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Assertion of regional autonomy over control of navigation in the Strait(s) of Malacca appeared at one time to threaten the maritime security of this vital sea route. The resolution to date of the environmental and safety concerns of the coastal states of the Straits illustrates the effective working of international law to resolve the conflicting claims of such coastal states and major outside users.

THE MARINE ENVIRONMENT AND MARITIME SECURITY IN SOUTHEAST ASIA: CONTROLLING OIL TANKER TRAFFIC IN THE STRAIT OF MALACCA

by

Daniel P. Finn

The Straits of Malacca and Singapore ("Straits of Malacca") which lie between the southern Malay Peninsula, Singapore, and the island of Sumatra, have historically been a major international maritime route between the South China Sea and the Indian Ocean.¹ In the post-World War II period the Straits have become especially important internationally owing to the passage of oil tankers from the Gulf states of the Middle East to the rapidly growing economies of East Asia, especially Japan,² and to naval deployments, including those of the United States and the Soviet Union, in the Pacific and Indian Oceans.³ Following the "oil shock" of 1973-74, which revealed the extent of the dependency of the economies of the industrialized democracies on Middle East oil, the tanker routes from the Gulf, through the Strait of

Hormuz and around the Horn and Cape of Africa through Southeast Asia—became a focus of international concern over energy security. Both the growing impatience of certain coastal states with the pollution caused by passing tankers and their security concerns with passing warships, as well as the possibility of naval action involving the tanker routes during times of crisis, posed important questions about the security of these routes. In Southeast Asia, the concern of the coastal states of the Straits of Malacca—Indonesia, Malaysia, and Singapore—with tanker and warship traffic in the Straits threatened, in the early 1970s, to affect this important maritime route.

The Threat of Jurisdictional Conflict Over Vessel Traffic in the Straits. During the early 1970s many

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coastal states formally claimed a 12-nautical mile territorial sea. As a result of these claims, many important straits traditionally used for international navigation ("international straits") would be incorporated within the territorial seas of their coastal states. Although the United States has historically recognized only 3 miles as a valid territorial claim, international disagreement on this point had prevented the first United Nations Conference on the Law of the Sea (UNCLOS) from including a uniform standard on the permissible breadth of the territorial sea in the 1958 Geneva convention on the territorial sea.⁴ UNCLOS III, in session since 1973, would recognize the validity of the 12-mile territorial claim as part of a comprehensive diplomatic package that would also protect maritime passage through international straits, prescribe the offshore jurisdiction of coastal states (including their jurisdiction over the continental shelf and a newly created 200-mile exclusive economic zone or EEZ), establish an international regime for deep seabed mining, and help define the rights and obligations of states with respect to pollution of the marine environment.⁵ With respect to passage through international straits, UNCLOS III would create a regime of "transit passage"—a set of special rules for international navigation through straits the waters of which would otherwise have become subject to the rules applicable within territorial seas.⁶

In November 1971 the Governments of Indonesia, Malaysia, and Singapore issued a joint declaration that, if implemented, could have significantly affected the legal status of the Straits of Malacca:⁷

- The three Governments agreed the safety of navigation in the Straits of Malacca and Singapore is the responsibility of the coastal states concerned;

- The three Governments agreed that a body for cooperation to coordinate efforts for the safety of navigation in the

Straits . . . be established as soon as possible and that such body should be composed of only the three coastal States;

- The Governments of Indonesia and Malaysia agreed that the Straits . . . are not international straits, while fully recognizing their use for international shipping in accordance with the principle of innocent passage;

- The Government of Singapore took note of the position of the Governments of the Republic of Indonesia and Malaysia in this point.

In this declaration, the three Governments announced their intention to assume competence over controlling international vessel traffic in the Straits. The Governments of Indonesia and Malaysia would have gone further and declared that passage through those parts of the Straits within their territorial waters was fully subject to the ordinary principle applicable in such waters—"innocent passage"—and not to any special principles applicable in international straits. (Under the 1958 Geneva convention on the territorial sea, foreign vessels passing through a territorial sea are allowed to proceed freely if they are in innocent passage; innocent passage may not be "hampered" by a coastal state, except for temporary suspension for security reasons. In straits used for international navigation, however, through passage may not be suspended. Passage through a territorial sea is presumed innocent unless it is "prejudicial to the peace, good order or security of the coastal State.")⁸ If international passage through the Straits had become subject to the rule of innocent passage, the operations of oil tankers and naval vessels could have been affected, inasmuch as at the time of the joint declaration coastal states had begun to question the "innocence" of operations by such vessels and to claim some jurisdiction over them. This was true especially for oil tankers, in the aftermath of several

serious tanker casualties that polluted coastal waters. This article will examine the background and significance of the joint declaration of its resolution to date through international legal and political means. The history of regulation of oil tanker traffic in the Straits of Malacca provides an excellent example of the significance of marine environmental concerns and the role of international law and organization in safeguarding maritime security.

The Background of Jurisdictional Conflict Over Navigation in the Straits of Malacca. The efforts of the three coastal states to obtain greater control over the Straits, through their joint declaration and other actions, was based on a complex of factors including the pollution and safety risks associated with large tanker traffic, as well as regional security concerns. But these factors affected each of the three states somewhat differently, and the formulation of an integrated regional response to the environmental and security issues was impeded by the divergence of local interests.

As the size and number of tankers to serve the needs of Japan and other East Asian countries rapidly increased in the period prior to 1973, their navigation through the Straits presented increasingly obvious safety problems.⁹ In 1967 *Tokyo Maru*, a 151,288 deadweight ton (dwt) vessel, scraped bottom and released about 1,000 tons (T) of crude oil. A similar incident occurred to *Idemitsu Maru* in 1968, and in 1971 two tankers over 200,000 dwt, *Arabian* and *Eugenie Niarchos*, ran aground. Several more serious or well-known accidents, such as that of *Showa Maru* (1975), happened only later, when coastal state efforts were already focused on controlling oil tanker traffic.

A combination of factors account for the maritime hazards of the Straits.¹⁰ Traffic in the Straits is dense and is composed of a wide variety of classes,

speeds, and destinations. This causes considerable crossing and overtaking in the main shipping lanes. The shipping lanes themselves become very narrow, especially at critically crowded points and in areas in which surrounding depths constrain the maneuvering of larger vessels. In the past, charts were deficient and aids to navigation insufficient or incompletely maintained; even contemporary charts cannot account fully for changing bottom conditions resulting from sand waves, however. The Straits are also subject to significant tides and currents, and rain squalls often reduce visibility.

About a fifth of all the oil shipped across national borders in the world is moved by tanker through Southeast Asia. It has been calculated that in order to supply Japanese needs alone, 1,627 tanker trips with a mean capacity of 150,000 dwt would be required, or over 3,200 trips both ways. Assuming this capacity were to move through the Straits of Malacca, approximately five very large crude carriers (VLCCs—tank vessels in excess of 175,000 dwt) would transit the Straits loaded each day and five such vessels would return through the Straits in ballast.¹¹ But tankers, including the larger tankers, are not even the major component of shipping in the Straits. A traffic survey, based on visual sightings and radio contact, was conducted by the Port of Singapore Authority in 1976; the study reported about 150 vessels passing per day, of which 90 were general cargo vessels and 40 were tankers.¹² Even if it is assumed that this number of vessels were distributed evenly and traveling in equal numbers in both main directions, vessels would pass each other while traveling in opposite directions approximately every 9 minutes.¹³ But this simplifying assumption does not, of course, account for crisscrossing, random grouping, overtaking, and other factors.

Bottom conditions also create safety problems, especially for large vessels.¹⁴

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While the Straits themselves narrow to a width of 3.2 nautical miles (n. mi.) off Singapore, the deep channels are considerably narrower, as little as 1,000 meters (m) in parts of the Singapore Strait and only 600m near the One Fathom Bank near the western entrance to the Straits of Malacca. In addition to their narrowness, the deepwater areas are discontinuous and irregular and require large vessels to maneuver to stay in deep water. In several places, vessels have to maneuver through areas of less than 23m average depth in order to traverse shallow spots between deeper channels. These maneuvers would be difficult for large tankers even if crowded traffic conditions did not constrain their movements or occasionally even compel them to take evasive action.

The navigational problems of the Straits have led to numerous vessel casualties, especially involving tankers.¹⁵ Although strandings of tankers declined during the 1970s as a result of improvements to aids to navigation,¹⁶ there was a high rate of collisions involving tankers. In 1974, while only one reported tanker stranding took place in the Straits out of about 100 worldwide, fully 10 out of a world total of 77 collisions occurred there; in 1975 two of 77 strandings occurred in the Straits, but nine out of 51 collisions. Serious or potentially serious casualties occurred throughout the 1970s. *Showa Maru*, a 237,000-dwt vessel, stranded in 1975 and released about 1,000T of oil, and several other vessels in the same class grounded and spilled oil. Several collisions also occurred; for example, *Diego Silang* collided with two other vessels (one a tanker) and spilled 6,000T of oil. There were several total losses: *Oswego Merchant*, carrying jet fuel, burned and sank after a collision with another tanker; *Tosa Maru*, which was in ballast, collided with another tanker and broke up, caught fire, and sank.

Regardless of the undeniable safety problems of commercial traffic in the

Straits, the coastal states found it difficult to arrive at a unified position on regulation of navigation.¹⁷ This is evident from the language of their joint declaration, in which the Singapore authorities would not go as far as Indonesia and Malaysia in asserting regional authority over traffic in the Straits. It is thought that Indonesia had several motivations in moving for regional control of maritime activities in the Straits.¹⁸ Indonesia, because of its colonial legacy and history of internal and external threats to its national cohesion, has been especially sensitive to the operations of vessels in waters within and adjacent to the Indonesian archipelago.¹⁹ Indeed, Indonesia has asserted, since 1957, its territorial jurisdiction of the waters within the archipelago;²⁰ Indonesia's claim, along with similar claims by the Philippines and Fiji, have been important at UNCLOS III as the Conference has moved to define the rights and obligations of such archipelagic states with respect to foreign vessels.²¹ (Indonesia was the first to act on the issue of tanker safety in the Straits, declaring in 1972, with Malaysian "agreement in principle," that it would ban passage by vessels over 200,000-dwt capacity.)²² It is also thought, however, that Indonesia, in moving aggressively on the issue of traffic in the Straits of Malacca, may have sought to divert some traffic from the Straits through Indonesia where such traffic could potentially provide some benefit to its national ports and refineries and perhaps become subject to some form of regulation in the sealanes and the straits within the Indonesian archipelago that had traditionally been used for international navigation.²³ Malaysia, while thought to be somewhat differently motivated, could reach a similar position on the issue of vessel traffic in the Straits of Malacca; local control of traffic in the Straits could help alleviate coastal environmental problems, especially

harmful to its small-scale fisheries, and also help to neutralize the region from the influence of major outside powers.²⁴ But Singapore, while it could hardly deny the significance of the environmental and safety problems caused by tanker traffic, was concerned lest assertion of coastal state authority by Indonesia and Malaysia affect its access to world trade and the benefits of tanker operations, including drydocking and other port services provided there.²⁵

It is in examining these motivations that the relationship between the environmental and safety concerns and security considerations becomes apparent. Indonesia's assertive posture may be attributed to its traditional concerns with domestic autonomy over developments in and around the archipelago; in the postcolonial period the Republic of Indonesia had moved aggressively to consolidate its internal situation and assert its claim to leadership in the politics in the region based on its large population and natural resource base.²⁶ Malaysia had sought in the same period to insulate itself from outside forces and prevent the region from becoming a focus of great power confrontation after the withdrawal of British forces, as well as to shield itself from the early regional aspirations of Indonesia.²⁷ Malaysia's extraregional concerns have included support by the People's Republic of China for indigenous Communist movements and the possibility of countervailing U.S. and Soviet buildups in the area, which aside from its intrinsic importance in terms of geographical location, population, and natural resources, also provided an essential link between the Pacific and Indian Ocean theaters of military operations.²⁸ The Singapore Government, on the other hand, tended to welcome outside participation in the region's economy and friendly links with the West.²⁹ Such connections could help protect it from insurgency and military deployments by Communist forces and shield it against

pressures for regional influence exerted by its neighbors. These complex security factors caused concern to the United States and the Soviet Union, which both undertook various diplomatic initiatives and naval activities in response to them. In the month after the joint declaration was issued, both the United States and the Soviet Union undertook naval operations in the Straits.³⁰ And while the United States apparently did not respond in a formal manner to the joint declaration, the Soviet Union the following year received the Malaysian Prime Minister in Moscow, made contacts in Tokyo with the Japanese Government, and sent a diplomatic mission to Jakarta.³¹

Japanese actions were perhaps most influential in motivating the coastal states to declare regional autonomy over navigation through the Straits.³² In 1968 private interests in Japan formed the Malacca Straits Council as a nongovernmental organization affiliated with the Japanese *Keidanren* (Federation of Economic Association). Atop the natural regional reaction to such a title being assumed by Japanese interests, the Japanese press began playing up the idea of the Straits as Japan's "lifeline"; concepts of Japanese naval defense of the Straits even appeared. A Japanese delegation visited the region in 1970, acting, it was alleged, as if it were an "equal partner" in managing the navigational situation in the Straits; hydrographic surveys have been sponsored by Japanese organizations since 1969, although they have been occasionally impeded by local reaction to such Japanese initiatives. These disturbing activities were capped off in July 1971 with a formal proposal by the Japanese representatives to the Intergovernmental Maritime Consultative Organization (IMCO) that a traffic separation scheme (TSS) be established in the Straits under IMCO auspices.

Development of a Regulatory Regime for Oil Tankers Transiting

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the Straits of Malacca. After issuance of the joint declaration, political difficulties both within and outside the region impeded further cooperative action, although various informal actions were taken by the coastal states, outside powers, and industry.³³ Several radical proposals surfaced—one by Indonesia to ban vessels in excess of 200,000 dwt and another by the head of Malaysia's state oil company to impose user fees on passing vessels.³⁴ A strict prohibition based on vessel size would have had serious effects on the economics of oil transportation between the Middle and Far East; vessels over 200,000 dwt, of which there were a substantial number, would be forced to proceed through the Straits of Lombok and Makassar in the Indonesia archipelago as an alternative to the Malacca route. The Lombok route would involve over a thousand nautical miles—3 days—extra travel. Thus transport by the larger VLCCs would have tended to become uneconomical at the same time that there was significant capacity in this range, and the imminent downturn in the rate of growth of oil consumption after 1973 soon made continued construction of larger vessels (ultralarge crude carriers, ULCCs—vessels in excess of 350,000 dwt) unlikely. The extension of the tanker route for the largest VLCCs would also have required additional transportation capacity.³⁵

The *Showa Maru* accident in January 1975 led to a renewed call for action in the region and in February the Prime Ministers of the coastal states held talks on the tanker issue while at a meeting of the Association of Southeast Asian Nations (ASEAN).³⁶ The Prime Ministers agreed upon the concept of "underkeel clearance" (UKC) as a basis for regulation for tankers, called for development of a TSS for the Straits, and initiated technical consultations on these and related issues. Technical and other difficulties again slowed the results of consultation in the following

years, which were punctuated by the collision of *Diego Silang*. At a second conference of their Prime Ministers in February 1977, again at an ASEAN meeting, the three governments finally agreed to a regulatory regime based on a required UKC of 3.5m throughout passage; establishment of special deep-water routes (DWR) for vessels of 15m draught, in which no overtaking by them would be allowed; adoption of TSS (separated traffic lanes in each main direction) in three critical areas—at the One Fathom Bank, the Singapore Main Strait, and the Phillip Channel (in the eastern part of the Singapore Strait, where the Straits open out into the South China Sea); and operational recommendations, including maximum vessel speed in critical areas (12 knots).

The coastal states' adoption of UKC as the basis for limiting the passage of larger vessels marked a significant turning point in mediating the divergent interests among the coastal states themselves and between the region and outside users.³⁷ A capacity limitation, such as that earlier advocated by Indonesia, would have rigidly excluded certain vessels regardless of their operating characteristics; furthermore it could have been enforced relatively easily as vessel capacity is fairly well known through shipping registers and the like. UKC is neither as clear in concept nor as straightforward in application. First, there is disagreement over the very meaning of the term UKC, *i.e.*, whether UKC should be calculated so as to make allowance for various errors and safety considerations and for vessel "squat"—the tendency of a large vessel's draught to increase with speed. Second, actual UKC is responsive to vessel design, load, trim, speed, and tidal fluctuations—none of which are easily observable during passage or readily determinable from published sources.

Aside from some technical concerns about the proposed vessel routes (that were submitted to the coastal states for

further development³⁸), the regional proposal was well received by IMCO and in November 1977 IMCO's Assembly formally approved the TSSs and other rules for passage in the Straits.³⁹ The action of the coastal states will have significant positive effects on the safety of navigation through the Straits by establishing well-defined and universal vessel routes, including special DWRs, and recommending operational practices that will help vessel masters ensure a safer voyage. It is unlikely for several reasons, nevertheless, that the vessel lanes and operational rules will completely resolve the safety and environmental concerns associated with large-scale use of the Straits for oil transshipment. First, the Straits are narrow and crowded and larger vessels are constrained in their maneuvering by depth limitations, occasionally poor visibility and the reduction of their speed for overall safety and also, for the largest vessels allowed to operate in the Straits, to reduce their squat. Second, although adoption of navigational rules by IMCO accords them definite international recognition, they remain voluntary in many respects;⁴⁰ in the case of the operational rules approved by IMCO to supplement the TSSs and DWRs, in addition, there is considerable nonauthoritative language, *e.g.*, the use of such phrases as "as far as practicable" (avoidance of the DWRs by non-deep draught vessels); "as possible" (maintenance of steady course within the TSSs); and "advised to" (use of the DWRs, maximum 12-knot speed, participation in a voluntary ships' reporting system).

The "accommodation"⁴¹ among regional and external interests that is represented by the IMCO-approved rules for tankers and other vessels in the Straits at once illustrates the difficulty of arriving at significant substantive regulation on an international level and the role of international law in resolving such differences. The IMCO rules address only one aspect of the safety and

environmental problems associated with transit oil tanker traffic in the Straits—vessel routes and operating practices. They do not provide in any way for operational restrictions (such as no-discharge zones) or safety standards in excess of universal standards, that could be desirable in such a constrained and heavily used waterway. They do not establish any special provisions on vessel liability or requirements for contingency capability or the establishment of funds to defray or compensate the costs to the coastal states of having such heavy traffic in their waters.⁴² To a certain extent, these issues can be resolved through informal and voluntary arrangements between the coastal states and outside users—both other governments and private interests. The Japanese, for example, largely operating within the framework of private associations, the Malacca Straits Council in particular, have made significant contributions to hydrographic surveying and construction of aids to navigation.⁴³ The accommodation also, as has been noted, makes enforcement difficult and it does not necessarily provide a sound basis for further regulation. Specifically, reporting of vessel passage—including information on characteristics, speed, and time of passage prior to entry into the Straits—remains voluntary. Further regulation of vessel traffic, such as establishment of a vessel traffic system (VTS) with comprehensive command and control capacity, would require such information as well as an extensive shoreside communication and administrative capability. Aside from questions about the practicality of VTS in such heavily and diversely trafficked and strategic waters, the necessary reporting of the movements and characteristics of vessels would also inform the coastal states of the full extent of maritime operations and possibly inflame local feelings, especially if further accidents or military tensions occur.

Regardless of these substantive short-

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comings, the process by which the IMCO rules were adopted illustrates the successful working of international law in such a situation. After announcing that they would proceed on a regional basis, and even threatening to seek a change in the international juridical status of the Straits, the coastal states proceeded to develop a broadly acceptable regulatory regime on a regional basis and to refer it to IMCO for international approval prior to its implementation. IMCO's adoption of the regime accords it significant international recognition and, for navigational practices affecting the TSSs, international enforceability through general international agreements on navigation.⁴⁴ Such a procedure, by which states may forward proposed systems of traffic regulation to IMCO for approval, will probably be adopted formally if UNCLOS III concludes successfully and a new treaty on the law of the sea is adopted. Under the Draft Convention as the Law of the Sea ("Draft LOS Convention") under consideration at UNCLOS III:⁴⁵

States bordering straits may designate sea lanes and prescribe traffic separation schemes for navigation in straits where necessary to promote the safe passage of ships.

Before designating . . . sea lanes or prescribing . . . traffic separation schemes, States bordering straits shall refer proposals to the competent international organization with a view to their adoption. The organization may adopt only such sea lanes and traffic separation schemes as may be agreed with the States bordering the straits, after which the States may designate . . . them.

It would appear that the coordinated actions of the Government of Indonesia, Malaysia and Singapore taken after their joint declaration of 1971, have not only followed international law as it existed prior to UNCLOS III, but have by their

example exercised considerable influence on the progressive development of international law in this field, specifically the above article of the Draft LOS Convention under consideration by UNCLOS III.⁴⁶ The procedure codified by UNCLOS III, for traffic regulation as well as other matters affecting international straits and other critical or sensitive water bodies, may help to regularize the process by which these and other coastal states may seek international recognition of the special needs of such waters.⁴⁷ But referral to international organizations of such questions, or their reference to separate agreements among the parties concerned, may not always provide a substantively satisfactory answer and also may lead to procedural frustration when international support for such measures is not forthcoming, for commercial or strategic reasons.⁴⁸ Nevertheless, the establishment of a procedural framework through which such disagreements can be resolved could help to make these conflicts more manageable.

The recent development of navigational rules for the Straits of Malacca illustrates the resolution of conflicting

BIOGRAPHIC SUMMARY



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interests about the use of international straits through international consultations. The procedures followed by the coastal states in this case could be applied elsewhere and would be codified in the Draft LOS Convention under consideration at UNCLOS III. Such international procedures, whether conducted on the basis of traditional law of the sea or specifically authorized in a general LOS convention, will not, however, likely prove fully satisfactory to coastal states in achieving effective substantive regulation. Extensive local regulation of

maritime activities in international straits would necessarily interfere with important interests of outside users in commercial transportation and naval operations. The Malacca Straits case also illustrates, however, the importance of local environmental and security concerns to coastal states and their potential effect on outside users. Continued progress should be made on such regional issues to prevent further conflict between coastal states and major users and to achieve maximum maritime security in such areas.

NOTES

1. M. Leifer, *Malacca, Singapore, and Indonesia* (The Netherlands: Sijthoff and Noordhoff, 1978), pp. 6-31.
2. Daniel P. Finn, et al., *Oil Pollution from Tankers in the Straits of Malacca: A Policy and Legal Analysis* (Honolulu, HI: East West Center, 1979), pp. 5-11.
3. Leifer, pp. 105-127.
4. Convention on the Territorial Sea and the Contiguous Zone, done 29 April 1958, entered into force 10 September 1964, 15 U.S.T. 1606, TIAS 5639.
5. The results of UNCLOS III to date may be found in its Draft Convention on the Law of the Sea (Informal Text) (hereinafter "Draft LOS Convention"), U.N. Doc. A/CONF.62/WP.10/Rev. 3, 27 August 1980.
6. *Ibid.*, Arts. 34-45. Elliot L. Richardson, "Power, Mobility and the Law of the Sea," *Foreign Affairs*, Spring 1980, p. 902 (emphasizing significance of the results of UNCLOS III for naval and other maritime activities).
7. The full text of the joint declaration is reprinted in Leifer, p. 204; the operative paragraphs are also quoted in Finn, et al., pp. 76-77.
8. Convention on the Territorial Sea and the Contiguous Zone, Arts. 14-17.
9. The evolution of tanker size and resulting operational characteristics relevant to Southeast Asian waters are discussed at length in Finn, et al., pp. 124-128. A detailed summary of tanker casualties and loss trends in the region is given in Finn, et al., pp. 11-18.
10. Geographical data on the marine environment in the Straits area, and detailed information on bottom conditions, is given in Finn, et al., pp. 20-30.
11. *Ibid.*, p. 5.
12. *Ibid.*, pp. 5, 6.
13. *Ibid.*, p. 11.
14. The hydrographic characteristics of the Straits are discussed in *ibid.*, pp. 20-30.
15. Casualty data and trends are presented in *ibid.*, pp. 11-18.
16. *Ibid.*, pp. 77, 84.
17. Leifer, pp. 25-50; Finn, et al., pp. 76-99.
18. Leifer, pp. 105-107; Finn, et al., p. 77.
19. Leifer, pp. 14-27.
20. Indonesia's 1957 Cabinet declaration, and Act No. 4 of 1960, to this effect, are reprinted in Leifer, pp. 201-203.
21. Leifer, pp. 100-105; Draft LOS Convention, Arts. 46-54 (regime of archipelagoes).
22. Finn, et al., p. 78; Leifer, p. 66.
23. Leifer, pp. 105-107; Finn, et al., p. 77.
24. Leifer, pp. 27-31; Finn, et al., p. 77.
25. Leifer, pp. 119-120; Finn, et al., p. 77.
26. Leifer, pp. 14-27.
27. *Ibid.*, pp. 10-31.
28. *Ibid.*
29. *Ibid.*, pp. 106-107; Finn, et al., p. 77.

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30. Leifer, p. 114.
31. *Ibid.*, pp. 107-121.
32. For narratives of the relationship between Japanese actions and the development of a regional response to navigational problems, see generally Finn, et al., pp. 78-80; Leifer, pp. 42-45.
33. For discussions of the period between 1971 and 1975, see Finn, et al., pp. 77-78; Leifer, pp. 113-121.
34. The imposition of user fees based on passage through a territorial sea is prohibited by Art. 18 of the Geneva Convention on the Territorial Sea and the Contiguous Zone, which reads:
 1. No charge may be levied upon foreign ships by reason only of their passage through the territorial sea.
 2. Charges may be levied upon a foreign ship passing through the territorial sea as payment only for specific services rendered to the ship. These charges shall be levied without discrimination.
35. The comparative economies of the Malacca and Lombok routes are extensively analyzed in Finn, et al., pp. 124-129.
36. Post-*Showa* developments are described in *ibid.*, pp. 78-79; Leifer, pp. 66-76, 132-148.
37. Finn, et al., pp. 81-83.
38. Leifer, p. 75. The regional proposal to the Maritime Safety Committee of IMCO had also contained a clause, "All tankers and large vessels navigating through the Straits shall be adequately covered by insurance and compensation schemes." This was bracketed by the Committee, and deleted by the Assembly, on grounds of lack of jurisdiction. Finn, et al., p. 86.
39. The Assembly's resolution of 14 November 1977 is reprinted in Leifer, pp. 206-208; the operative terms of the resolution are included in Intergovernmental Maritime Consultative Organization, *Ship's Routing*, 4th ed. (London: 1978), pp. B-V/1-5.
40. IMCO-approved TSSs are per se voluntary; certain aspects of IMCO-adopted regulations may become mandatory by virtue of other authority, however, specifically the International Regulations for Preventing Collisions at Sea, 1972 (COLREGS 72), entered into force 15 July 1977, reprinted in U.S. Coast Guard, *Navigation Rules* (Washington: 1 May 1977), No. CG-169. Rule 10 of COLREGS 72 requires vessels in the vicinity of a TSS to conform their operations to the traffic lanes; it does not speak directly to compliance with such supplemental rules as have been adopted for the Strait of Malacca.
41. Leifer, pp. 147-148.
42. The *Showa Maru* accident, for example, led to claims of \$3.6 million by Singapore, of which \$1.5 million in cleanup costs were paid, leaving about \$2 million in private claims outstanding. Indonesia claimed \$24.7 million and received \$1.2 million; Malaysia claimed \$9 million and received \$0.5 million. Finn, et al., p. 114.
43. Finn, et al., pp. 77, 84.
44. See note 40.
45. Draft LOS Convention, Art. 41; Art. 42(1)(a) (general right of coastal states to regulate safety of navigation and marine traffic in international straits, subject to Art. 41).
46. Compare Leifer, pp. 127-148 (effect of views of the three coastal states on the regime of straits used for international navigation under consideration at UNCLOS III).
47. The ability of coastal states to seek international recognition of the special needs of such marine areas is not limited to the regulation of maritime traffic but would also include other antipollution measures, under Art. 211(6) of the Draft LOS Convention. But in many respects such a provision would only codify practices which are already available under other international conventions, for example, the International Convention on the Pollution of the Sea by Oil and Other Substances (MARPOL). Art. III of the 1962 amendments to MARPOL, done 11 April 1962, entered into force 28 June 1967, 17 U.S.T. 1522, TIAS 6109, 600 U.N.T.S. 322, provides for the designation of "no-discharge" zones in addition to those otherwise provided for in the Convention (waters within 50 n. mi., of shore generally and the vicinity of the Great Barrier Reef), by amendment to Annex A of the Convention. Art. 211(6) of the Draft LOS Convention, which would generalize such procedures, reads:

Where international rules and standards . . . are inadequate to meet special circumstances and where coastal States have grounds for believing that a particular, clearly defined area of their respective exclusive economic zones is an area where, for recognized technical reasons in relation to its oceanographical and ecological conditions, as well as its utilization or the protection of its resources, and the particular character of its traffic, the adoption of special mandatory measures for the prevention of pollution from vessels is required, coastal States, after appropriate consultations through the competent international organization with any other States concerned, may for that area, direct a communication to the competent international organization, submitting scientific and technical evidence in support If the organization [agrees], the coastal State may, for that area, adopt laws and regulations for the prevention, reduction and control of pollution from vessels, implementing such international rules and standards or navigational practices as are made applicable through the competent international organization for special areas. Such additional laws and regulations may relate to discharges or navigational practices but shall not require foreign

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vessels to observe design, construction, manning or equipment standards other than generally accepted international rules and standards

48. The Draft LOS Convention would simply refer the provision of navigational aids and other general safety and environmental issues connected with the use of straits for international navigation to cooperative agreements among coastal and user states. To date, this is how hydrographic surveys, navigational aids, and compensation of pollution costs have been handled in the case of the Malacca Strait and other areas. Finn, et al., pp. 114, 77, 84. Art. 43 of the Draft Convention provides:

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

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

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