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SINGAPORE STRIVES TO ENHANCE SAFETY, SECURITY, AND ENVIRONMENTAL PROTECTION IN ITS PORT AND IN THE STRAITS OF MALACCA AND SINGAPORE

*Robert Beckman**

I. INTRODUCTION

This Article first examines the efforts of the port-city of Singapore to enhance safety and to prevent ship-source pollution in its port and waters by adopting and effectively implementing the international rules and standards established in the conventions of the International Maritime Organization (IMO). It then reviews the measures taken by Singapore since 2002 to enhance security in its port and its surrounding waters. This is followed by an examination of how Singapore has worked together with Indonesia and Malaysia to enhance safety, security, and environmental protection in the Straits of Malacca and Singapore. Finally, it considers what additional cooperative measures may be necessary to enhance maritime security and minimize the threat of ship-source pollution in the Straits of Malacca and Singapore.

The efforts of Singapore to enhance safety, security, and environmental protection in its port and waters cannot be understood without a basic comprehension of Singapore's geography and the importance of shipping to its economy. Singapore is a small city-state in Southeast Asia. At the end of 2007, its total population was approximately 4.6 million, of which about 3.6 million were citizens or permanent residents.¹ Singapore was founded by the British as a treaty port and became independent in 1965. It consists of one main island and several nearby smaller islands. Its total

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1. DEP'T OF STATISTICS, REPUBLIC OF SING., YEARBOOK OF STATISTICS SINGAPORE 22 (2008), available at <http://www.singstat.gov.sg/stats/themes/people/hist/popn.html>.

land area is about 682.7 square kilometers. It has about 193 kilometers of coastline and its sea area is less than ten square kilometers.²

Singapore is located at the end of the Malay Peninsula and at the southern end of the Malacca Strait, which lies between the Indonesian island of Sumatra and the peninsula of Malaysia, and is approximately 500 miles in length.³ To the north, Singapore is separated from the State of Johor in Malaysia by the Johor Strait, which is thirty miles long and ranges from three-quarters of a mile to three miles in width.⁴ To the south, Singapore is separated from the Riau Islands of Indonesia by the Singapore Strait, which runs for fifty miles from the end of the Malacca Strait in the west to the South China Sea in the east. The Singapore Strait is about ten miles wide but it narrows to less than one mile at Philips Channel near Singapore.⁵

The Malacca Strait and the Singapore Strait are connected. They are treated by the three littoral States of Indonesia, Malaysia, and Singapore, and by the IMO, as a single strait, which is referred to as the Straits of Malacca and Singapore. The Straits of Malacca and Singapore is one of the busiest and most important straits in the world. It is on the main shipping route between the Indian Ocean and the South China Sea, and it is vitally important for trade and commerce between Europe, the Middle East, and India to the west, and China, Japan, Korea, and Southeast Asia to the east. More than 60,000 vessels pass through the Straits annually, carrying half the world's oil flows and one-third of the world's sea-borne trade.⁶

Singapore's strategic location and natural deep-water harbor have enabled it to develop its port and transform the city into a global sea transportation hub. More than 200 shipping lines call on Singapore,⁷ and on an average day there are approximately 1000 ships in port.⁸ As an

2. CENT. INTELLIGENCE AGENCY, THE 2008 WORLD FACTBOOK (2008), *available at* <https://www.cia.gov/library/publications/the-world-factbook/geos/sn.html>.

3. The Columbia Encyclopedia (6th ed. 2007), *available at* <http://www.bartleby.com/65/ma/malaccast.html>.

4. The Columbia Encyclopedia (6th ed. 2007), *available at* <http://www.bartleby.com/65/jo/johorest.html>.

5. The Columbia Encyclopedia (6th ed. 2007), *available at* <http://www.bartleby.com/65/si/singastr.html>.

6. Raymond Lim, Minister for Transp. and Second Minister for Foreign Affairs, Welcome Address at the Singapore Meeting on the Straits of Malacca and Singapore: Enhancing Safety, Security and Environmental Protection (Sept. 4, 2007).

7. Maritime and Port Authority of Singapore [hereinafter MPA], Home, News Centre, Allies to Help Shipping Lines Enhance Competitiveness of Alliance Operations in Singapore, http://www.mpa.gov.sg/sites/global_navigation/news_center/mpa_news/mpa_news_detail.page?filename=nr050531.xml (last visited Mar. 30, 2009).

8. Tay Lim Heng, Chief Executive of the Mar. and Port Auth. of Sing., Speech at the

international maritime center, Singapore offers a full range of maritime services, including cargo handling, bunkering, professional ship management and shipbroking services, and international legal and arbitration expertise. Singapore has consistently ranked as the world's busiest container port.⁹ It is also a major importer of oil, a major oil refining center, and one of the world's largest bunkering ports.¹⁰

Singapore has major maritime interests as a flag State and as a port State. The number of ships under the Singapore registry has increased steadily in recent years and the registry is now ranked in the top ten of the world's largest ship registries.¹¹

The maritime sector is a key sector of the Singapore economy. It is estimated that there are more than 5000 maritime companies and organizations in Singapore, employing close to 100,000 persons, and that the maritime sector contributes approximately seven percent of Singapore's gross domestic product.¹²

Given the importance of the maritime sector to Singapore's economy, the safe and secure passage of ships through the Straits of Malacca and Singapore is vital to its national interests. Singapore has also made a serious effort to balance environmental and developmental matters, while protecting its coastal and marine areas from all sources of pollution. It has a very strong interest in ensuring that ships entering its port and passing through its waters comply with international standards on ship-source pollution.

World Hydrography Day Celebration and Signing of Letter of Intent Between MPA and UKHO on Joint Hydrographic Initiatives (July 7, 2006), *available at* http://www.mpa.gov.sg/sites/global_navigation/news_center/speeches/speeches_detail.page?filename=sp070706.xml.

9. See MPA, Home, Maritime Singapore, What Maritime Singapore Offers, Pro-business Environment, Access to Key Markets, http://www.mpa.gov.sg/sites/maritime_singapore/what_maritime_singapore_offer/pro_business_environment/access_to_key_markets.page (last visited Mar. 30, 2009).

10. MPA, Home, News Centre, Joint Oil Spill Exercise to Test Response Strategy, http://www.mpa.gov.sg/sites/global_navigation/news_center/mpa_news/mpa_news_detail.page?filename=nr060929.xml (last visited Mar. 30, 2009).

11. MPA, Industry Development, Singapore Registry of Ships, http://www.mpa.gov.sg/industrydevelopment/srs/intro_benefits/intro.htm (last visited Mar. 9, 2009) [hereinafter Singapore Registry of Ships].

12. *Rising to the Challenge: Up Close with Team Chairman Peter Ong*, SING. MAR. ILLUSTRATED (SPECIAL ISSUE) 5 (2007).

II. SINGAPORE AND THE IMO CONVENTIONS ON SAFETY AND POLLUTION

A. The Maritime and Port Authority of Singapore

The Maritime and Port Authority of Singapore (MPA) is the Singapore agency responsible for implementing all IMO conventions. The MPA is not a government department, although it comes under the purview of the Ministry of Transport.¹³ It is a statutory board that was created in 1996 by the Maritime and Port Authority of Singapore Act.¹⁴ The MPA is Singapore's national sea transport representative and is responsible for safeguarding Singapore's maritime and port interests in the international arena.¹⁵ It acts as the government's adviser on matters relating to sea transport, marine and port services, and facilities.¹⁶

The MPA represents Singapore's interests at the IMO in London. Singapore has been an elected Council member of the IMO since 1993, and takes an active part in IMO meetings.¹⁷ One of the First Secretaries at the Singapore Embassy in London is responsible for maritime affairs.¹⁸ Other officers from the MPA travel to London to attend IMO meetings.

B. Singapore and IMO Conventions on Safety and Ship-Source Pollution

The general policy of the MPA is to ensure that Singapore becomes a party to all IMO conventions on navigational safety and protection of the marine environment, and that every convention Singapore ratifies or accedes to is effectively implemented and enforced from the day it enters into force for Singapore. Singapore is a party to all of the major IMO conventions on navigational safety, including the Convention on the 1972 International Regulations for Preventing Collisions at Sea (COLREG),¹⁹ the

13. Ministry of Transport, Gov't of Sing., Sea Transport, Regulations, <http://www.mot.gov.sg/seatransport/acts.htm> (last visited Apr. 8, 2009).

14. Ch. 170A, Part II, § 4 (1996) (Sing.), available at <http://statutes.agc.gov.sg>.

15. *Id.* § 7(1).

16. *Id.*

17. MPA, A SAFE, SECURE AND CLEAN PORT, available at <http://www.mpa.gov.sg/sites/pdf/infokit3.pdf>.

18. INTERNATIONAL MARITIME ORGANIZATION [hereinafter IMO], COUNCIL WORKING GROUP ON THE ORGANIZATION'S STRATEGIC PLAN, LIST OF PARTICIPANTS, available at <http://www.sjofartsverket.se/upload/17610/8-INF1.pdf>.

19. Convention on the International Regulations for Preventing Collisions at Sea, Oct. 20, 1972, 28 U.S.T. 3459, 1050 U.N.T.S. 3 [hereinafter COLREG].

1974 International Convention for the Safety of Life at Sea (SOLAS),²⁰ and the 1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).²¹

Singapore is the only State in Southeast Asia that is a party to all six annexes to the 1973 International Convention for the Prevention of Pollution from Ships, as modified by the Protocol of 1978 relating thereto (MARPOL).²² Singapore intends to become one of the first States to ratify the 2004 International Convention for the Control and Management of Ships' Ballast Water and Sediments (Ballast Water).²³ Although Singapore is not a party to the 2001 International Convention on the Control of Harmful Anti-Fouling Systems on Ships (Anti-Fouling),²⁴ it has been preparing the implementing legislation, and it is expected that it will become a party to the Convention by the end of 2009.²⁵

The marine pollution convention that seems to be presenting Singapore with the greatest difficulty is the 1996 Protocol²⁶ to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter.²⁷ The MPA has been leading an interagency committee to study the 1996 Protocol for the past several years, but no decision has been made on

20. International Convention for the Safety of Life at Sea, Nov. 1, 1974, 32 U.S.T. 47, 1184 U.N.T.S. 2 [hereinafter SOLAS].

21. International Convention on Standards of Training, Certification and Watch keeping for Seafarers, July 7, 1978, 1969 U.N.T.S. 41 [hereinafter STCW].

22. International Convention for the Prevention of Pollution from Ships, Nov. 2, 1973, 1340 U.N.T.S. 184, 12 I.L.M. 1319, *amended by* Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973, Feb. 17, 1978, 1340 U.N.T.S. 61, 17 I.L.M. 546 [hereinafter MARPOL].

23. International Convention for the Control and Management of Ships' Ballast Water and Sediments, Feb. 13, 2004, [2005] A.T.N.I.F. 18, *available at* <http://www.austlii.edu.au/au/other/dfat/treaties/notinforce/2005/18.html> [hereinafter Ballast Water]. *See also* MPA, Home, Port & Shipping, Circulars & Notices, Shipping Circulars, International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (BWM Convention), http://www.mpa.gov.sg/sites/port_and_shipping/circulars_and_notices/shipping_circulars_detail.page?filename=sc09-10.xml (last visited Mar. 30, 2009).

24. International Convention on the Control of Harmful Anti-Fouling Systems on Ships, Oct. 5, 2001, [2008] A.T.S. 15, *available at* <http://www.austlii.edu.au/au/other/dfat/treaties/2008/15.html> [hereinafter Anti-Fouling].

25. MPA, Circulars & Notices: Shipping Circulars, No. 22 of 2007, Dec. 18, 2007, http://www.mpa.gov.sg/circulars_and_notices/shipping_circulars/sc07-22.htm (last visited Mar. 9, 2009).

26. 1996 Protocol to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Nov. 7, 1996, 36 I.L.M. 7 [hereinafter 1996 Protocol].

27. Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Dec. 29, 1972, 26 U.S.T. 2403, 1046 U.N.T.S. 120.

the question of accession to the Protocol. Singapore may be concerned with how the 1996 Protocol will impact the regular dredging of its port waters and shipping channels, and its use of dredging spoils for land reclamation. Article 7 of the 1996 Protocol provides that it shall relate to internal waters only to the extent provided for in paragraphs 2 and 3. However, those paragraphs require a Contracting Party to adopt effective permitting and regulatory measures to control the deliberate disposal of wastes, and to provide the IMO with information on legislation and institutional mechanisms regarding implementation, compliance, and enforcement in marine internal waters. Given that Article 7 may have an impact on the national land reclamation policy, the MPA will require approval from the Ministry of National Development and the Ministry for the Environment and Water Resources before Singapore can become a party to the 1996 Protocol.²⁸

With respect to contingency planning for spills of oil or hazardous and noxious substances, Singapore is a party to the 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC),²⁹ and the 2000 Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances (OPRC-HNS Protocol).³⁰ Singapore is also a party to the three major IMO conventions on liability and compensation: the 1992 International Convention on Civil Liability for Oil Pollution Damage (1992 CLC),³¹ the 1992 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (1992 Fund),³² and the 2001 International Convention on Civil Liability for Bunker Oil Pollution Damage (Bunkers).³³

28. See MPA, Home, Port & Shipping, Circulars & Notices, Shipping Circulars, International Convention on the Control of Harmful Anti-Fouling Systems on Ships (AFS Convention), http://www.mpa.gov.sg/sites/port_and_shipping/circulars_and_notices/shipping_circulars_detail.page?filename=sc06-06.xml (last visited Mar. 30, 2009).

29. International Convention on Oil Pollution Preparedness, Response and Co-operation, Nov. 30, 1990, 30 I.L.M. 733 [hereinafter OPRC].

30. Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances, Mar. 15, 2000, [2003] A.T.N.I.F. 9, available at <http://www.austlii.edu.au/au/other/dfat/treaties/notinforce/2003/9.html> [hereinafter OPRC-HNS Protocol].

31. Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage, Nov. 27, 1992, 1956 U.N.T.S. 255 [hereinafter 1992 CLC].

32. Protocol of 1992 to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Nov. 27, 1992, 1953 U.N.T.S. 330 [hereinafter 1992 Fund].

33. International Convention on Civil Liability for Bunker Oil Pollution Damage, Mar. 23, 2001, 40 I.L.M. 1493 [hereinafter Bunker Convention].

C. Implementation of IMO Conventions

In the past, Singapore acceded to IMO conventions only after they were in force.³⁴ However, in recent years, Singapore is reviewing IMO conventions while they are being prepared, allowing it to become one of the first States to sign and ratify them once they have been adopted. For example, Singapore deposited its instrument of ratification for Annex VI of MARPOL on August 10, 2000, and the Annex did not enter into force until May 19, 2005.³⁵

The MPA will not recommend that Singapore become a party to an IMO convention until it is confident that it is able to carry out all of its obligations under the convention from the date it enters into force for Singapore. The legislation necessary to implement its obligations under the convention is usually drafted and enacted before the convention enters into force for Singapore.³⁶ Implementing legislation is drafted by the MPA officers working together with the Legislation Division of the Attorney General's Chambers. The implementing legislation is usually timed to come into force in Singapore on the same day that the IMO convention enters into force for Singapore. Once laws and regulations to implement a convention become part of Singapore law, they will be enforced quite vigorously from the day they come into operation. The MPA officers are honest and efficient, and are supported by a judiciary that is renowned for its efficiency and lack of corruption.³⁷

34. *Compare* IMO, International Convention for the Prevention of Pollution from Ships, 1973, *modified* by the Protocol of 1978 relating thereto (MARPOL), <http://www.imo.org/> (last visited Mar. 31, 2009), *and* MPA, Home, News centre, Singapore Accedes To Annex V of The International Convention For The Prevention of Pollution From Ships, 1973, *modified* by the Protocol of 1978 (MARPOL 73/78), http://www.mpa.gov.sg/sites/global_navigation/news_center/mpa_news/mpa_news_detail.page?filename=990610-.xml (last visited Mar. 31, 2009).

35. International Maritime Organization, Annex VI of MARPOL 73/78: Regulations for the Prevention of Air Pollution from Ships and NOx Technical Code (1998) [hereinafter MARPOL Annex VI].

36. Prevention of Pollution of the Sea Act, 1991 ch. 243 (Sing.) (Leg. History), *available at* <http://statutes.agc.gov.sg>.

37. Singapore is ranked third in the world and first in Asia for having the least corruption in its economy. Singapore Economic Development Board, Singapore Rankings, http://www.sedb.com/edb/sg/en_uk/index/why_singapore/singapore_rankings.html (last visited Mar. 9, 2009). It is ranked in one study as the second most transparent country in the world and the most transparent Asian country. *Id.* The Singapore judiciary and legal system also receive high rankings in international studies. *See* Institute for Management Development, Ranking of Singapore Legal Framework & Judiciary, <http://app.subcourts.gov.sg/subcourts/newsdetails.aspx?pageid=26601&cid=46598> (last visited Mar. 9, 2009).

The implementation of some IMO conventions by Singapore requires the MPA to coordinate the actions of several government agencies or to seek assistance from the private sector. For example, in fulfilling its obligations under MARPOL, the MPA imposes an obligation on the Port of Singapore Authority (PSA), and other terminal operators in Singapore, to provide reception facilities for oil, oily waste, and garbage.³⁸

The Singapore legislation that implements MARPOL and its six annexes, as well as OPRC, is the Prevention of the Pollution of the Sea Act.³⁹ The offenses under the Act demonstrate that Singapore regards pollution by its ships and pollution of its waters as a serious matter. The Act provides that if any discharge of oil or oily mixture occurs from a Singapore ship into any part of the sea or from any ship into Singapore waters, the master, the owner, and the agent of the ship shall each be guilty of an offense, and shall each be liable, upon conviction, for a fine of up to one-million Singapore dollars (approximately US \$650,000) or subject to imprisonment for a term not exceeding two years, or both.⁴⁰

In order to effectively implement OPRC in oil spill contingency planning, the MPA serves as the lead agency and collaborates with other government agencies and non-governmental entities in preparing for and combating oil spills.⁴¹ The Ministry of Environment and Water Resources (MEWR) is responsible for shoreline cleanup and cleanup of any land areas. The Ministry of Defence (MINDEF) mobilizes aircraft for reconnaissance and cleanup. The Ministry of Home Affairs (MHA) provides manpower for shoreline cleanup in large spills and facilitates immigration clearance for foreign cleanup specialists and workers entering Singapore to assist in the cleanup. The Immigration and Check-Points Authority (ICA) facilitates customs clearance for equipment brought into Singapore to assist in cleanup operations. The Civil Aviation Authority of Singapore (CAAS) assists in seaward rescue and provides fire-fighting equipment if necessary. The Ministry of Health provides medical aid to people affected by the fumes from a spill and advises on health matters relating to cleanup operations. Finally, the Agri-Food and Veterinary Authority of Singapore

38. Prevention of Pollution of the Sea Act, 1991 ch. 243, § IV (Sing.), *available at* <http://statutes.agc.gov.sg>.

39. Ch. 243 (1991) (Sing.), *available at* <http://statutes.agc.gov.sg>.

40. *Id.* at § 3.

41. Zafrul Alam, Sing. First Sec'y Mar. Affairs, Singapore's Recent Accession to the OPRC Convention—How the Republic Discharges its Obligations under the Convention, Presented to the International Oil Pollution Conference and Exhibition (Sept. 1-3, 1999), *in* SING. MAR. & PORT J, 2000, at 49-55. The names of the government agencies have been updated.

(AVA) assesses damages to and provides strategies for the protection of fish farms and other living resources. The fact that Singapore is a city-state with only one level of government makes such coordination easier than in large countries that must deal with local and state or provincial governmental entities.

Many private companies are also involved in preparing for and fighting oil spills under the leadership of the MPA. The PSA, the corporate body which operates the port, supports cleanup operations by providing tugs, manpower, and equipment.⁴² Petroleum companies, petro-chemical companies, and oil storage companies operating in Singapore are required by law to keep a stock of dispersants and certain equipment, including tugs and booms, to assist in combating oil spills.⁴³ The companies are also required to provide logistics, equipment, and manpower if a spill occurs.⁴⁴ In addition, if activated, oil spill cleanup companies based in Singapore provide manpower, equipment, and expertise when a spill occurs.

The Singapore legislation giving effect to the CLC and Fund conventions is the Merchant Shipping (Civil Liability and Compensation for Oil Pollution) Act.⁴⁵ The Bunkers convention was implemented by the Merchant Shipping (Civil Liability and Compensation for Bunker Oil Pollution) Act 2008.⁴⁶ The MPA home page contains a very useful memorandum setting out how each of the IMO conventions has been implemented under Singapore law.⁴⁷

D. Safety and Pollution Standards for Singapore Ships

Singapore is reputed for its quality ship registry, which is administered by the MPA. The registry has been expanding by about ten percent per year in recent years. Ships under the Singapore registry consistently have a good safety record. They are inspected regularly to ensure that high safety and pollution standards are maintained, and regular surveys are performed in accordance with IMO conventions. In addition to the surveys conducted by the MPA, nine internationally recognized classification

42. See Barbara Leitch Lepoer, ed., *Singapore: A Country Study, Geography*, Washington GPO for the Library of Congress, 1989, available at <http://countrystudies.us/singapore/13.htm>.

43. See *id.*

44. See *id.*

45. Ch. 180 (1997) (Sing.), available at <http://statutes.agc.gov.sg>.

46. No. 24 (2008) (Sing.), available at <http://statutes.agc.gov.sg>.

47. MPA, THE MARITIME LEGISLATION OF SINGAPORE (2008), available at http://www.mpa.gov.sg/circulars_and_notices/legislation/00_introduction.pdf.

societies with offices in Singapore are authorized to survey and issue tonnage, safety, and pollution prevention certificates to Singapore ships.⁴⁸

E. Safety in Port and Singapore Waters

The MPA “employs state-of-the-art technology to ensure that shipping traffic, coastal and port development projects, and siltation do not compromise navigational safety or adversely affect the marine environment.” This includes an advanced, radar-based, Vessel Traffic Information System (VTIS). The MPA operates two fully-integrated Port Operations Control Centers, which employ the VTIS system to provide navigational information to ships within Singapore waters and ships passing through the Singapore Strait. The VTIS system can track up to 5000 vessels in real-time, and it is integrated with electronic navigational chart displays as well as synchronized voice, track, and data recording.⁴⁹ Safety in Singapore waters is further enhanced through other navigational aids such as the Differential Global Positioning System (DGPS), “which helps ships to fix their positions more accurately, and STRAITREP, a mandatory ship reporting system for ships transiting the Straits of Malacca and Singapore.”⁵⁰

III. MEASURES TO ENHANCE MARITIME SECURITY

A. Implementation of 2002 IMO Measures on Maritime Security

The September 11, 2001, terrorist attacks in the United States were unequivocally condemned by the United Nations Security Council and by most members of the international community. The attacks triggered an alacritous response from the international community to review the rules of international law governing terrorist activities and to increase international cooperation for the prevention and suppression of terrorist activities. The IMO, for instance, undertook a thorough review of measures

48. Singapore Registry of Ships, *supra* note 11. The nine classification societies are: American Bureau of Shipping (ABS); Bureau Veritas (BV); China Classification Society (CCS); Det Norske Veritas (DNV); Germanischer Lloyd (GL); Korean Register of Shipping (KRS); Lloyd’s Register of Shipping (LRS); Nippon Kaiji Kyokai (NKK); and Registro Italiano Navale (RINA). *Id.*

49. MPA, Safety and Environment: Introduction, <http://www.mpa.gov.sg/safety/environment/intro/intro.htm> (last visited Mar. 9, 2009).

50. See also STRAITREP, *infra* text accompanying note 107.

to combat acts of violence and crime at sea.⁵¹ At the Diplomatic Conference on Maritime Security on December 9-13, 2002, participants adopted eleven resolutions containing various measures to strengthen maritime security and prevent and suppress acts of terrorism against international shipping.⁵² A new International Ship and Port Facility Code (ISPS Code) was adopted through amendments to SOLAS.⁵³ The ISPS Code, which entered into force on July 1, 2004, contains detailed mandatory security-related requirements for governments, port authorities, and shipping companies. It also contains a series of non-mandatory guidelines on how to meet the mandatory security requirements.

Singapore moved quickly, beginning in 2002, to implement the ISPS Code. Because of the wide powers that have been given to the MPA under the Merchant Shipping Act⁵⁴ and the Maritime and Port Authority Act,⁵⁵ a new Act of Parliament was not required. Under section 100 of the Merchant Shipping Act, the MPA, with the approval of the Minister, may issue regulations to give effect to the provisions of any international convention concerning or relating to ships' safety to which Singapore is a party. The MPA also has wide powers, under section 100 of the Maritime and Port Authority Act, to issue regulations necessary to carry out the purposes of the Act.

Beginning in 2002, technical and legal experts from the MPA, in consultation with the Legislation Division of the Attorney General's Chambers, began drafting regulations to implement the 2002 SOLAS amendments. Following the common practice in Singapore, the regulations were promulgated in early 2004, but it was provided that they would enter into force on July 1, 2004, the date of entry into force of the amendments to SOLAS.⁵⁶ To ensure that all affected persons and companies could be in full compliance by July 1, 2004, the MPA issued circulars and presented

51. At the twenty-second Assembly meeting in November 2001, it was agreed to hold a Diplomatic Conference on Maritime Security in December 2002 to adopt new regulations to enhance ship and port security. *Id.* The Maritime Safety Committee and other IMO bodies worked for more than a year to prepare for the Conference. *Id.*

52. IMO, Diplomatic Conference in Maritime Security: 9-13 December 2002: IMO Adopts Comprehensive Maritime Security Measures, http://www.imo.org/About/mainframe.asp?topic_id=583&doc_id=2689 (last visited Mar. 30, 2009).

53. MPA, Circulars & Notices: Maritime Security – Amendments to SOLAS 74 Adopted by the IMO Diplomatic Conference on Maritime Security Held in London in December 2002, <http://www.austlii.edu.au/au/other/dfat/treaties/2004/29.html> (last visited Mar. 9, 2009).

54. Ch. 179 (1996) (Sing.), available at <http://statutes.agc.gov.sg>.

55. Ch. 170A, Part II, § 4 (1996) (Sing.), available at <http://statutes.agc.gov.sg>.

56. Shipping Circular 11 of 2004, see *infra* text accompanying note 64.

seminars beginning in 2003 to advise ship owners and port facility operators about the SOLAS amendments and their entry into force on July 1, 2004. The circulars relating to the SOLAS amendments on maritime security included the following:

- Marine Circular No. 3 of 2003, Maritime Security, March 12, 2003, highlighting the essential elements of the 2002 amendments to SOLAS, and putting shipowners, ship managers, masters, and officers of Singapore ships on notice that new measures would be required after July 1, 2004;⁵⁷
- Marine Circular No. 8 of 2003, Early Implementation of the Special Measures to Enhance Maritime Security, May 23, 2003, drawing the shipowners' attention to the special measures to enhance maritime security and to their entry into force on July 1, 2004 and to the fact that no extensions would be given on the implementation dates of July 1, 2004; reminding them that process and documentation required under the ISPS Code must be in place by July 1, 2004; and warning them that from July 1, 2004, ships not found in compliance with the maritime security requirements will be subject to control and compliance measures such as delaying the ship, detention of the ship, and expulsion of the ship from port;⁵⁸
- Marine Circular No. 9 of 2003, Appointment of Recognised Security Organisations (RSOs), March 23, 2003, informing those concerned that the nine classification societies which have been appointed by the MPA as the Recognized Organizations for surveys and certification for safety and pollution prevention requirements for Singapore ships may apply to the MPA for appointment as Recognized Security Organizations (RSOs) under the ISPS Code, and that appointed RSOs will be authorized to approve ship security plans, conduct ship security audits, and issue International Ship Security Certificates (ISSC) to Singapore ships in accordance with the ISPS Code on behalf of the MPA;⁵⁹

57. MPA, Circulars & Notices: Maritime Security – Amendments to SOLAS 74 Adopted by the IMO Diplomatic Conference on Maritime Security Held in London in December 2002, http://www.mpa.gov.sg/circulars_and_notices/maritimesecurity_notices/mc03-03.htm (last visited Mar. 9, 2009).

58. MPA, Circulars & Notices, Maritime Security: Early Implementation of the Special Measures to Enhance Maritime Security, http://www.mpa.gov.sg/circulars_and_notices/maritimesecurity_notices/mc03-08.htm (last visited Mar. 9, 2009).

59. MPA, Circulars & Notices, Maritime Security: Appointment of Recognised Security

- Marine Circular No. 10 of 2003, Maritime Security Training for Company Security Officers and Ship Security Officers, June 5, 2003, advising owners and managers to send persons designated to be company security officers or ship security officers for maritime security training at an early date so that they can implement the ISPS Code requirements before the requirements enter into force on July 1, 2004, and recommending guidelines to be followed when selecting a maritime security training provider;⁶⁰
- Port Marine Circular No. 26 of 2003, SOLAS Chapter XI-2, Reg. 10—Requirements for Port Facilities, July 9, 2003, advising the owners and operators of port facilities of the measures adopted by the 2002 SOLAS amendments, advising that port facilities are required to develop and maintain a port facility security plan on the basis of a port facility security assessment and to conduct drills and exercises with respect to the port facility security plan, and advising that owners and officers are to designate port facility security officers who are to undergo training in maritime security in accordance with the guidance in Part B of the ISPS Code;⁶¹
- Marine Circular No. 21 of 2003, Marking of Ship's Identification Number, October 13, 2003, advising that the 2002 amendments to SOLAS require "all passenger ships of 100 GT and upwards and all cargo ships of 300 GT and upwards to be permanently marked with an identification number (IMO number)," and urging that shipowners make arrangements to have their ships marked as soon as possible so as to meet the July 1, 2004 deadline;⁶²
- Shipping Circular No. 7 of 2004, Continuous Synopsis Record, March 9, 2004, advising that the 2002 SOLAS amendments require that applicable ships must carry on board a

Organisations, http://www.mpa.gov.sg/circulars_and_notices/maritimesecurity_notices/mc03-09.htm (last visited Mar. 9, 2009).

60. MPA, Circulars & Notices: Maritime Security, Maritime Security Training for Company Security Officers and Ship Security Officers, http://www.mpa.gov.sg/circulars_and_notices/maritimesecurity_notices/mc03-10.htm (last visited Mar. 9, 2009).

61. MARITIME AND PORT AUTHORITY OF SINGAPORE, SOLAS CHAPTER XI-2, REG. 10, REQUIREMENTS FOR PORT FACILITIES (2003), *available at* http://www.mpa.gov.sg/circulars_and_notices/pdfs/pc03-26.pdf.

62. MPA, Circulars & Notices, Maritime Security: Marking of Ship's Identification Number (IMO), http://www.mpa.gov.sg/circulars_and_notices/maritimesecurity_notices/mc03-21.htm (last visited Mar. 9, 2009).

'Continuous Synopsis Record (CSR), which is intended to provide an on-board record of the history of the ship with respect to the information recorded therein,' and advising owners to apply for a CSR as soon as they have obtained an ISSC;⁶³

- Shipping Circular 11 of 2004, Legislation to Give Effect to the Special Measures to Enhance Maritime Security, April 21, 2004, advising that the Merchant Shipping (Safety Convention) (Amendment) Regulations 2004 and the Maritime and Port Authority of Singapore (Port) (Amendment) Regulations 2004 give effect to the 2002 SOLAS amendments and the ISPS Code, and that beginning on July 1, 2004, ships will be subject to control and compliance measures on maritime security.⁶⁴

Because of this careful preparation, Singapore was ready to implement the 2002 Amendments when they entered into force on July 1, 2004.

B. Other Measures to Enhance Maritime Security in Singapore Waters

More than 12,000 oil tankers and 3000 chemical tankers call at Singapore annually.⁶⁵ Given that a significant amount of oil and chemicals are shipped in and out of Singapore, safeguarding its waters and port terminals against security threats has long been a top priority of the MPA and other relevant government agencies. It became an even higher priority after the September 11, 2001, terrorist attacks in the United States. Therefore, beginning in 2002, Singapore took a series of measures to enhance port and maritime security.

First, Singapore security agencies conducted risk assessments of its maritime transport sector and recommended measures to increase security, including port perimeter security; access control via security passes;

63. MPA, Circulars & Notices, Maritime Security: Continuous Synopsis Record, http://www.mpa.gov.sg/circulars_and_notices/maritimesecurity_notices/sc04-07.htm (last visited Mar. 9, 2009).

64. MPA, Circulars & Notices, Maritime Security: Legislation to Give Effect to the Special Measures to Enhance Maritime Security and Issues Relating Thereto, http://www.mpa.gov.sg/circulars_and_notices/maritimesecurity_notices/sc04-11.htm (last visited Mar. 9, 2009).

65. MPA, Maritime & Port Security: Introduction, http://www.mpa.gov.sg/maritimeportsecurity/maritime_security.htm (last visited Mar. 9, 2009).

random personnel, baggage and vehicle checks; and closed circuit monitoring of port facilities.⁶⁶

Second, Singapore increased measures to protect vital installations and vulnerable areas within the port limits such as petrochemical installations, oil terminals, anchorage areas for liquid nitrogen, liquid petroleum, and crude and chemical gas carriers. The measures include the establishment of prohibited or restricted access zones around vital installations and dangerous areas. Furthermore, Singapore increased security measures for cruise ships and their passengers as well as other susceptible ships, such as gas and large crude carriers.⁶⁷

Third, Singapore established the Immigration and Checkpoints Authority (ICA) in order to merge the border control functions of Singapore Immigration and Registration and the Customs and Excise Department into one entity and provide an integrated command over all aspects of checkpoint operations.⁶⁸

Fourth, Singapore established a Maritime Security Committee comprising representatives from the Ministries of Defence, Foreign Affairs, Home Affairs and Transport, as well as the intelligence and defense technology agencies. This inter-Ministerial Committee develops and implements the national strategy for maritime security and ensures interagency coordination.⁶⁹

Fifth, the Singapore Navy began to conduct escorts of selected high value merchant vessels, such as liquid natural gas (LNG) carriers and oil tankers, through Singapore waters.⁷⁰

Sixth, the Singapore Navy formed special Accompanying Sea Security Teams to safeguard vessels in Singapore waters. Beginning in April 2005, armed security teams of up to eight persons began to board selected vessels while in Singapore waters. The teams include personnel trained as seamen, marine engineers, and radio operators, allowing them to take control of a vessel if necessary.⁷¹

66. Home Team Speeches, Ministry of Home Affairs, Reply to Question in Parliament on Maritime Terrorist Threats (Jan. 20, 2003), http://www.mha.gov.sg/news_details.aspx?nid=OTI0-%2fr9a3iqQy5o%3d (last visited Mar. 9, 2009).

67. *Id.*

68. Press Release, Ministry of Home Affairs, Formation of the Immigration and Checkpoints Authority (ICA) (Dec. 14, 2002), http://www.mha.gov.sg/news_details.aspx?nid=OTIw-Tc%2fa1cS%2bqLo%3d (last visited Mar. 9, 2009).

69. Chew Men Leong, *Navies and Maritime Security – A Republic of Singapore Navy Perspective*, 33 *POINTER* 5, 7 (2007), available at <http://www.mindef.gov.sg/imindef/publications/pointer/journals/2007/v33n3.html>.

70. *Id.* at 8.

71. Joshua Ho, *The Security of Regional Sea Lanes* 12 (Inst. of Strategic Studies Sing.,

Seventh, to track small craft below 300 tons that are not required by IMO regulations to employ automatic identification systems (AIS), Singapore instituted a Harbour Craft Transponder System that enables it to track small craft in Singapore waters.⁷²

*C. Cooperative Measures to Combat Piracy and
Armed Robbery Against Ships*

In 2004 and 2005, Singapore cooperated with Indonesia and Malaysia to enhance maritime security in the Straits by combating piracy and armed robbery against ships. The “piracy” issue has long plagued the region.⁷³ The applicable rules of international law on jurisdiction over attacks at sea have contributed to the problem. Under the 1982 United Nations Convention on the Law of the Sea (hereinafter LOS Convention),⁷⁴ an attack on a ship is ‘piracy’ only if it meets the conditions in Article 101, one of which is that the attack must take place on the high seas or in an exclusive economic zone.⁷⁵ Most attacks on ships in or near the Straits take place in a port, in the territorial sea of one of the three littoral States, or in the archipelagic waters of Indonesia. Such attacks are not piracy.⁷⁶ They are classified by the IMO as “armed robbery against ships.”⁷⁷ The difference is significant because ships of all States can board pirate ships

Working Paper No. 81, 2005).

72. *Id.*; Port Marine Circular No. 22 of 2006, Harbour Craft Transponder System (HARTS), Dec. 11, 2006, *available at* http://www.mpa.gov.sg/circulars_and_notices/pdfs/pc06-22.pdf.

73. *See generally* Robert Beckman, *Combating Piracy and Armed Robbery Against Ships in Southeast Asia: The Way Forward*, 33 OCEAN DEV. & INT’L L. 317 (2002) (providing excellent background material on this problem).

74. United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter LOS Convention]. As of February 5, 2009, there are 157 signatories to the LOS Convention, including the three littoral States of Indonesia, Malaysia, and Singapore. United Nations, Ocean and Law of the Sea, Chronological Lists of Accessions and Successions to the Convention and the Related Agreements as of 05 February 2009, http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm (last visited Mar. 9, 2009). The only major stakeholders in the Straits who are not parties are the United States and Thailand. *Id.*

75. LOS Convention, *supra* note 74, art. 58 (providing that the provisions on piracy apply in the exclusive economic zone).

76. *See* ICC INT’L MAR. BUREAU, PIRACY AND ARMED ROBBERY AGAINST SHIPS 10 tbl.4 (2007).

77. IMO, FOCUS ON IMO, PIRACY AND ARMED ROBBERY AT SEA (2000), http://www.imo.org/includes/blast_bindoc.asp?doc_id=433&format=PDF (last visited Mar. 9, 2009).

and arrest the pirates on the high seas or in the exclusive economic zone,⁷⁸ but if an attack takes place in the territorial sea or in archipelagic waters, the only State with the authority to exercise jurisdiction by arresting the perpetrators is the coastal State.⁷⁹ Indonesia and Malaysia are highly sensitive about their sovereignty and are not willing to allow foreign ships to patrol or to exercise jurisdiction over “pirates” in waters under their sovereignty.

However, the three littoral States of Indonesia, Malaysia, and Singapore took steps, beginning in 2004, to enhance cooperation to combat piracy and armed robbery against ships. These efforts have resulted in a decrease in the piracy incidents in 2007 and 2008.⁸⁰ In July 2004, the defense forces of the three littoral States launched trilateral Malacca Straits Sea Patrols in order to provide a constant naval presence in the Straits.⁸¹ The coordinated patrols involve ships from the three littoral States patrolling within their own waters but in a coordinated manner and with enhanced information sharing.⁸² In September 2005, the three States began to conduct “Eyes in the Sky” aerial patrols in the Straits.⁸³ On April 21, 2006, these arrangements were formalized by Defense Chiefs of the three States agreeing to written Malacca Straits Patrols Standard Operating Procedures (SOP).⁸⁴ The sea patrols do permit “hot pursuit” across territorial sea boundaries, but they contain a “hand-off mechanism” to deal with cross-boundary enforcement.⁸⁵ In addition, Indonesia and Singapore have been collaborating since 2005 to share information in order to enhance surveillance and security along their common border in the Singapore Strait.⁸⁶

78. LOS Convention, *supra* note 74, art. 105.

79. The Secretary-General, *Report of the Secretary General on Piracy*, ¶ 152, delivered to the General Assembly, U.N. Doc. A/53/456 (Oct. 5, 1998) (“Incidents of piracy and armed robbery in the territorial sea or in port areas are perceived as crimes against the State and are thus subject to its national laws.”).

80. ICC INT’L MARITIME BUREAU, PIRACY AND ARMED ROBBERY AGAINST SHIPS 5 tbl.1, 22 (2007).

81. *See* Chew Men Long, *supra* note 69.

82. *See id.*

83. *Id.* at 10.

84. Int’l Maritime Org. [IMO], *Singapore Statement on Enhancement of Safety, Security and Environmental Protection in the Straits of Malacca and Singapore*, IMO Doc. IMO/SGP 1/4 (Sept. 2007), available at http://www.mpa.gov.sg/infocentre/pdf/spore_statement.pdf [hereinafter *Singapore Statement*].

85. Victor Huang, *Building Maritime Security in Southeast Asia – Outsiders Not Welcome?*, 33 *POINTER* 27, 37 (2007), available at <http://www.mindef.gov.sg/imindef/publications/pointer/journals/2007/v33n3.html>.

86. Irvin Lim, *Comprehensive Maritime Domain Awareness – An Idea Whose Time Has*

The Japanese government led an initiative in 2002 and 2003 to establish a regional mechanism to combat piracy and armed robbery against ships.⁸⁷ The result is an agreement known as the 2004 Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP).⁸⁸ An Information Sharing Centre (ISC) based in Singapore is established under the Agreement, which was signed by sixteen countries.⁸⁹ Unfortunately, neither Indonesia nor Malaysia has ratified the agreement, although both have indicated that they will cooperate with the ISC.⁹⁰ The reasons for their failure to ratify the agreement have not been stated publicly, but it is understood that both Indonesia and Malaysia have been cooperating with the ISC, to some degree, at an operational level. It is not possible, at this time, to evaluate the impact or effectiveness of the ReCAAP ISC because the number of attacks on ships in and near the Straits has dropped dramatically in recent years.

D. Cooperation with U.S.-led Maritime Security Initiatives

After the United States was attacked on September 11, 2001, it took several initiatives to enhance maritime security beyond the framework of international organizations such as the IMO. These initiatives were based on coalitions of willing partners with similar concerns about maritime security.

On September 20, 2002, the government of Singapore signed a declaration to join the Container Security Initiative (CSI).⁹¹ Under the

Come?, 33 *POINTER* 13, 19 (2007), available at <http://www.mind.gov.sg/imindex/publications/pointer/journals/2007/v33n3.html>.

87. RICHARD J. ELLINGS ET AL., *STRATEGIC ASIA 2002-03: ASIA AFTERSHOCKS* 110 (2008).

88. Nov. 11, 2004, entered into force Sept. 4, 2006, available at http://www.recaap.org/index_home.html.

89. The sixteen countries are the People's Republic of Bangladesh, Brunei Darussalam, the Kingdom of Cambodia, the People's Republic of China, the Republic of India, the Republic of Indonesia, Japan, the Republic of Korea, the Lao People's Democratic Republic, Malaysia, the Union of Myanmar, the Republic of the Philippines, the Republic of Singapore, the Democratic Socialist Republic of Sri Lanka, the Kingdom of Thailand, and the Socialist Republic of Viet Nam.

90. In paragraph 9 of the 2005 Joint Ministerial statement of the Ministers of Indonesia, Malaysia and Singapore in Batam, Indonesia on August 2, 2005, the Ministers took note of the establishment of the ReCAAP Information Sharing Center in Singapore. The Statement also states that "[i]n this regard, the Ministers of Indonesia and Malaysia indicated their countries' preparedness to cooperate with the Center."

91. Press Release, U.S. Customs Serv., Singapore Signs Declaration to Join U.S. Customs Anti-Terrorist Container Security Initiative (Sept. 20, 2002), available at

agreement, Singapore became the first CSI port in Asia. The arrangement involves placing a small team of U.S. customs inspectors in Singapore to work with Singapore authorities to pre-screen and target high-risk cargo containers bound for America. In addition, Singapore has both implemented an enhanced export control system, to ensure the security of containers going through its port, and installed radiographic scanners to screen containers.

The United States announced the Proliferation Security Initiative (PSI) in May 2003. The main purpose of the PSI is to interdict shipments of weapons of mass destruction (WMD) and related goods to terrorists and countries of proliferation concern.⁹² Singapore was not among the original States in the PSI.⁹³ It joined in 2004,⁹⁴ and in August 2005, it hosted the first PSI exercise in Southeast Asia.⁹⁵

Several States in Asia, including Indonesia, Malaysia, China, and South Korea, have expressed reservations and concerns about the PSI. One of the main concerns is that the United States has not, in their view, been clear on whether interdictions and boardings under the PSI will be conducted in a matter that is consistent with the LOS Convention. The fact that the United States is not a party to the LOS Convention has exacerbated this problem.⁹⁶

E. Singapore Initiatives to Cooperate on Maritime Issues

One of the most important issues States must address, in order to deal with low-probability, high-consequence events such as terrorist attacks, is interagency coordination. Interagency coordination is necessary both horizontally, between agencies of the national government, and vertically, between national and local government agencies. National coordinating

<http://usinfo.org/wf-archive/2002/020923/epf111.htm>.

92. See generally U.S. Dept. of State, Proliferation Security Initiative, <http://www.state.gov/t/isn/c10390.htm> (last visited Feb. 19, 2009) (providing additional information on the PSI).

93. The ten countries that originally joined with the United States are Australia, France, Germany, Italy, Japan, the Netherlands, Poland, Portugal, Spain, and the United Kingdom. See Press Release, Gov't of Sing., Republic of Singapore Navy (RSN) Participates in Proliferation Security Initiative (PSI) Exercise (Jan. 11, 2004) add. (Factsheet), available at http://www.mindef.gov.sg/imindef/newsand_events/nr/2004/jan/11jan04_fs.html.

94. *Id.*

95. Press Release, Gov't of Sing., Singapore Hosts Proliferation Security Initiative Exercise (Aug. 15, 2005), available at http://www.mindef.gov.sg/imindef/news_and_events/nr/2005/aug/15aug05_nr2.html.

96. Huang, *supra* note 85, at 33-35. See also Mark J. Valencia, *The Proliferation Security Initiative: A Glass Half-Full*, ARMS CONTROL TODAY (June 2007), available at http://www.armscontrol.org/act/2007_06/Valencia (providing a critical analysis of the PSI).

agencies must do more than coordinate the actions of the various national government agencies. They must also serve as the focal point for international cooperation and interoperability between States to promote maritime security. Singapore, recognizing the need for interagency coordination, established the Maritime Security Committee.

To further enhance interagency coordination, the Singapore government established the Maritime Command and Control Centre (Changi C2 Centre) in March 2007 to deal with the threat of maritime terrorism. The Changi C2 Centre, which is expected to become operational in 2009, will enhance Singapore's maritime security capabilities by furthering multi-agency cooperation and interoperability among national maritime agencies. The Changi C2 Centre will house the Singapore Maritime Security Centre (SMSC), an Information Fusion Centre, and a Multinational Operations and Exercise Centre.

The SMSC will bring together elements from key domestic maritime agencies, such as the Republic of Singapore Navy, the Maritime and Port Authority of Singapore, and the Police Coast Guard under one roof. The SMSC will plan its maritime security operations from a common room known as the Inter-Agency Co-ordination Centre in the event of maritime incidents or crises.

The Information Fusion Centre (IFC) will facilitate proactive sharing and fusion of information to enable analysis, planning, and coordination of maritime responses in a more collaborative and networked manner. It will house the necessary computer networks to fuse, analyze, and disseminate information shared by participating militaries and agencies. The IFC will also enable international cooperation and interoperability with other States in order to promote maritime security in the region. The Multinational Operations and Exercise Centre (MOEC) will support the planning and conduct of bilateral and multilateral exercises or operations. It will also function as a Maritime Security Centre for the conduct of regional maritime security operations, or as a regional Humanitarian Assistance and Disaster Relief Centre. The Changi C2 Centre will enable Singapore to enhance national and international cooperation on maritime security. Singapore will be able to collate and share maritime information with international and regional partners to enhance awareness of the maritime security situation.

To further the enhancement of maritime security cooperation among navies in the region, the Singapore Navy has developed an Internet-based Regional Maritime Information Exchange (ReMIX) portal to promote

information sharing among the navies of the Western Pacific Naval Symposium.⁹⁷

III. THE CO-OPERATIVE MECHANISM FOR THE STRAITS OF MALACCA AND SINGAPORE

A. *History of Cooperation by the Littoral States in the Straits*

Because of its close geographic proximity to Indonesia and Malaysia and to the Straits, it is not possible for Singapore to enhance safety, security, and environmental protection from ship-source pollution without cooperation from its neighbors. The three littoral States of Indonesia, Malaysia, and Singapore have been cooperative toward the Straits since the 1970s. Most of the cooperation on navigational safety and ship-source pollution is through a body of technical operational experts from the three littoral States known as the Tripartite Technical Experts Group (TTEG). The TTEG meets regularly to coordinate policies relating to safety of navigation and environmental protection in the Straits.⁹⁸

In February 1977, a Ministerial meeting of the three littoral States adopted recommendations on the Straits and submitted them to the Inter-Governmental Maritime Consultative Organization (IMCO).⁹⁹ On November 14, 1977, the IMCO Assembly adopted Resolution A.375(X), *Navigation through the Straits of Malacca and Singapore*.¹⁰⁰ The resolution mandated a new routing system for the Straits which included traffic separation schemes, deep-water routes, and rules for relating to under-keel clearance for deep-draft vessels. Annex V of the Resolution contained the *Rules for Vessels Navigating Through the Straits of Malacca and Singapore*.

Passage in the Straits is now governed by Part III of the LOS Convention on straits used for international navigation. Part III gives ships of all States the right of transit passage through the Straits,¹⁰¹ and such

97. Lim, *supra* note 86, at 18.

98. See Robert Beckman, *The Establishment of a Cooperative Mechanism for the Straits of Malacca and Singapore under Article 43 of the United Nations Convention on the Law of the Sea*, in *THE FUTURE OF OCEAN REGIME-BUILDING: ESSAYS IN TRIBUTE TO DOUGLAS M. JOHNSTON* 233 (Aldo Chircop, Ted L. McDorman & Susan J. Rolston eds., 2009) (providing a detailed examination of the history of the Co-operative Mechanism).

99. IMCO is now known as the International Maritime Organization (IMO).

100. Int'l Maritime Org. [IMO], *Navigation Through the Straits of Malacca and Singapore*, IMO Assemb. Res. A.375(X) (Nov. 14, 1977) (on file with the Ocean and Coastal Law Journal).

101. See LOS Convention, *supra* note 74, art. 38.

passage cannot be impeded or suspended.¹⁰² However, all ships exercising the right of transit passage are required to comply with generally accepted international rules and standards on the safety of navigation and the prevention of pollution from ships.¹⁰³ This means, in effect, that all ships transiting the Straits must comply with all of the IMO conventions on safety and ship-source pollution that have been generally accepted. The right of the littoral States to unilaterally regulate ships exercising the right of transit passage is severely limited: the LOS Convention provides that they may only give effect to generally accepted international regulations.¹⁰⁴

Indonesia, Malaysia, and Singapore have been cooperating with each other and with the IMO in accordance with the LOS Convention to enhance safety in the Straits. For example, upon the recommendation of the three littoral States, the traffic separation scheme for the Straits was revised and extended in 1998 by the Maritime Safety Committee (MSC) of the IMO.¹⁰⁵ In 1998, the three littoral States also proposed to the IMO that a mandatory ship reporting system be adopted in the Straits. The MSC, acting in accordance with Regulation V/8-1(h) of SOLAS,¹⁰⁶ adopted resolution MSC.73(69) on May 19, 1998, establishing a mandatory ship reporting system known as "STRAITREP" for the Straits.¹⁰⁷

As security in ports and ships was enhanced under the measures adopted by the IMO in 2002, concern increased about the risk of terrorist attacks on vital sea lanes such as the Straits. At the same time, there was a significant increase in the number of incidents of piracy and armed robbery against ships in the Straits.¹⁰⁸

The impetus for specific action to establish a new cooperative mechanism for the Straits came from the Secretary General of the IMO with the support of the IMO Council. At the IMO Council's ninety-third

102. *Id.* art. 44.

103. *Id.* art. 39.

104. *See id.* art. 42. *See also id.* art. 21 (setting forth the powers of coastal states to adopt laws and regulations in the areas of their territorial sea not subject to Part III).

105. *See* Int'l Maritime Org. [IMO], *New and Amended Existing Traffic Separation Schemes*, IMO Doc. COLREG.2/Cir.44 (May 26, 1998) (on file with the Ocean and Coastal Law Journal).

106. SOLAS, *supra* note 20, Chapter V. Safety of Navigation, Regulation 8-1. This regulation on ship reporting systems was added to SOLAS by Maritime Safety Committee Resolution MSC.31 (63) adopted on May 23, 1994.

107. Int'l Maritime Org. [IMO], *Mandatory Ship Reporting Systems*, Annex I, IMO Res. MSC.73(69) (May 19, 1998) (on file with the Ocean and Coastal Law Journal) (describing the mandatory ship reporting system in the Straits of Malacca and Singapore).

108. ICC INT'L MARITIME BUREAU, *PIRACY AND ARMED ROBBERY AGAINST SHIPS, ANNUAL REPORT, 1 JANUARY – 31 DECEMBER 2004* 17 (rev. ed. 2005).

session in October 2004, the Secretary General submitted a document that analyzed the key issues involved in protecting vital shipping lanes against terrorist attacks.¹⁰⁹ The document included an annex containing a profile of the Straits. The IMO Council agreed that the organization could play a greater role in the protection of shipping lanes of strategic importance and significance. As part of his efforts to push forward collaboration on maritime security, the Secretary General initiated an IMO-sponsored meeting to be hosted by Indonesia in September 2005. The purpose of the meeting was to provide an opportunity for the littoral States, user States, and other stakeholders to work to enhance the safety of navigation, environmental protection, and overall security in the Straits.¹¹⁰

B. The 2005 Batam Joint Ministerial Statement

In August 2005, one month before the IMO-sponsored meeting in Jakarta, the Foreign Ministers of the three littoral States met in Batam, Indonesia to discuss matters pertaining to the safety of navigation, environmental protection, and maritime security in the Straits.¹¹¹ This was only the fourth trilateral Ministerial meeting of the three littoral States on matters relating to the Straits of Malacca and Singapore, and the first since 1977.¹¹²

The Batam Joint Ministerial Statement (2005 Batam Statement)¹¹³ sets out the common position of Indonesia, Malaysia, and Singapore on the respective roles of the littoral States, user States, and other stakeholders in enhancing safety, security, and environmental protection in the Straits. The Statement reaffirms that the three littoral States have sovereignty in the Straits and the primary responsibility for the safety of navigation, environmental protection, and maritime security.¹¹⁴ At the same time, the

109. Int'l Maritime Org. [IMO], *Protection of Vital Shipping Lanes*, IMO Doc. C 93/15 (Oct. 7, 2004) (on file with the Ocean and Coastal Law Journal) [hereinafter *Protection of Vital Shipping Lanes*].

110. Efthimios E. Mitropolous, Sec'y Gen., IMO, Keynote Address at the ASEAN Regional Forum Conference: Regional Co-operation in Maritime Security (Mar. 2, 2005) (transcript available at ASEAN Regional Forum Conference, http://www.imo.org/Newsroom/mainframe.asp?topic_id=1028&doc.id=4777) (last visited Feb. 2, 2009).

111. Int'l Maritime Org. [IMO], *The Batam Statement of the 4th Tripartite Ministerial Meeting of the Littoral States on the Straits of Malacca and Singapore*, para. 1, IMO Doc. IMO/SGP 1/INF.3 (Aug. 2, 2005) (on file with the Ocean and Coastal Law Journal) [hereinafter *2005 Batam Statement*].

112. *Id.* para. 2.

113. *2005 Batam Statement*, *supra* note 111.

114. *Id.* para. 3.

statement acknowledges the interests of user States and relevant international agencies such as the IMO, and the role they could play in respect to the Straits.¹¹⁵ It also states that any cooperative measures taken in the Straits must be in conformity with international law, including the LOS Convention.¹¹⁶

With respect to the possible roles of user States and other stakeholders in cooperative arrangements, the 2005 Batam Statement provides that, bearing in mind the responsibility and burden of littoral States and the interests of user States, the Ministers welcome the assistance of the user States, relevant international agencies, and the shipping community in the areas of capacity building, training and technology transfer, and other forms of assistance in accordance with the LOS Convention.¹¹⁷

The 2005 Batam Statement recognizes the importance of the tripartite Ministerial meeting in providing the overall framework for cooperation.¹¹⁸ The Ministers agreed that they should meet on a more regular basis with senior officials to address relevant issues in a timely manner.¹¹⁹ Additionally, it was agreed that such meetings may include, if necessary, representatives of other relevant agencies to the respective littoral States.¹²⁰

C. IMO-Sponsored Meetings in Jakarta, Kuala Lumpur, and Singapore

The IMO-sponsored meeting in Jakarta was held September 7-8, 2005, and was attended by over thirty States as well as international organizations and international non-government organizations.¹²¹ The statement from the meeting, known as the Jakarta Statement,¹²² identified several points of agreement relating to safety and environmental protection in the Straits. First, the work of the TTEG¹²³ on safety of navigation should be supported

115. *Id.* para. 4.

116. *Id.*

117. *Id.* para. 9.

118. *Id.* para. 5.

119. *Id.*

120. *Id.*

121. Int'l Maritime Org. [IMO], *Jakarta Statement on Enhancement of Safety, Security and Environmental Protection in the Straits of Malacca and Singapore*, IMO Doc. IMO/JKT 1/2 (Sept. 8, 2005) (on file with the Ocean and Coastal Law Journal) [hereinafter *Jakarta Statement*].

122. *Id.*

123. See Press Release, MPA Singapore, Work And Close Co-Operation Of The Tripartite Technical Experts Group (TTEG) Have Contributed Significantly To The Safety Of Navigation In The Straits Of Malacca And Singapore – MPA Hosts 25th Anniversary Celebration Of The Tteg (May 9, 2000), available at http://www.mpa.gov.sg/sites/global_navigation/newscenter/mpa_news/mpa_news_detail.page?file_name=000509.xml. The

and encouraged.¹²⁴ Second, the three littoral States should establish a mechanism for regular meetings with user States, the shipping industry, and other stakeholders.¹²⁵ These meetings would address the issues of safety, security, and environmental protection in the Straits, facilitate cooperation, and explore possible options for burden-sharing.¹²⁶ Third, the three littoral States should establish and enhance mechanisms for information exchange within and between States to enhance both maritime domain awareness and cooperative measures.¹²⁷ It was agreed that, where possible, these mechanisms should build on existing arrangements such as the TTEG mechanism.¹²⁸

Another meeting was held September 18-20, 2006, in Kuala Lumpur, Malaysia.¹²⁹ At the Kuala Lumpur meeting, representatives from the three littoral States presented papers and presentations that outlined the elements of the Co-operative Mechanism.¹³⁰

The IMO and the government of Singapore convened a third, and final, meeting on Enhancement of Safety, Security and Environmental Protection in the Straits of Malacca on September 4-6, 2007.¹³¹ The product of the meeting was the Singapore Statement, which affirmed that the littoral States have sovereignty, jurisdiction, and territorial integrity over the Straits and primary responsibility for safety, security, and environmental protection in the Straits.¹³² At the same time, the Singapore Statement acknowledged the role played by the IMO, user States, shipping industry, and other stakeholders in cooperating with littoral States to promote and enhance safety of navigation, environmental protection, and the uninterrupted flow of traffic in the Straits.¹³³ The statement invites the IMO to participate in the Co-operative Mechanism, continue cooperation

TTEG is a group of technical experts from the three littoral States of Indonesia, Malaysia and Singapore. The TTEG was established in 1975, and meets regularly to coordinate policies relating to safety of navigation and environmental protection in the straits.

124. *Jakarta Statement*, *supra* note 121.

125. *Id.*

126. *Id.*

127. *Id.*

128. *Id.*

129. Int'l Maritime Org. [IMO], *The Co-Operative Mechanism Between the Littoral States and User States on Safety of Navigation and Environmental Protection in the Straits of Malacca and Singapore*, at 2 n.1, IMO Doc. IMO/SGP 2.1/1 (Aug. 16, 2007), available at http://www.mpa.gov.sg/sites/pdf/spore-mtg-co-op-mechan-0709_04.pdf [hereinafter *Co-operative Mechanism*].

130. *Id.* para. 4.

131. *Singapore Statement*, *supra* note 84.

132. *Id.*

133. *Id.*

with the littoral States, and assist in attracting sponsors for projects and the Aids to Navigation Fund.¹³⁴

D. Overview of the New Co-operative Mechanism

The Co-operative Mechanism is intended to implement Article 43 of the LOS Convention, which provides that user States and States bordering a strait should, by agreement, cooperate on navigational safety and ship-source pollution.¹³⁵ This is the first time that Article 43 has been implemented for a strait used in international navigation. Article 43 reads as follows:

User States and States bordering a strait should by agreement cooperate:

- (a) in the establishment and maintenance in a strait of necessary navigational and safety aids or other improvements in aid of international navigation; and
- (b) for the prevention, reduction and control of pollution from ships.

The Co-operative Mechanism consists of three elements: a Cooperation Forum, an Aids to Navigation Fund, and specific projects.¹³⁶ The Cooperation Forum is intended to promote open dialogue and discussions between the littoral States, user States, and other interested stakeholders. The Aids to Navigation Fund (Fund) is intended to enable user States, and other stakeholders, to voluntarily enhance navigational aids and thereby improve navigational safety and environmental protection.¹³⁷ Through the TTEG, the littoral States agreed on six specific projects to enhance safety and environmental protection in the Straits and requested user States to support these projects.¹³⁸ The six projects are:

134. *Id.*

135. *Id.*

136. *See Singapore Statement, supra* note 84. *See also* Press Release, Gov't of Sing., Co-Operative Mechanism for Straits of Malacca and Singapore Receives Strong International Support (June 9, 2007) add. (Background Information), *available at* http://www.mpa.gov.sg/infocentre/pdfs/background_info_co-op_mech_projects.pdf (providing background information on projects under the Co-operative Mechanism).

137. *Co-Operative Mechanism, supra* note 129, annex 4 at 1.

138. *Id.* at 4 n.3.

1. The removal of wrecks in the traffic separation scheme (TSS);
2. Cooperation and capacity building in relation to the OPRC-HNS Protocol;¹³⁹
3. A demonstration project placing class B automatic identification system (AIS) transponders on small ships;
4. Setting up tide, current and wind measurement systems;
5. The replacement and maintenance of aids to navigation;
6. The replacement of aids to navigation damaged in the 2004 tsunami.¹⁴⁰

The littoral States have taken steps to implement the Co-operative Mechanism. The first meeting of the Aids to Navigation Fund Committee was held April 16-17, 2008 in Penang, Malaysia.¹⁴¹ The Committee was comprised of the littoral States and the contributors.¹⁴² At the meeting, the Fund was formally launched and the Fund Committee formalized the rules of governance and administration for the Fund.¹⁴³ Currently, the first work activity of the Fund is an initial site survey of navigation aids to determine the maintenance and replacement work that is required.¹⁴⁴ The Nippon Foundation of Japan is contributing approximately 1.4 million dollars to fund the cost of the site survey.¹⁴⁵ Other contributions to the Fund that have been pledged are 100,000 dollars each from the Republic of Korea and the United Arab Emirates, and 1 million dollars from the Middle East Navigation Aids Service (MENAS).¹⁴⁶ Greece will also be contributing approximately 1 million dollars to the Fund through the IMO trust fund.¹⁴⁷ Finally, China and Japan have also indicated their intention to contribute to the Fund.¹⁴⁸

The response of user States to the projects has been very positive. The United States has expressed interest in exploring the possibility of contributing to Project 1, which addresses the removal of wrecks in the traffic separation scheme (TSS). China, the United States, and Australia

139. See OPRC-HNS Protocol, *supra* note 30. As of October 31, 2008, there were twenty-one parties to the Protocol, including Singapore and Japan.

140. *Id.*

141. *Protection of Vital Shipping Lanes*, *supra* note 109.

142. *Id.* at 2.

143. *Id.* at 3.

144. Int'l Maritime Org. [IMO], *Summary Record of the Fourth Meeting*, at 14, IMO Doc. C 100/SR.4 (June 17, 2008) (on file with the Ocean and Coastal Law Journal).

145. *Protection of Vital Shipping Lanes*, *supra* note 109.

146. *Id.*

147. *Id.*

148. Presentations at the International Symposium on Safety and Protection of the Marine Environment in the Straits of Malacca and Singapore (Nov. 24, 2008) (notes on file with author).

have offered to fund parts of Project 2, covering cooperation and capacity building in relation to the OPRC-HNS Protocol. Australia, Japan, and Korea have offered assistance for Project 3 to demonstrate the placement of AIS transponders on small ships. China and the United States have offered assistance on Project 4 to establish tide, current, and wind measurement systems. The Nippon Foundation has contributed close to 1.4 million dollars to the Fund for the site survey to aid Project 5, which addresses the replacement and maintenance of aids to navigation. The Japanese government will be providing approximately 200,000 dollars toward Project 5. Finally, China has undertaken to provide all of the funding for Project 6 to replace all of the aids to navigation destroyed in the 2004 tsunami.¹⁴⁹

E. Evaluation of the New Co-operative Mechanism

The Co-operative Mechanism devised by the littoral States, in consultation with the IMO and user States, is a historic breakthrough. The Co-operative Mechanism goes beyond Article 43 in two ways. First, it clarifies that the IMO has a role in the mechanism as a facilitator. Second, it calls for participation by non-State entities, including the shipping industry and other stakeholders.

The Cooperation Forum will enable user States and other stakeholders to work together with the littoral States to identify new projects to enhance safety, security, and environmental protection in the Straits. User States and other stakeholders who contribute to the Aids to Navigation Fund will have a say in the management and operation of the Fund. These mechanisms will ensure that user States and other stakeholders who cooperate with the littoral States will be given a voice in the projects, the Fund, and the Cooperation Forum.

The Co-operative Mechanism is likely to be successful for three reasons. First, the mechanism is initiated and driven by the littoral States and it is consistent with the principles set out by the littoral States in the 2005 Batam Statement. It recognizes the sovereignty, jurisdiction, and primary responsibility of the littoral States in the Straits. Furthermore, it is consistent with international law, specifically, the LOS Convention. Second, it recognizes that the IMO, user States, and other stakeholders have a role in cooperating with the littoral States. Cooperative stakeholders are provided a voice in the management and operation of the mechanisms.

149. *Id.*

Third, because it is inclusive, open and flexible, it will be possible to adapt the Co-operative Mechanism to meet changing circumstances.

F. The Co-operative Mechanism and Security in the Straits

The Co-operative Mechanism is thus far limited to enhancing safety and environmental protection. It does not include any measures to enhance maritime security in the Straits. However, security in the Straits is a serious concern for many. The IMO commenced the Protection of Vital Shipping Lanes initiative because of the concern for security of the shipping lanes. In 2005, the littoral States were primarily motivated to enhance their cooperation concerning the Straits because of concerns with maritime security after the September 11, 2001 incident. Another concern for the littoral States was the escalating risk to international shipping from piracy and armed robbery against ships in the Straits.

The 2005 Batam Statement contains several paragraphs that suggest that the process was intended by the Ministers to enhance cooperation on the Straits so as to improve security, safety, and environmental protection. The 2005 Batam Statement provided that the Ministers agree to establish a TTEG on maritime security.¹⁵⁰ A TTEG on maritime security was also mentioned in the 2006 Kuala Lumpur Statement.¹⁵¹ However, there is no mention of it in the 2007 Singapore Statement.¹⁵² Therefore, it appears that the littoral States had second thoughts about the need for including maritime security in the Co-operative Mechanism and either deferred or abandoned the idea of establishing a TTEG on maritime security. Instead, it appears that they have left cooperative measures to enhance maritime security to the defense forces of the littoral States. The 2007 Singapore Statement, for example, commends the joint efforts of the littoral States and their armed forces in contributing to the security of the Straits through the Malacca Straits Sea Patrols and the “Eyes in the Sky” maritime air patrols.¹⁵³

Thus, the new Co-operative Mechanism for the Straits appears to be limited, at least for the time being, to the enhancement of safety and environmental protection in the Straits.

150. 2005 Batam Statement, *supra* note 111.

151. Int'l Maritime Org. [IMO], *Kuala Lumpur Statement on Enhancement of Safety, Security and Environmental Protection in the Straits of Malacca and Singapore*, at 3-4, IMO Doc. IMO/KUL 1/4 (Sept. 20, 2006), available at http://www.imo.org/includes/blastDataOnly.asp/data_id%3D15677/kualalumpurstatement.pdf.

152. *See Singapore Statement*, *supra* note 84.

153. *Id.* at 4.

The Co-operative Mechanism could be extended to include cooperation to enhance maritime security in the Straits if two conditions are followed. First, any arrangements, under the Co-operative Mechanism, between littoral States and user States must be consistent with the principles set out in the 2005 Batam Statement. This will ensure that such cooperation does not undermine or infringe the sovereignty and jurisdiction of the littoral States. It will also ensure that any cooperative measures are consistent with international law, specifically, the LOS Convention. Second, maritime security issues in cooperative arrangements should be limited to the purview of the IMO and the national agencies responsible for maritime and IMO administration. This will ensure that the Co-operative Mechanism will not intrude into areas under the purview of other ministries or agencies. Furthermore, this will limit the Co-operative Mechanism to dealing with ship and port security through the implementation of the ISPS Code and the other measures adopted by the IMO in 2002 to enhance maritime security. It could also include cooperative measures to combat piracy and offenses under both the 1988 SUA Convention¹⁵⁴ and its 2005 SUA Protocol.¹⁵⁵

Matters within the purview of the IMO and the national agencies responsible for maritime administration are of direct interest to user States and other stakeholders such as shipping companies. Should the security situation in the Straits deteriorate, the users of the Straits should have the opportunity to discuss these issues with the littoral States at the Cooperation Forum. Also, projects could be developed by the littoral States so that user States, under the Co-operative Mechanism, could assist the littoral States in enhancing maritime security. For example, user States could participate in projects to enhance security in ports along the Malacca Strait by providing technical and material assistance on how to implement the ISPS Code. User States could also assist the littoral States in implementing their obligations under other IMO regulations and circulars on maritime security.

154. Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation art. 3, Mar. 10, 1988, 1678 U.N.T.S. 221 [hereinafter SUA 1988]. As of October 31, 2008, 149 States were parties to the Convention, but neither Indonesia nor Malaysia were parties.

155. See Protocol of 2005 to the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation, Oct. 14, 2005 [2005] A.T.N.I.F. 30, *available at* <http://www.austlii.edu.au/au/other/dfat/treaties/notinforce/2005/30.html> [hereinafter 2005 SUA Protocol].

IV. RECOMMENDATIONS FOR ADDITIONAL MEASURES TO ENHANCE
SECURITY AND ENVIRONMENTAL PROTECTION IN THE STRAITS

Most of the projects proposed under the Co-operative Mechanism seek to enhance the safety of navigation in the Straits. To deal with the threat of ship-source pollution in the Straits, additional cooperative measures between the littoral States and user States are required. Additional measures to enhance environmental protection in the Straits should include:

1. Cooperative measures to assist the littoral States in ratifying and implementing all of the annexes to MARPOL,¹⁵⁶ including the provision of adequate reception facilities in major ports in the littoral States;
2. Cooperative measures to assist the littoral States in combating intentional illegal discharges of oil and oily waste in the Straits;
3. Cooperative measures to assist the littoral States both in ratifying and implementing OPRC,¹⁵⁷ and OPRC-HNS,¹⁵⁸ and in working with user States, and the private sector, to develop contingency plans for a major transboundary incident involving oil or hazardous substances in the Straits;
4. Cooperative measures to assist the littoral States both in ratifying and implementing CLC 1992,¹⁵⁹ Fund 1992,¹⁶⁰ and the 2001 Bunker Convention,¹⁶¹ and in harmonizing their implementing legislation so that they could more efficiently and effectively manage the liability and compensation issues arising from a major transboundary oil pollution incident in the Straits;
5. Cooperative measures to assist the littoral States in ratifying and implementing other IMO conventions on ship-source pollution, including the anti-fouling¹⁶² and ballast water¹⁶³ conventions.

156. MARPOL, *supra* note 22.

157. OPRC, *supra* note 29.

158. OPRC-HNS Protocol, *supra* note 30.

159. 1992 CLC, *supra* note 31.

160. 1992 Fund, *supra* note 32.

161. Bunker Convention, *supra* note 33.

162. Anti-Fouling, *supra* note 24.

163. Ballast Water, *supra* note 23.

With respect to maritime security, there are three specific measures that the littoral States should take, outside the Co-operative Mechanism, to build a common legal framework for enhancing security in the Straits. First, to enhance maritime domain awareness, the three littoral States should establish arrangements to share information among themselves and the other maritime powers. This would provide the ability to receive, analyze, and exchange information concerning maritime terrorism threats. If there is a serious terrorist threat in the Straits, the defense and security forces of the littoral States must be able to react quickly and coordinate their actions. The importance of such coordination was recognized in the 2005 Batam Statement, which supported further strengthening of cooperation between the chiefs of defense forces.¹⁶⁴ Furthermore, many are hopeful that the new Command and Control Center, established by Singapore, will serve as an impetus for greater information sharing. Additionally, the ReMIX information sharing platform may also assist in this endeavor.

Second, the three littoral States should ratify and implement the 1988 Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA 1988),¹⁶⁵ and the 2005 Protocol.¹⁶⁶ The 2005 Protocol, as previously mentioned, updated SUA 1988 in light of threats to maritime security after the attack on the World Trade Center in 2001.¹⁶⁷ Together, SUA 1988 and the 2005 Protocol provide useful tools for combating piracy and acts of maritime terrorism. Both SUA 1988 and the 2005 Protocol are consistent with the LOS Convention and with the 2005 Batam Statement. Although the 2005 Protocol establishes new boarding provisions, the new provisions are consistent with the two fundamental principles of international law on jurisdiction: that ships on the high seas are subject to the exclusive jurisdiction of the flag State, and that coastal States have the exclusive right to exercise jurisdiction in waters under their sovereignty.¹⁶⁸ Under the 2005 Protocol, boarding of suspect ships can only occur seaward of the outer limit of the territorial sea and only with the express consent of the flag State.¹⁶⁹ In addition, the flag State is permitted to place conditions on the boarding of its vessels.¹⁷⁰ The boarding

164. 2005 Batam Statement, *supra* note 111.

165. SUA 1988, *supra* note 154.

166. 2005 SUA Protocol, *supra* note 155.

167. *Id.*

168. *Id.* art. 8.

169. *Id.*

170. *Id.*

provisions contain extensive safeguards to ensure that the interests of the flag State, the crew, the ship owner, and the cargo owner are protected.¹⁷¹

Third, the three littoral States should review and harmonize their domestic legislation on maritime terrorism and other criminal activities at sea. They should review their arrangements for mutual assistance in criminal matters in order to institute new measures that will make it easier to prosecute or extradite persons who commit crimes in the Straits. The three littoral States should also harmonize their national legislation implementing the 1988 SUA and its 2005 Protocol. This effort may be assisted by a previous attempt at uniformity in domestic legislation on maritime offenses—the draft guidelines for national legislation on maritime criminal acts prepared by Comité Maritime International and submitted to the Legal Committee of the IMO in August 2007.¹⁷²

V. CONCLUSION

In recent years, Singapore has made a concerted effort to enhance navigational safety and environmental protection in its port and waters. It has taken an active role in the activities of the IMO, and effectively implemented almost all of the relevant IMO conventions on navigational safety and ship-source pollution. It has been relatively easy for Singapore to take these measures because it is a small, developed country, and a leading international maritime center.

Singapore has been cooperating with Indonesia and Malaysia to enhance navigational safety and environmental protection in the Straits since the 1970s. This cooperation reached a new level in 2007, when the three States established a new Co-operative Mechanism for the Straits in order to implement Article 43 of the LOS Convention. The new Co-operative Mechanism provides a role for user States, and other stakeholders, in enhancing navigational safety and environmental protection in the Straits. The new mechanism is likely to succeed because it is consistent with international law and does not infringe on the sovereignty and jurisdiction of the littoral States. However, further

171. For more information on the SUA 1988 and the 2005 Protocol see Robert Beckman, *The 1988 SUA Convention and the 2005 SUA Protocol: Tools to Combat Piracy, Armed Robbery and Maritime Terrorism*, MAR. AFF., Winter 2006, at 1-24, reprinted in LLOYD'S MIU HANDBOOK OF MARITIME SECURITY 187-200 (Rupert Herbert-Burns et al. eds., 2009).

172. See Int'l Maritime Org. [IMO], *Maritime Criminal Acts: Draft Guidelines for National Legislation*, IMO Doc. LEG 93/12/1 (Aug. 15, 2007), available at http://www.comitemaritime.org/cmidoocs/pdf/Crim_acts.pdf.

measures can be taken, under the Co-operative Mechanism, to deal with the threat of ship-source pollution in the Straits.

Since 2002, Singapore has given high priority to maritime security in its port and surrounding waters. It acted swiftly to fully implement the ISPS Code and the other measures adopted by the IMO in the 2002 amendments to SOLAS. Singapore also adopted a number of unilateral measures to enhance maritime security in its port and surrounding waters. Among these measures was the establishment of a national coordinating agency.

Singapore has cooperated with Indonesia and Malaysia to enhance maritime security through both patrols of the Malacca Straits and the information-sharing scheme with Indonesia. Nonetheless, further measures can be taken by the three States to enhance security in the Straits. Such measures could include the implementation of SUA 1988 and its 2005 Protocol, and the harmonization of domestic legislation on maritime crimes.

Singapore recognizes that maritime security threats require cooperation on information sharing at the regional and international levels. Therefore, it has worked with Indonesia and Malaysia to enhance security in the Straits by sharing information, adopting a system of coordinated patrols, and agreeing to host the ReCAAP Information Sharing Centre. In addition, Singapore has cooperated with the United States on the PSI and CSI, and it has supported enhanced cooperation in venues such as the Western Pacific Naval Symposium.

Through the construction of the Changi 2 complex, and the development of ReMIX, Singapore will soon be in a position to serve as a venue for enhanced information sharing and cooperation with both regional and international partners. Singapore has close relations with the United States and good relations with the rising maritime powers of China, Japan, and India. It is centrally located on a critically important strait that lies between China and Japan to the east, and India to the west. If Singapore can develop an information sharing scheme that does not threaten the sovereignty of its neighbors or provoke big power rivalries, it has the potential to make an even more significant contribution to maritime security in the region.