the strait States in the building of The Horsburgh Lighthouse in 1851. 56 The Horsburgh Lighthouse stands at the eastern end of the Straits of Malacca and Singapore. Yohei Sasakawa, the chairman of the Nippon Foundation has offered a concept of "burden sharing for the next generation". This concept according to Yohei Sasakawa would respect the littoral States' sovereignty, realize cooperation for mutual benefit and specify the social responsibility of users of the strait. 57 Thus, the burden sharing system is based on the initiative of the strait States, with the cooperation of the user states and the contributions of the user companies. 58 In order to illustrate, the following are among the major attributes of transit passage regime as conceived by the 1982 LOSC: 59 a) the transit passage cannot be impeded or suspended by coastal States; b) no charges are to be levied on those vessels exercising the right of transit passage; c) during transit passage, aircraft and vessels are to proceed without delay and refrain from any threat or use of force against the sovereignty of States bordering the straits and that they must comply with accepted international rules, regulations and procedures for safety at sea; 55 Ibid. 56 Yohei Sasakawa, “Development Toward a New World Maritime Community”, page 4 In Symposium On The Enhancement Of Safety Of Navigation And The Environmental Protection Of The Straits Of Malacca And Singapore, 13-14 March 2007. 57 Ibid. 58 Ibid. 59 Ahmad, Hamzah ,ed., op. cit., 131. d) vessels in transit passage must respect applicable sea lanes and traffic separation schemes which have been prescribed and implemented with the approval of the IMO; e) vessel must not engage in research activities without the prior authorization of the coastal states; and f) vessels exercising transit passage are not required to notify the coastal States for passage through straits used for international navigation. The following are the transit services in international straits. 60 These services need to be implemented by the straits States: a) Provision and maintenance of visual navigational aids, including lights, buoys and marks; b) Provision and maintenance of electronic navigational aids, such as Radio Direction Finding, Loran, Decca, Consol; c) Provision and maintenance for the protection of cables and pipelines and other offshore facilities; d) Provision and maintenance of hydrographic and other navigational information, including charts, tidal and current data, sailing directions, notices to mariners, light and radio lists; e) Provision and maintenance of ship-to-shore-to-ship communications systems, including coastal radio stations, and satellite communications response systems; f) Provision and maintenance of coastal and marine meteorological services, including weather reporting stations, and weather facsimile

services; 60 Ahmad, Hamzah,ed.op.cit 225. g) Provision and maintenance of coastal and longer range search and rescue services, including medical evacuation facilities; h) Provision and maintenance of offshore security services for the interdiction of piracy, maritime terrorism, narcotic and other smuggling, fishery patrols; i) Provision and maintenance of vessel traffic services, providing active or passive vessel traffic management and information, and traffic separation system; j) Provision and maintenance of basic vessel salvage and / or emergency repair facilities, including towage services, marine pollution contingency systems and pollutant reception facilities; k) Maintenance of oil spill contingency facilities and operation. One of the significant initiatives taken in the early seventies was the formation of the Tripartite Technical Experts Group (TTEG) on the safety of navigation in the Straits of Malacca and Singapore. 61 The TTEG comprises technical officials from the three strait States and discussions were aimed at enhancing the safety of navigation in the Straits. 62 The subjects of discussions covered by the TTEG include routeing of ships, hydrographic surveys of the straits, aids to navigation, production of up-to-date navigational charts and verification of wrecks and shoals and their removal or marking as necessary. 63 One of the significant achievements was the adoption in 1977 by the IMO of a vessel routeing system in the Straits of Malacca and Singapore proposed by the TTEG to enhance safety of navigation in the Straits. 64 The vessel routeing system in the straits consists of Traffic Separation Schemes, Deep Water Routes and Rules for Vessels Navigating through the 61 Singapore, Maritime and Port Authority of Singapore, Prevention Measures In The South East Asian Region, 200, 6 th March 2009 and <http://209.85.175.132 /search?q=cache:LKywXrQluEMJ:www.aip.com.au/amosc/papers/che.. 62 Ibid. 63 Singapore, Maritime and Port Authority of Singapore, Prevention Measures In The South East Asian Region, 200, 6 th March 2009 and <http://209.85.175.132/search?q=cache:LKywXrQluEMJ:www.aip.com.au/amosc/papers/che.. 64 Ibid. Straits. 65 The routeing system is very important for vessels in order to ensure the two straits remain safe and open to international shipping and also to minimize oil pollution arising from maritime incidents. 66 A large number of big tankers used to navigate through the two straits. Geographically, the routeing system covers the main area used by shipping traffic from One Fathom Bank in the Malacca Strait at one end to the vicinity of Horsburgh Lighthouse in the Singapore Strait at the other. 67 The number of ships reporting to the Ship Reporting System (STRAITEP) 68 in the straits increased from 43,965 in 2000 to 62,621 in 2005. The size of the ship traversing the straits has also increased. Malaysia has taken steps to ensure the safety and security of ships in navigating the straits. In order to be secure, the vessels should be safe in terms of design, construction, equipment, maintenance and operation. The said vessels need to follow the following regulations: i). the International Convention on the Safety of Life at Sea (SOLAS) 1974; ii). the International Regulations for Preventing Collisions at Sea (COLREGS) 1972; iii). the International Convention on the Standards of Training, Certification and Watch keeping for Seafarers (STCW) 1978; and iv). the Convention on the International Satellite Organization (INMARSAT) and its Operating Agreement 1976. 65 Ibid. 66 Malacca Strait Council (MSC) has been formed since 1968 and it’s objective to promote the improvement of safety of navigation in the Strait of Malacca and Singapore. MSC has taken part in joint tidal and current studies, installation of aids to navigation, removal of shoals and wrecks and joint hydrographic survey in the straits. 67 Id at 2. 68 STRAITREP is a mandatory reporting system under which the statistics of ships traversing between the Vessel Traffic System (VTS) centers established in Port Klang and Tanjung Piai along the Malaysian coast bordering the Straits of Malacca are captured. Malaysia has been one of the biggest investors in enhancing the safety and security of navigation through the strait. Malaysia has installed the Sea Surveillance System (SSS), Vessel Traffic Monitoring System (VTS), the Electronic Chart Display System (ECDIS) and the Automatic Identification System (AIS). 69 "Eyes in the sky" is the joint air surveillance operation carried out by the strait states and Thailand. 70 The form of MALSINDO is coordinating patrol by the navies in the straits states. 71 The implementation of MALSINDO which is a coordinated patrol scheme involving the navies of Singapore, Malaysia and Indonesia. 72 The trilateral initiative, launched in July 2004, is a joint special task force by the littoral states to safeguard the Straits and provide effective policing along the waterway. 73 Malaysia has launched a new maritime law enforcement agency called Maritime Enforcement Agency (MMEA) or coast guard. The Maritime Enforcement Coordination Center controlled the maritime enforcement agencies such as the Marine Police 74 , The Customs and Excise Department and Fisheries Department. It is expected that Malaysia's maritime enforcement will better co-ordinate and more effective with the formation of MMEA. 75 The Malaysian Maritime Enforcement Agency (MMEA) which was established in May 2004 with the enactment of the

MMEA's Act (633) is the principal government agency tasked with maintaining law and order and coordinating search and rescue 69 From 1990 to 2000, Malaysia spent more than RM200 million to install and maintain navigational safety. In the year 1984 till 1993, Malaysia spent RM75 million. The amount spent by Malaysia taken from Sharing The Burden Of Maintenance Of Safety And Security of NavigationintheStraitofMalacca,Yassin,MatTaib,21March2009<http://72.14.235.132 /search?q=cache:voLK_J_ToVkJ:www.mima.gov. my/mima/htmls/con.. 70 Abdul Razak, Najib, “KeyNote Address” Symposium On The Enhancement Of Safety Of Navigation And The Environmental Protection Of The Straits of Malacca and Singapore” (Kuala Lumpur, 13-14 March 2007). 71 JapanFocus, Nazery Khalid, Security in the Straits of Malacca, 29 May 2010http://www.japanfocus.org. 72 Ibid. 73 MALSINDO complements several previous bilateral coordinated patrols conducted between littoral states. It entails the coordination of patrols by a littoral state in its jurisdictionand sovereignty area with patrols by a littoral state in its jurisdiction and sovereignty area with patrol partners in other areas, with the command centered in the respective countries. Ibid. 74 Effective from 6 th February 2009, the term Marine Police has been changed to Marine Action Force. (Pasukan Gerakan Marin),_, “Polis Marin kini Pasukan Gerakan Marin”, Utusan Malaysia, 7 Februari 2009. 75 Malaysia allocated RM 500 million to form MMEA. operations in the Malaysian Maritime Zone and on the high seas. 76 The Act provides the MMEA to enforce all federal laws at sea including the Environmental Quality Act 1974 (EQA 1974) namely to control and prevent marine pollution. 77 Singapore has taken several measures to protect the marine environment. Singapore has implemented Mandatory Ship Reporting in the Straits since December 1998. 78 Beside that they employ state-of the-art technology such as a radar-based Vessel Traffic Information System. 79 Singapore has launched its Electronic Navigational Charts (ENC) and implemented the Differential Global Positioning System (DGPS) in the Singapore Strait. 80 When ships have installed the Electronic Chart Display and Information System (ECDIS), shipmasters can know their ship's positions accurately at a glance and be pre-warned of any close-quarter situation if these ships are also fitted with anti-collision warning systems. 81 4.6 JAPANESE CONTRIBUTIONS Besides, Malaysia, Singapore and Indonesia, only Japan as one of the user state has contributed financially and technically towards the management of the Strait of Malacca. For improving the safety of navigation, Japan has promoted two major policies, port state control and a scrapping policy for substandard ships. 82 In April 1994, Japan has established a system of cooperation for port state control in the Asia- Pacific Region. 83 One of the objectives of "The Tokyo Memorandum of Understanding on Port State Control in the 76 Environment Asia, Sutarji Kasmin, www.tshe.org/EA,16 April 2010, <http://webcache.googleusercontent.com/search?q>. 77 Ibid. 78 Chen, Tze Penn, Prevention Measures In The South East Asian Region”, Maritime and Port Authority of Singapore, 21 st April 2007. 79 38. Supra at 214. 80 Ibid. 81 Ibid. 82 Ahmad, Hamzah, , ed., op. cit., 241. 83 Ibid. Asia- Pacific Region" is to attain an annual inspection rate of 50 percent of the total number of ships operating in the region by the year 2000. 84 4.6.1 Port State Control under the Tokyo MOU, 2009 Port state control regime is vital as it relates to the condition of ships, protection from HNS pollution and many others for the safety of navigation. The Memorandum was concluded in Tokyo on 1 December 1993. 85 The main objective of the memorandum is to establish an effective port State control regime in the Asia-Pacific region through co- operation of its members and harmonization of their activities, to eliminate substandard shipping so as to promote maritime safety, to protect the marine environment and to safeguard working and living conditions on board ships. Inspections of Port State Control were originally intended to be a back up to flag State implementation, but experience has shown that they can be extremely effective, especially if organized on a regional basis. 86 IMO has encouraged the establishment of regional port State control organizations and agreements on Port State Control, The Memorandum of Understanding have been signed for Asia and the Pacific (Tokyo MoU). 87 There are eighteen (18) authorities who have adhered to the Tokyo MOU; Malaysia (implementation through the Marine Department), Indonesia (implementation through the Transportation Department) and Singapore (implementation through the Maritime and Port Authority) are parties to Tokyo MOU. For the purpose of the Memorandum, the following instruments are the basis for port State control activities in the region: i) the International Convention on Load Lines, 1996; 84 Ibid. 85 http://www.tokyo-mou.org /ANN09.pdf, 19 June 2010, 5 pm. 86 Port State Control, http://www.imo.org/Safety /mainframe.asp?topic_id=159, 19June 2010, 3 pm. 87 Ibid. ii) the Protocol of 1988 relating to the International Convention on Load Lines, 1966, as amended; iii) iv) the International Convention for the Safety of Life at Sea, 1974, as amended; the Protocol of 1978 relating to the International Convention for

the Safety of Life at Sea, 1974; v) the International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 relating thereto, as amended; vi) the International Convention on Standards for Training, Certification and Watchkeeping for Seafarers, 1978, as amended; vii) the Convention on the International Regulations for Preventing Collisions at Sea, 1972 viii) the International Convention on Tonnage Measurement of Ships,1969 ix) the Merchant Shipping (Minimum Standards) Convention, 1976 (ILO Convention Number 147); and x) the International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001. Figure 4.1 Inspection Percentage 2009 Source: http://www.tokyo-mou.org/ANN09.pdf Figure 4.2 Port State Inspections – Contribution by Authorities 2009 Source: http://www.tokyo-mou.org/ANN09.pdf Figure 4.3 Type of Ship Inspected 2009 Source: http://www.tokyo-mou.org/ANN09.pdf Figure 4.4 Detentions per Flag 2009 Source: http://www.tokyo-mou.org /ANN09.pdf Figure 4.5 Detention per Ship Type 2009 Source: http://www.tokyo-mou.org/ANN09.pdf Figure 4.6 Defiencies by Main Categories 2009 Source: http://www.tokyo-mou.org/ANN09.pdf Figure 4.7 Most Frequent Detainable Deficiencies 2009 Source: http://www.tokyo-mou.org/ANN09.pdf 4.6.2 Analysis of inspection of Port State Control under the Tokyo MOU, 2009 Figure 1 to figure 6 as pictured above are taken from the analyse conducted by Port State Control under the Tokyo MOU, 2009. In 2009, 23,116 inspections, involving 13,298 individual ships, were carried out on ships registered under 102 flags (see figure 1). 88 Figure 2 shows the number of inspections carried out by the member Authorities of the Tokyo MOU. Out of 23,116 inspections, there were 15,422 inspections where ships were found with deficiencies. Since the total number of individual ships operating in the region was estimated at 21,827, the inspection rate in the region was approximately 61% in 2009 (see figure 1). 89 Although both the number of inspections and the number ships inspected have increased, the inspection rate has dropped due to 88 http://www.tokyo-mou.org/ANN09.pdf, 23 June 2010, 5 pm. 89 Ibid. the big increase in the number of individual ships in the region. Information on inspections according to ships' flag is shown in table 3. 90 Figures summarizing inspections according to ship type are set out in Figure 3 and Table 4. 91 Figure 4 shows the detention rate by flag that had at least 20 port State inspections and whose detention rate was above the average regional rate. 92 The detention rate of ships inspected was 5.78%. 93 Figure 5 gives the detention rate by ship type. Ships are detained when the condition of the ship or its crew does not correspond substantially with the applicable conventions. 94 Such strong action is to ensure that the ship will not sail until it can proceed to sea without presenting a danger to the ship or persons on board, or without presenting an unreasonable threat of harm to the marine environment. 95 Figure 5 shows that general dry cargo ship detained is 9.05%, bulk carrier ship detained is 5.65%, gas carrier detained is 4.08%, chemical tanker detained is 3.58%, oil tanker ship/combination carrier is 2.70% and ro-ro ship is 2.23%. These are ships carrying HNS cargoes. In 2009, 1,336 ships registered under 58 flags were detained because of serious deficiencies found onboard. 96 The deficiencies found are categorized and shown in Figure 6. It has been noted that fire safety measures, life-saving appliances and safety of navigation are the three major categories of deficiencies which are frequently discovered on ships. Figure 7 shows the most frequent detainable deficiencies found during inspections. 97 Based on the figures, the Port State Control under Tokyo MOU, 90 Ibid. 91 Ibid. 92 Ibid. 93 Ibid. 94 Ibid. 95 Ibid. 96 Ibid. 97 http://www.tokyo-mou.org /ANN09.pdf ,23 Jun 2010, 5 pm. 202 2009 is an important tool to Malaysia, Indonesia and Singapore, the requirement to inspect ships and the crews that are unseaworthy, as this measure would mitigate and protect the marine environment along the Straits of Malacca from HNS pollution. Since 1978 Japan has adopted a policy of granting subsidies to ship breaking yards which undertake scrapping of superannuated ships in proportion to the amount of scrapped tonnage. 98 As one of the major users of the Strait of Malacca, Japan has provided technical assistance and funding to carry out hydrographic survey from 1968 to 1978. 99 The hydrographic survey was conducted by The Malacca Strait Council (The Council), the Japan International Co-operation Agency (JICA) and the governments of the three littoral states. The hydrographic survey has resulted in "Common Datum Charts" which were produced by using satellite and replaced two different charts produced by the British and the Dutch hydrographic authorities. The Council and JICA have carried out hydrographic survey from 1976 to 1979 and have produced tide tables and tidal current charts. Apart from that the Council has removed four shipwrecks between 1972 and 1978. In 1979 to 1981 the Council has dredged some shoals off the port of Singapore. The Council has installed thirty nine (39) aids to navigation at twenty nine (29) points in the Straits area between 1969 and 1988 in order to promote safety of navigation and prevention of disaster in the straits area. The council has donated to the

government of Malaysia a buoy tender vessel which is used for hydrographic survey, 98 Ibid. 99 Ibid. fire-fighting and oil boom deployment. Japan recently handed over a training ship to the Malaysian Maritime Enforcement Agency. 100 The Maritime Safety Agency of Japan is providing information to Ocean-Going Vessels on vessel traffic safety since 1976 in the NAVAREA XI area which covers the straits. 101 Japan has also extended support to the IMO-led Marine Electronic Highway (MEH) project. MEH is an innovative marine information and infrastructure system that integrates environmental management and protection systems and maritime safety technologies. 102 Japan's Coast Guard, the Ship and Ocean Foundation, the Japanese Association of Maritime Safety, and Japan International Cooperation Agency have contributed to the Japanese government's efforts in enhancing the safety of navigation and protection of the marine environment. 4.7 VOLUNTARY CONTRIBUTIONS FROM SHIPPING COMPANIES Precedents exist for the payment of voluntary contributions from the shipping industry to maintain aids to navigation. 103 The example of a shipping company that contributed to navigational aids is MENAS (the Middle East Navigational Aids Service). 104 It is a nonprofit charity registered in the UK. MENAS maintains all of the aids to navigation in the Middle East for all the Gulf Arab States. The board consists of government representatives and shipping company executives. Its major revenues in the past were 100 “User straits but help pay for security”, New Straits Times, 14 March 2007, 5. 101 Ibid. 102 Marine Electronic Highway (MEH) is funded by the World Bank, the cost to develop MEH is estimated at US$17 million.It aims to enhance maritime services, to improve navigational safety standards, integrate marine environment protection and to promote sustainable development of coastal and marine resources. 103 Ibid. 104 Ibid. voluntary contributions from ships calling at ports in the Gulf, collected from their shipping agents. 105 Normally the shipping company will make demands after contributing to aids to navigation in the Straits of Malacca and Singapore. First, the shipping company will ask as many shipping companies as possible to contribute if they transit the Straits. 106 Second, they will want assurance that their contributions to the Fund are used exclusively for projects that are essential to improving navigational safety. 107 Third, they will advise on how the fund to which they are voluntarily contributing is being managed. 108 Fourth, they will insist that a mechanism be established to ensure that the strait states receive input from the shipping industry on how they can best cooperate to improve navigational safety in the Straits. 109 Fifth, the companies will insist that a mechanism be established to ensure that the strait states receive input from the shipping industry on how to improve



companies engage in CSR, some companies may want the managers of the Fund to find ways and means of formally recognizing the companies for their voluntary contributions. 110 The shipping industry is concerned that the establishment of a system for voluntary contributions to improve the safety of navigation in the Straits of Malacca will establish a precedent that will be followed in many other parts of the world for other straits. 111 One method in dealing with the fear of establishing a precedent is to have the funding mechanism for the Straits of Malacca and Singapore established pursuant to an agreement 105 Ibid. 106 Ibid 107 Ibid. 108 Ibid. 109 22. Supra at 204. 110 Ibid. 111 Ibid. under article 43 and followed by a formal endorsement by the IMO and the major shipping organizations. 112 The strait States have been paying and spending a lot of money and effort to promote safety of navigation and to protect the marine environment. They have taken steps to move their level of cooperation to a new level and to establish mechanisms for cooperation with user states pursuant to Article 43, the 1982 LOSC. These changing patterns are set out in the 2005 Batam Joint Statement, the 2005 Jakarta Statement and the 2006 KL Statement. The establishment of a system for voluntary contributions can be seen by; first – Project 5, Replacement and Maintenance of Aids to Navigation in the Straits of Malacca and Singapore. This project was one of the six (6) projects presented by the strait states at Kuala Lumpur. Second, it has been agreed in the Kuala Lumpur Statement that the shipping industry and other stakeholders should cooperate with the strait States and user States towards the establishment of a mechanism for funding the above projects and the maintenance and renewal of aids to navigation in the Straits. Third, in the Kuala Lumpur Statement, it was agreed that there was a need to establish cooperative mechanism to promote dialogue and facilitate close cooperation between the straits States, user States, shipping industry and other stakeholders on safety of navigation and environmental protection. Steps taken by the straits States in order to attract participation by the

international community are as follows: 113 112 Ibid. (i) agreeing on the mechanism for collecting and disbursing the funds collected for services rendered; (ii) ensuring commitment amongst them to maintain and improve the quality and quantity of navigational aids in the Straits of Malacca; (iii) treating the funds to be collected (from users) or donations from countries or agencies as "above and beyond" what is already collected or donated; (iv) consulting the IMO and other competent organizations on any initiative to introduce charges for services in the Straits; (v) treating the revenue collection on a "cost recovery" basis or an equitable compensatory mechanism as well as insurance policy, as opposed to profit making; (vi) imposing charges that are consistent with international practice and applicable on a non-discriminatory form and (vii) consulting with the stakeholders to hear their views. There are several ways on contributing towards the expenses between straits States and user States for HNS management. The following are the options of models suggested to form burden sharing between straits States and user States: Option 1 is a bilateral arrangement which is an arrangement between the strait States concerned and the donors. The donors can either be any states, international organizations, 113 Sharing The Burden Of Maintenance Of Safety And Security Navigation In The Straits Of Malacca, Yasin, Mat Taib, 21 ST March 2009<http://72.14.235.132 /search?q+cache:voLK_j_ToVkJ http://www.mima.gov.my/mima/htmls/con...> private companies or corporations. The management of the contribution or assistances would be between the strait States and the donor. 114 Option 2, setting up a new Straits of Malacca International Revolving Fund. This fund is based on user pays principle, modeled on the current Revolving Fund to combat oil spill. The contributions would come from the strait States and other strait States users including non-governmental parties. The amount of payment for vessels could either be based on their gross-tonnage, percentage value of their commodities transshipped through the straits. While the volume can be determined using data such as Lloyd's Register on the origin and destination of vessel and cargo, some of the principles used in MARPOL 73/78 to classify the hazardous level of cargoes may also be referred to. 115 Option 3 is by creating a Fund similar to the present Revolving Fund. The three straits States co-operate and manage with the donor. The present Revolving Fund is to tackle the problems related to oil spillage. However the scope of the Revolving Fund should be widened to include the spillage of HNS. In other words the agreement between the Malacca Strait Council of Japan needs to be reviewed and expanded from mitigating oil to HNS spillage. It would be suggested that the Revolving Fund should deal with oil and HNS pollution (marine pollution) but to separate it from the safety of navigation. 116 There is a need to have a permanent secretariat to manage the collection and disbursement of the fund. The secretariat would comprise the three nations Tripartite Technical Expert Group that 114 Indonesia prefers this kind of arrangement as stated by Prof. Dr. Hasjim Djalal, the Director, Center for Southeast Asian Studies at the Symposium on the Enhancement of Safety of Navigation and Environmental Protection of the Straits of Malacca and Singapore on the 13-14 th March 2007. 115 Sharing The Burden Of Maintenance Of Safety And Security Navigation In The Straits Of Malacca, Yasin, Mat Taib,21 ST March 2009<http://72.14.235.132/search?q+cache:voLK_j_ToVkJ:www.mima.gov.my /mima/htmls/con....> 116 Malaysia prefers this kind of arrangement as stated by YAB Dato' Sri Mohd Najib bin Tun Haji Abdul Razak, Deputy of Prime Minister in keynote address at the Symposium on the Enhancement of Safety of Navigation and Environmental Protection of the Straits of Malacca and Singapore on the 13-14 th March 2007. coordinates safety of navigation issues in the Straits of Malacca. It is important for contributors to be presented together with the coordinators. 4.8 CORPORATE SOCIAL RESPONSIBILITY IN HNS SHIPPING One of the reasons that private companies should contribute to the strait states is the application of the concept of corporate social responsibility (CSR). The corporate social responsibility is a concept that suggests private companies have a duty of care in all aspects of their business operations to all of their stakeholders including members of community where their activities may affect the local environment or economy. 117 Companies are encouraged to make decisions based not only on financial and economic factors but also on the social and environmental consequences of their activities. 118 The concept of corporate social responsibility has been an important trend in international business over the last 25 years. 119 The commitment to incorporate corporate social responsibility brings a "triple bottom line" reporting, which means expanding the traditional company reporting framework to take into account environmental and social performance in addition to financial performance. 120 The concept of CSR is also related to the United Nations Global Compact 121 which is an initiative to encourage businesses worldwide to adopt sustainable and socially responsible policies and to report on them. 122 CSR has been particularly popular in Europe whereby European leaders and governments challenged business alliances

and stakeholders 117 22. Supra at 204. 118 Ibid. 119 Ibid. 120 Ibid. 121 22. Supra at 204. 122 22. Supra at 204. to mainstream CSR in business practice and policy making. 123 Among the first companies in Japan to participate in the United Nations Global Compact was Mitsui OSK Lines. 124 CSR is a key to promote more effective corporate governance, a strengthened compliance system, safer navigation and environmental protection. 125 The following statement was made by the Secretary-General of the IMO regarding "environmental credentials" of the shipping industry in IMO News, Issue 4, 2006: 126 "In the world of global business today, it is not unusual to find major commercial companies freely embracing the notion that good environmental and social stewardship actually make good business sense. And shipping is no different from any other industry in that, both collectively and individually, ship-owners and operators need to protect their brand image. Indeed, in almost every sphere of shipping…one can discern a growing awareness of society's broader concerns….Commercial success may remain paramount, but the wise are increasingly realizing that they may need to explore new roads to achieve it." Some shipping companies have been searching for ways to improve the image and reputation of the industry in general and the brand of their company in particular. 127 One way for ship-owners and operators to improve their branding and image is to adopt the concept of corporate social responsibility towards the safety of navigation in vitally important straits used for international navigation. 128 If ship-owners and operators made 123 Ibid. 124 Ibid. 125 Ibid. 126 Ibid. 127 Ibid. 128 22. Supra at 204. voluntary contributions to a fund established to maintain and replace aids to navigation in the Straits, it could improve their image significantly. 129 4.9 REGIONAL PLANNING AND COOPERATION THAT SHOULD BE TAKEN INTO ACCOUNT BY THE THREE STRAIT STATES OF MALAYSIA, INDONESIA AND SINGAPORE Bateman opined that good order at sea ensures the safety and security of shipping and permits countries to pursue their maritime interests and develop their marine resources in accordance with agreed principles of international law. 130 A lack of good order at sea is evident if there is illegal activity at sea or inadequate arrangements for the safety and security of shipping. 131 Threats to good order at sea include piracy and armed robbery against ships, maritime terrorism, illicit trafficking in drugs and arms, people smuggling, pollution, illegal fishing and marine natural hazards. 132 Regional cooperation is fundamental to the maintenance of good order at sea, but at present is underdeveloped in Southeast Asia. 133 According to Bateman, the lack of good order at sea is due to several factors such as difficulties arise in combating illegal activity at sea due to inadequate resources, ineffective national legislation, poor coordination between national agencies and a shortage of trained personnel. 134 The lack of maritime boundaries in the Southeast Asia is problematic and further complicates the situation. 135 This is largely due to the geography of the region, with its 129 Ibid. 130 Bateman Sam, Ho Joshua, Chan Jane, “Good Order At Sea In Southeast Asia” S. Rajaratnam School Of International Studies, Nanyang Technological University, Policy Paper 2009. 131 Ibid. 132 Ibid. 133 Ibid. 134 Ibid. 135 Ibid. concave areas of coast, numerous islands and longstanding sovereignty claims. 136 Many boundaries (or at least their end points or "turning points") require agreement of three, or even more, countries. 137 Furthermore, maritime boundaries cannot be agreed until sovereignty over islands and other features has been established. 138 The area that needs to be resolved is at the northern end of the Straits of Malacca where there is no Exclusive Economic Zone boundary between Malaysia and Indonesia. 139 The unresolved area is related to the research because it is located in the transit passage and the possibility of the HNS incident occurring at the northern side of the Straits of Malacca. The bottom line is that the preservation and protection of this environment, the conservation of species and the exploitation of its resources is seriously complicated by conflicting and overlapping claims to maritime jurisdiction and the lack of agreed maritime boundaries. 140 4.10 COST-BENEFIT ANALYSIS AND GUIDELINES FOR MARITIME COOPERATION IN ENCLOSED AND SEMI-ENCLOSED SEAS AND SIMILAR SEA AREAS OF THE ASIA PACIFIC A research on cost-benefit analysis or cost benefit of assessment is done by the Japan International Transport Institute (JITI) on "A Study of Evaluation of Navigation Safety in the Straits of Malacca and Singapore". 141 The purpose of the said research is to evaluate the cost–benefit assessment 142 of the project for removal of wrecks 143 , replacement and 136 Ibid. 137 Ibid. 138 Bateman Sam, Ho Joshua, Chan Jane, “Good Order At Sea In Southeast Asia” S.Rajaratnam School Of International Studies, Nanyang Technological University, Policy Paper, 2009. 139 Ibid. 140 Ibid. 141 Tomoyasu Izaki, “A Study of Evaluation of Navigation Safety at the Straits of Malacca & Singapore”, Symposium On The Enhancement Of Safety Of Navigation And The Environmental Protection Of The Straits Of Malacca And Singapore, (Kuala Lumpur,13-14 March 2007). 142 The methods of this cost-benefit analysis are established and generally

used by the Japanese government in examination of habor infrastructure improvement schemes. 143 Based on “Project 1 “ of IMO-KL Meeting. maintenance of aids to navigation 144 , dredging of shallows 145 and to replace deep- water lane to shallow water lane. 146 The importance of this research is to estimate the traffic values of the Straits of Malacca and Singapore in the future (in the year 2010 & 2020) and evaluation of objective and quantitative effects of each project. 147 The research done by JITI revealed that the future traffic volume in the Straits of Malacca will be increased roughly by 50% in 2020. 148 Therefore, the difficulty of navigation will be increased due to the congested traffic volume. In other words, the number of vessels which includes vessel carrying HNS will increase too by 2020. 149 The Guidelines are a set of fundamental, non-binding principles to guide maritime cooperation in the enclosed and semi-enclosed seas of the region and to help develop a common understanding and approach to maritime issues in the region. 150 This document puts forward the proposed Guidelines for Maritime Cooperation in Enclosed and Semi-Enclosed Seas and Similar Seas Areas of the Asia Pacific. 151 The related provisions as stated in Part IX, Article 122 152 of the 1982 LOSC defined "enclosed or semi-enclosed" seas to mean a gulf, basin or sea surrounded by two or more States and connected to another sea or the ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal States. 153 States bordering an enclosed or semi-enclosed sea should co-operate with each other in the 144 Based on “Project 5” of IMO-KL Meeting. 145 Selected 2 preferential shallows prioritized by Japanese Captain Association (JCA). 146 Suggested by Japanese Captain Association ( JCA). 147 Tomoyasu Izaki, “A Study of Evaluation of Navigation Safety at the Straits of Malacca & Singapore”, Symposium On The Enhancement Of Safety Of Navigation And The Environmental Protection Of The Straits Of Malacca And Singapore, (Kuala Lumpur,13-14 March 2007). 148 Ibid. 149 Ibid. 150 Bateman Sam, Ho Joshua, Chan Jane, “Good Order At Sea In Southeast Asia” S. Rajaratnam School Of International Studies, Nanyang Technological University, Policy Paper, 2009. 151 Ibid. 152 Article 122 of 1982 Law of the Sea Convention. 153 Bateman Sam, Ho Joshua, Chan Jane, loc. cit. exercise of their rights and in the performance of their duties under this Convention. To this end they shall endeavour, directly or through an appropriate regional organization: 154 a) to co-ordinate the management, conservation, exploration and exploitation of the living resources of the sea; b) to co-ordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment; c) to co-ordinate their scientific research policies and undertake where appropriate joint programmes of scientific research in the area; d) to invite, as appropriate, other interested States or international organizations to co- operate with them in furtherance of the provisions of this article. Bateman opined that this provision is a strong obligation whereby the States bordering an enclosed or semi-enclosed sea are required to cooperate though not adequate at the moment because largely the existence of sovereignty disputes and overlapping boundary claims that inhibit the process of cooperation and a perception that cooperation involves some giving up of sovereignty. 155 The importance of these Guidelines flows from the nature and complexity of the regional geographical environment, the significance of maritime issues in the region and the propensity for illegal activities and disputes to occur at sea. 156 Maritime cooperation in the enclosed and semi-enclosed seas will contribute to regional stability by easing tensions and reducing the risks of conflict 157 . The purposes of the guidelines are: 158 154 Article 123 of 1982 Law of the Sea Convention. 155 Bateman Sam, Ho Joshua, Chan Jane, “Good Order At Sea In Southeast Asia” S. Rajaratnam School of International Studies, Nanyang Technological University, Policy Paper, 2009. 156 Ibid. 157 Ibid. 158 Ibid. a) they should serve as a basis for preventive diplomacy, constituting an important regional confidence-building measure that lays down general principles for regional maritime cooperation in line with the ASEAN Regional Forum's long term objective of becoming a mechanism for conflict prevention. They should serve to encourage cooperation, particularly in enclosed or semi-enclosed seas with overlapping claims to maritime jurisdiction; b) they serve as a step in the process of enhancing ocean governance in the Asia Pacific region based on UNCLOS and the notion of integrated management of oceans issues; c) The Guidelines should help promote a stable maritime regime in the region with free and uninterrupted flow of seaborne trade and nations able to pursue their maritime interests and manage their marine resources in an ecological sustainable manner in accordance with agreed principles of international law. However the proposed guidelines are non-binding in nature, as they set down broad principles of cooperative behavior and do not create legally binding obligations between States, the guidelines are framed in exhortatory rather than obligatory language. 159 Finally, Bateman recommended that these guidelines should be endorsed by the Asean Regional Forum. 160

4.11 PILOTAGE SERVICES IN THE STRAITS OF MALACCA The 33 rd Tripartite Technical Experts Group (TTEG) meeting was held in Kuching, Sarawak. The meeting was attended by Malaysia, Indonesia and Singapore, the 159 National Plan Operations Group, National Marine Chemical Spill Contingency Plan (ChemPlan), 30 May 2010, March 2010, http://www.amsa.gov.au/Publications/CHEMPLAN/Chemplan.pdf. 160 Ibid. International Maritime Organisation and representatives from China, Korea, Japan, Malacca Strait Council and The Nippon Maritime Centre. In the meeting, a representative from Indonesia proposed the implementation of a Voluntary Pilotage Services for the Straits of Malacca and Singapore. 161 It is crucial for the government of Malaysia to organize pilotage services as the Strait of Malacca is peculiar in nature and one of the busiest waterways in the world. The ships which carry HNS in particular should be required to have pilotage whether the ships stop or otherwise transit within the Straits of Malacca. The importance of employing qualified pilots in approaches to ports and other areas where specialized local knowledge is required was formally recognized by IMO in 1968, when the Organization adopted Assembly resolution A.159(ES IV) Recommendation on Pilotage. 162 Pilot 163 is defined as person who is qualified to assist the master of a ship to navigate when entering or leaving a port. Pilotage 164 is defined as the act, carried out by a pilot, of assisting the master of a ship in navigation when entering or leaving a port or in confined waters. The pilot is a qualified person, usually an experienced mariner familiar with the particular port or place. The term pilotage is also sometimes used to mean pilotage dues or pilotage charges. These are paid for by the ship owner for the services of a pilot, and normally charged on the basis of a lump sum on a scale depending on the gross tonnage of the ship, or an amount per 100 gross ton. Pilots with local knowledge have been employed on board ships for centuries to guide vessels into or out of port safely or wherever navigation is considered hazardous, particularly when a shipmaster is unfamiliar with the area. 165 One of the problems 161 The 33 rd TTEG Meeting and The 2 nd ANF Meeting, Raymond, Indonesian Marine Safety Navigation. 4 th November 2008, Government of Malaysia, 27 th February 2007<http://www.indomarinav.com/news_detail.php?id_news=10&. 162 Pilotage,11 th November 2008<http://www.imo.org/Safety/mainframe.asp?topic_id=678 . 163 Brodie, Peter, Dictionary Of Shipping Terms, 5 TH ed., (London: Informa Law,2007), at 185. 164 Ibid. 165 Pilotage,11 th November 2008<http://www.imo.org/Safety/mainframe.asp?topic_id=678 encountered by pilots is that getting on board the ship-particularly when the weather is bad or the ship is very large. 166 Requirements to make this easier are contained in Chapter V of the SOLAS Convention, and have also formed the subject-matter of IMO resolutions covering performance standards for mechanical pilot hoists (A. 275(VIII); arrangements for embarking and disembarking pilots in very large ships (A.426(XI); and pilot transfer arrangements (A.667(16)). The IMO has also adopted Recommendations on pilot transfer arrangements (resolution A. 889(21) and approved MSC/Circ.568/Rev.1: Required Boarding Arrangement for Pilots. 167 There are IMO Resolutions encouraging the use of pilots on board ships in certain areas which are in particular related or directly related to HNS and the resolution which fits with the Straits of Malacca are as follows are as follows: 168 (i) Resolution A.480 (IX) (adopted in 1975) recommends the use of qualified deep-sea pilots in the Baltic and Resolution A.620(15) (adopted 1987) recommends that ships with a draught of 13 metres or more should use the pilotage services established by coastal States in the entrances to the Baltic Sea; (ii) A.579(14) (adopted 1985) recommends that certain oil tankers, all chemical carriers and gas carriers and ships carrying radioactive materials using the Sound (which separates Sweden and Denmark) should use pilotage services; (iii) A.710(17) (adopted 1991) recommends ships of over 70 metres in length and all loaded oil tankers, chemical tankers or liquefied gas carriers, 166 Ibid. 167 Ibid. 168 Ibid. irrespective of size, in the area of the Torres Strait and Great North East Channel, off Australia, to use pilotage services. 4.12 THE AUSTRALIAN MODEL 4.12.1 Australian Maritime Safety Authority-National Marine Chemical Spill Contingency Spill (ChemPlan) The National Marine Chemical Spill Contingency Spill (ChemPlan) has been developed in response to the obligations set out in article 4 of the 2000 Protocol on Preparedness, Response and Cooperation to Pollution Incidents by Hazardous and Noxious Substances (OPRC-HNS Protocol). 169 Australia is a party to the OPRC-HNS Protocol in June 2007. 170 The geographical area covered by ChemPlan includes all Australian Territorial Seas, including those offshore islands and territories, Australia's Exclusive Economic Zone, and the High Seas where a chemical spill has the potential to impact on Australian interests which includes Australian Antarctic Territory. The aim of ChemPlan is to outline the national arrangements for responding to chemical spills in the marine environment, with the aim of protecting public health and the marine environment from chemical pollution or, where this is not possible, to minimize

its effects. 171 ChemPlan coordinates the provision of national and international support for responding to marine chemical spills that have the potential to impact on any of Australia's interests, including those of a health, environmental, resource or economic nature. ChemPlan relates primarily to incidents involving the release and or spilling of chemicals from a ship's bulk chemical cargoes, container 169 NATIONAL MARINE CHEMICAL SPILL CONTIGENCY PLAN (ChemPlan), Australia's National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances, March 2010. 170 Ibid. 171 Ibid. chemical tanks or packaged chemicals, and as a result of the loss or potential loss of these or other dangerous goods overboard at sea. Responsibility for packaged substances that have been washed ashore or for spillages and releases from shore facilities generally resides with the relevant State/Northern Territory authority. 172 ChemPlan outlines combined government and industry arrangements designed to allow rapid and cooperative response to a marine chemical spill occurring within the area defined by this Plan. 173 This Plan complements other Government and industry contingency plans prepared at Commonwealth, State/Northern Territory, regional, port and facility levels. 174 4.12.2 Navigation: Coastal Pilotage - Australian experience

1**in the Torres Strait and Great Barrier Reef**

The Australian experience in implementing pilotage services is found in several Explanatory Notes, Marine Orders, Part 54 (Coastal Pilotage) Issue 4, and Order No.10 of 2006 175 . The purpose of Marine Orders Part 54 is to make provisions for; (i) (ii) licensing of coastal pilots and the manner in which they carry out their duties; the operations of pilotage providers; and (iii) to designate Torres Strait as a compulsory pilotage area; and (iv) to prescribe the information to be provided with an application for exemption from the requirement of navigation with a pilot. 172 Ibid. 173 National Pelan Operations Group, National Marine Chemical Spill Contingency Plan (ChemPlan), 30 May 2010, March 2010, http://www.amsa.gov.au /Publications/CHEMPLAN/Chemplan.pdf. 174 Ibid. 175 Pursuant to subsection 425(1AA) of the Navigation Act 1912 allows the Australian Maritime Safety Authority (AMSA) to make orders with respect to any matter in the Act for or in relation to which provision may be made by regulations. The Penal provisions in the Marine Orders Part 54, subregulation 4 (1) of the Navigation (Orders) Regulations provides that a person who fails to comply with a provision of an order made under subsection 425 (1AA) of the Navigation Act that is expressed to be a penal provision is guilty of offence and is punishable: 176 (a) If the offender is an individual- a fine not exceeding 20 penalty units:

1**or (b) If the offender is a body corporate- a fine not exceeding**

50 penalty units. A penalty unit is currently A$ 110. The Torres Strait has been specified as a compulsory pilotage area as it has been recognized by the International Maritime Organisation Resolution MEPC.133 (53) on the Designation of the Torres Strait as an extension of the Great Barrier Reef Particularly Sensitive Sea Area. 177 4.12.3 Navigation:

1**Great Barrier Reef & Torres Strait Vessel Traffic Service (REEFVTS** 178 ) **The environmental and cultural significance of the Great Barrier Reef** 179 **and Torres Strait** 180 **region are nationally and internationally renowned. The protection of the outstanding natural qualities of the region was enhanced with the establishment of the**

176 Explanatory Notes, Marine Orders, Part 56 (REEFREP) Issue 2 Order No 10 of 2004. 177 136. Supra at 235. 178 REEFVTS is defined as The

1**Great Barrier Reef and Torres Strait Vessel Traffic Service, established**

**by Australia as means of enhancing navigational safety and environmental protection in Torres Strait and the Great Barrier Reef.**

Definition from Great Barrier Reef & Torres Strait Vessel Traffic Service (REEFVTS) User Manual, Maritime Safety Queensland & Australian Maritime Safety Authority, 3 rd Edition 2007. 179 The Great Barrier Reef is the largest coral reef system in the world, composed of over 2,900 individual reefs and 900 islands stretching for 2,600 kilometres over an area of approximately 344,400 square kilometers. The reef is located in the Coral Sea, off the coast of Queensland in northeast Australia. The reef structure is composed of and built by billions of tiny organisms, known as coral polyps. A large part of the reef is protected by the Great Barrier Reef Marine Park, which helps to limit the impact of human use, such as overfishing and tourism. Other environmental pressures to the reef and its ecosystem include water quality from runoff, climate change accompanied by mass coral bleaching, and cyclic outbreaks of the crown-of-thorns starfish. Great Barrier Reef ,7 th March 2009<http://en.wikipedia.org/wiki/Great_Barrier_Reef 180 Torres Strait means the waters in the Torres Strait bounded on the south by the line of latitude 10 41.00'S, on the east by the line of longitude 143 24.00'E, on the north by the line of Australia's exclusive economic zone, and on the west by: (a) In relation to a vessel of less than 8 metres draught- the line of longitude 142 05.00'E; and (b) In relationto a vessel of 8 metres or more draught- the line of longitude 141 50.00'E. Marine Orders, Part 54 (Coastal Pilotage) Issue 4, Order No. 10 of 2006.

1**Great Barrier Reef Marine Park in 1975. It was inscribed** to **the World Heritage List in 1981, and was designated by the IMO as the world's first Particularly Sensitive Sea** Area **in 1990.**

The Australian Government (Australian Maritime Safety Authority) and Queensland Government (Maritime Safety Queensland) provided the

1**Great Barrier Reef & Torres Strait Vessel Traffic Service (REEFVTS)** user manual **with information to assist them in** optimizing **the service provided. For vessels subject to the mandatory ship reporting system within the area, the manual serves to aid the shipmaster's reporting obligations. This manual is not intended to replace or alter any legislative requirements imposed by the Navigation Act 1912 in any respect** of **waters within the REEFVTS Area. Any apparent conflict between the manual and relevant legislation should be resolved in favour of the respective legislation. Vessel traffic services provide the mariner with information relating to safe navigation in a waterway. This information, coupled with the mariner's compliance with regulations, guidelines and instructions, enhances the safe passage of vessels through congested waterways or waterways with particular hazards. Under certain circumstances, a Vessel Traffic Service Operator (VTSO) may initiate interaction with an individual ship and provide other information available to REEFVTS that may assist on-board decision-making. This may include circumstances where information suggests a ship may be** stranding in **shallow water** (example **in areas of restricted navigation where there is radar coverage) or deviating from a recommended route. The master of a vessel remains at all times**

**responsible for the** safe navigation of **the vessel**

under all circumstances. In 1996, a mandatory Ship Reporting System (the Great Barrier Reef and Torres Strait Ship Reporting System (REEFREP 181 )

1**was established as an interactive mandatory ship reporting system which, in accordance with the International Convention for the Safety of Life at Sea (SOLAS) Chapter V regulation 8-1, was formally adopted by the IMO under a Resolution of the IMO's Maritime Safety Committee (MSC52.66). Since that time the Queensland and Australian Governments have established a suite of measures to assist in enhancing navigational safety, thereby** minimizing **the risk of a maritime accident and consequential pollution and major damage to the marine environment from shipping incidents. The introduction of a Coastal Vessel Traffic Service (VTS) as means to enhance navigational safety in Torres Strait and the** Great Barrier Reef **is one of these measures.** 182 **The Great Barrier Reef and Torres Strait Vessel Traffic Service**

(REEFREP) comprises two major components: i). A mandatory Ship Reporting System (the Great Barrier Reef and Torres Strait Ship Reporting System (REEFREP); ii). Monitoring and surveillance systems including radar, Automatic Identification System (AIS), Automated Position Reporting via Inmarsat C (APR) and VHF Reporting. The

1**competent authority** of **REEFVTS is operated under joint Federal and State arrangements between the Australian Maritime Authority (AMSA) and Maritime Safety Queensland (MSQ). The system is manned and operated on a 24 hour a day basis by**

181

1**REEFREP means the mandatory ship reporting system established by IMO**

1**Resolution MSC.161(78), and specified in Marine Orders, Part 56 (REEFVTS) Issue 2.**

182 All information is taken from the Great Barrier Reef & Torres Strait Vessel Traffic Service (REEFVTS) User Manual. Maritime Safety Queensland personnel, the Vessel Traffic Service Operator

1**have completed the minimum competency standards of Certificate**

IV Advanced Vessel Traffic Operations. The Mandatory Reporting Requirements is cited from the

1**International Convention for the Safety of Life at Sea (SOLAS, Chapter 5)** that **governments may establish a VTS when, in their opinion, the volume of traffic or the degree of risk justifies such services.**

183 The following categories of ships are required to report to REEFVTS: i). all ships of 50 metres or greater in overall length; ii). all oil tankers, liquefied gas carriers, chemical tankers or ships coming within the INF Code, regardless of length; iii). ships engaged in towing or pushing where it, or the ship being towed or pushed is a ship described in (i) or (ii) or where the length of the tow is or exceeds 150 metres.

1**Other vessels transiting the REEFVTS area are encouraged to report on a voluntary basis.**

1**SOLAS regulation V/ 8-1 does not apply to any warship, naval auxiliary or government owned or operated ship; however SOLAS does state that**

"such ships are encouraged to participate in ship reporting systems…adopted in accordance with this regulation." 183 142. Supra at 237.

1**This approach is fully supported by the Australian Government, and all ships of the Royal**

1**Australian Government and all ships of the Royal Australian Navy (RAN) are expected to participate in REEFVTS on a voluntary basis, along with other ships owned or operated by the Australian Government.**

1**Any Master, or Officer of the Watch at the time, who fails to report in accordance with reporting requirements, as specified in Marine Orders Part 56, or who** willfully **transmits information which is incorrect, false or misleading, will have committed an offence subject to a penalty. Regulation 4 of the Navigation (Orders) Regulations provides: A person who contravenes a provision of an order made under subsection 425(1AA) of the Act that is expressed to be a penal provision is guilty of an offence and is punishable, upon conviction** 184 : **a) if the offender is a natural person- by a fine not exceeding $2,000; or b) if the offender is a body corporate- by a fine not exceeding $5,000.** The objectives of **REEFVTS**

1**are to:** i). **enhance navigational safety in the Torres Strait and the inner route of the Great Barrier Reef by interacting with shipping to provide improved information on potential traffic conflicts and other navigational**

information; ii). minimize the risk of a maritime accident and consequential ship sourced pollution and damage to the marine environment in the Torres Strait and Great Barrier Reef region and;

184 142. Supra at 237 iii).

1provide an ability to respond more quickly in the event of any safety or pollution incident. In support of the objectives of REEFVTS, the following services are provided to shipping: Ship Traffic Information, Navigational Assistance and Maritime Safety Information. Through the

1integrated use of Automatic Identification System (AIS), radar, (Automated Position Reporting) APR via Inmarsat C and route plans provided by vessels, REEFVTS generates and disseminates ship encounter predictions in the form of Ship Traffic Information (STI).

1In circumstances where information available to REEFVTS may assist on-board decision making, REEFVTS may initiate interaction with an individual ship. 185 This may include circumstances where information available suggests that a ship may be stranding in shallow water (example in areas of restricted navigation where there is radar and/ or AIS coverage) or deviating from a recommended route.

REEFVTS provides vessels with Maritime Safety Information (MSI) relevant to their location and intended movement. Should mariners notice a hazardous situation that may impact on the navigational safety of other vessels, this should be communicated to REEFVTS.

1An Entry Report must be made in respect of a ship as soon as it: a) Enters the REEFVTS area; and b) Departs from a port within the REEFVTS area. This report covers a ship's details, and its intentions and passage through the REEFVTS area. The following information must be provided in the

Entry Report, for example: 185 142. Supra at 237. LINE INFORMATION REQUIRED EXAMPLE A Ship name, Call sign and IMO number A/HAPPY SAILOR/ABCD/123456 B

1Date and Time (UTC) B/010400UTC C Current Position Name of Mandatory Reporting Point, or position (latitude and longitude) if not in the C/BOOBY vicinity of a Mandatory Reporting Point. F Speed Ship's anticipated average speed until next report in knots & tenths of a knot) or F/13 estimated time of arrival (ETA) at next Mandatory Reporting Point 186 . Pilot ** J Pilotage details including whether a coastal Or pilot is on board

**(indicate**"Yes"**or**"No") **and**

J/YES/BROWN/9876543

1**if so, the pilot's last name and licence number. K Date, Time (UTC) and Point of Exit from the REEFVTS area Point of exit can be provided as the Name of final Mandatory Reporting Point, or position (latitude and longitude) of anticipated exit**

K/041300UTC/HIGH PEAK L O P Q U X from the REEFVTS area. Route Information Route Plan (see section 6.3) or, if that is not available name of next two Mandatory Reporting Points or course if not tracking between reporting points. Draught ** Draught fore and aft (in metres and decimetres) Cargo on Board ** 187 If required, may be passed by non-voice means prior to the first REEFVTS report. Details to include normal name of the cargo and whether cargo is classified as hazardous (indicate "Yes" or "No"). Defects, damage, deficiencies or other limitations. Ship Size and Type ** Ship description details including ship type, length (metres) and gross tonnage. Remarks Any additional information, which would contribute to the navigational safety of other L/INNERROUTE DEEP or L/ALPHA NORTH VIA VARZIN PASSAGE/HANNIBAL O/FORE 11.5/AFT 11.3 P/BULK CHEMICALS/DG YES Include details as required U/TANKER/180/28000 Include details as required. 186 142. Supra at 237. 187 142. Supra at 237

1**shipping in the REEFVTS area, should also be reported where possible.**

**

1**These items need not be reported by a ship that has provided these details previously in a** sail plan **report to AUSREP.**

The

1**requirement for vessels to report at the Mandatory Reporting Points is dependant on the type of route plan provided by the vessel. In summary:** i). **If a standard route plan (Section 6.3.1) is provided and intermediate position reporting is via APR (Section 6.6), reporting to REEFVTS at the Mandatory Reporting Points is not required** 188 . ii). **If a Mandatory Reporting Point Plan (Section 6.3.2) is provided for the entire transit including alternate sections (if applicable), and intermediate position reporting is via APR (Section 6.6), reporting to REEFVTS at the Mandatory Reporting Points is not required.** iii). **However, if only partial route information is provided, vessels must report to REEFVTS at the Mandatory Reporting Points to provide subsequent route information.**

1**Safety related reports must be provided without delay in the event of a ship suffering damage, failure or breakdown affecting the safety of a ship,**

**or if a ship makes a marked deviation from a route, or changes a course or alters speed from that previously advised. Reports of pollution or cargo lost overboard must also be reported to REEFVTS without delay using lines Q and R, or special reports as defined by IMO for incidents involving Dangerous Goods (DG), Harmful Substances (HS) or Marine Pollutants (MP). Defect reports require the following information,** for example: **LINE** INFORMATION REQUIRED EXAMPLE **A**

Ship name, Call sign and IMO number A/HAPPY SAILOR/ABCD/1234567 B Date and Time 189 B/022300UTC C Current Position C/TWO ISLES

1**Name of Mandatory Reporting Point or position** Or **(latitude and longitude) if not in the vicinity of a** C/15252S/145241E **Mandatory Reporting Point. F Speed Ship's anticipated average speed until next report in knots & tenths of a knot or estimated time of** F/5 **arrival (ETA) at next Mandatory Reporting Point.**

Q Defects, damage, deficiencies or other limitations. Description and details of any damage, failure or breakdown suffered: (i) Collision, grounding, fire explosion, structural failure, flooding, cargo shifts. (ii) Failure or breakdown of steering gear, propulsion plant, electrical generating system, essential shipborne navigational aids. R Pollution/dangerous goods lost overboard. Brief details of type of pollution (oil, chemicals) or dangerous goods lost overboard. Position to be Include details as required expressed as in item C. X Remarks 190 Any additional information, which would contribute to the navigational safety of other shipping in the REEFVTS area, should also be reported, where possible. This may include details of any safety messages (navigational safety, abnormal weather, and Include details as required unserviceable aids to navigation) or DG, HS, MP incident reports using recognized IMO reporting formats.

1**Summary of REEFVTS Reports These key fields need to be provided for following REEFVTS Reports: PER**

1**Pre-Entry Report** ER **Entry Report** RP1 **Route Plan- Standard Route Plan** RP2 **Route Plan-Mandatory Reporting Points** RP3 **Route Plan- Waypoints** DR PR IR **Deviation Report (if applicable) Intermediate Position Reports Defect Report (if applicable)** FR **Final Report** 191 **LINE**

INFORMATION REQUIRED

1**PER ER RP1 RP2 RP3 DR PR IR FR**

Ship name, call AsignandIMORRRRRRRRR number B Date and Time (UTC)192RRRRRRRRR CCurrentPositionRRRRRRRRR FSpeedRRRRRRR H

1**Date, Time (UTC) and Point of Entry** R **to REEFVTS area** J **Pilot** R K **Date,**

**Time (UTC) and Point of Exit from REEFVTS** R R **area**

LRouteInformationRRRRR MCommunicationRII 191 142. Supra at 237. 192 UTC means Coordinated Universal Time. Methods O Draught R P Cargo on Board 193 R Q

1**Defects, damage, deficiencies or** I I **other** limitation R **Pollution/dangerous goods lost** I **overboard** U **Ship Size and Type** R XRemarksIIIIIIII Where **R=**

Required, I= If appropriate. 4.13 DEVELOPMENT OF A SUB-REGIONAL RESPONSE ACTION PLAN FOR HNS SPILLS IN THE STRAITS OF MALACCA Based on the experience of oil spill response action plans namely the OSPAR and OSRAP, a chemical response action plan may be adopted under the 2000 OPRC-HNS Protocol. Ratification of the 1996 HNS, the 2010 HNS Convention Protocol and the 2000 OPRC- HNS Protocols by strait and user States are vital for HNS shipping incidents in the Straits of Malacca. The strong Japanese leadership followed by the multitude of cooperative and financial burden sharing steps undertaken by user States and strait States discussed above pave the way upon which to strengthen an effective and sub-regional and national response action plan for a HNS spill in the Straits of Malacca. The principles of the Australian ChemPlan may serve mutatis mutandis as an effective national response action plan for the three strait States of Malaysia, Indonesia and Singapore. Similarly, the Australian Pilotage Services and the

1**Great Barrier Reef & Torres Strait Vessel Traffic Service (REEFVTS** 194 ) may **with**

suitable modifications that take into 193 142. Supra at 237. 194 REEFVTS is defined as The Great Barrier Reef and Torres Strait Vessel Traffic Service, established by Australia as means of enhancing navigational safety and environmental protection in Torres Strait and the Great Barrier Reef. Definition from Great Barrier account the peculiar geographical and hydrological characteristics of the Straits of Malacca assist the safe and secure navigation of HNS ships through the Straits of Malacca. However, this can only be done with IMO approval. The importance of special sealanes for coastal traffic cannot be denied and the view that ships carrying plutonium and other hazardous and noxious goods not destined for strait states not be allowed to pass through the Straits of Malacca may be contained if the IMO would approve similar services for the Straits of Malacca. 195 These steps must be accompanied by the respective adoption of new laws or amendments into existing municipal laws of the three strait States. In the case of Malaysia, the Merchant Shipping Ordinance 1952 and the Penal Code would have to be- revisited. In the case of Indonesia, she has statutes that regulate HNS shipment; Presidential Decree Number 17 Year 1985 (MARPOL 73/78), Law Number 17 Year 1985 (1982 LOSC), Order of the Head for the Agency for Environmental Impact Control Number 1 Year 1995 (BASEL Convention) but these statutes are without sanction. However the penalties are found in the new 2009 Environmental Protection and Management Act. In the case of Singapore, the Maritime and Port Authority of Singapore (MPA) as the national maritime authority has enforced the Prevention of Pollution of the Sea Act 1990 (MARPOL 73/78), Hazardous Waste (Control of export, import and transit) Act (Chapter 122A) 13 OF 1997, 1998 Revised Edition, 9 of 2003, Dangerous Goods Merchant Shipping (Safety Convention) Regulations. The enacted laws deal with the prohibition of marine pollution, taking preventive and remedial measures and applying strict liability for compensation. The laws also provide for detention, denial of entry and sale of offending Reef & Torres Strait Vessel Traffic Service (REEFVTS) User Manual, Maritime Safety Queensland & Australian Maritime Safety Authority, 3 rd Edition 2007. 195 Ahmad, Hamzah ,ed.., op. cit., 140. ships. The legislations ensure that ships are designed, equipped, operated and managed to prevent pollution of the sea. 4.14 CONCLUSION Despite steps taken by the strait States to review the existing navigational safety measures, HNS shipping incidents still happen in the Straits of Malacca. 196 The cooperation given under Article 43 of the 1982 LOSC and burden sharing by user

States in the maintenance of safety of navigation and protection of marine pollution in the Straits of Malacca is greatly valued. The Cooperative Mechanism convened by IMO, strait States and user States have shown positive contributions because all the projects that have been identified by the strait States have been sponsored by the user States. However, these offers of assistance should come in sincere, transparent package with no strings attached to the sovereignty and integrity of the straits States. Other forms of contribution needed from user States include transfer of technology, expertise and assistance in kind or socio-economic developmental assistance. Malaysia and Indonesia would welcome contributions from the user States but not where it infringes their state sovereignty. There is no liability and compensation for HNS pollution in the Straits of Malacca as the HNS Convention and its Protocol are not in force and have not been ratified yet by the strait States. Therefore currently there is no national contingency plan for HNS pollution in particular Malaysia and Indonesia. As discussed above, ratification of the 2000 OPRC-HNS Protocol will give the necessary regional and sub-regional response action plan for HNS spills. For a national action plan, Malaysia could observe the implementation 196 Ahmad, Hamzah ,ed.., op. cit., 127. and efforts made by Australia in ensuring the safety of navigation and to protect the marine environment through a coastal pilotage and through the implementation of the Australian Maritime Safety Authority National Marine Chemical Spill to combat chemical pollution in Australia's territorial sea, exclusive economic zone and high seas. To summarize, the imminent ratification of Malaysia and Indonesia to ratify the 2000 OPRC-HNS, the implementation of national contingency plan and assistance in term of financial and expertise are needed to protect vulnerable ecosystems, biodiversity and it is able to propose protective measures from ships carrying HNS. ` 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 188 142. Supra at 237. 227 189 142. Supra at 237. 190 142. Supra at 237. 228 229 230 231 232 233