January 1967

The Torrey Canyon Disaster: Some Legal Aspects

Ved P. Nanda
The Torrey Canyon Disaster: Some Legal Aspects

This article is available in Denver Law Review: https://digitalcommons.du.edu/dlr/vol44/iss3/5
THE "TORREY CANYON" DISASTER:
SOME LEGAL ASPECTS

BY VED P. NANDA*

The "Torrey Canyon" disaster in March 1967 emphasized the need for effective preventive measures to avert such a disaster, and for restorative measures should such a disaster occur. Professor Nanda describes the extensiveness of the problem against the background of international and national norms that have haphazardly developed to cope with the situation. Recognizing the deficiencies in the present ability of nation states to combat oil pollution, Professor Nanda urges that nation states take the initiative through international agreements, to develop minimum standards and effective safeguards in this area.

The Torrey Canyon wreck in March 1967,1 has posed another challenge of modern technology for scientists and lawyers alike: how to prevent oil pollution of the seas and how to deal with the problem effectively. The accident occurred off southwest England. The tanker spilled approximately 80,000 tons of crude oil into the sea which coated English resort beaches on the Cornish coast with oil slicks,2 threatened the French coast across the channel,3 contaminated oyster beds and fisheries,4 and caused extensive damage to bird life.5

---

1 For a report on the occurrence of the wreck and steps taken by the British Government to deal with the situation, see SEC'Y OF STATE FOR THE HOME DEP'T, THE "TORREY CANYON," CMND. No. 3246 (1967).
3 GILL, supra note 2, at 81-87.
4 "[T]he fishing industry was virtually suffocated by the vast film of oil." LIFE, Apr. 14, 1967, at 31. But see 1 ENVIRONMENTAL SCIENCE AND TECHNOLOGY 273 (1967): According to Home Secretary Roy Jenkins, fish in the Seven Stones reef . . . were, several weeks later, untainted and seemed plentiful as ever. "Close in shore," he added, "where shellfish might be affected, only very few crabs and shore-haunting fish have been found dead. This was in areas heavily polluted with oil and where substantial quantities of detergent have been used."
5 It was reported that the oil or detergent ingestion or skin burns had caused the death of 7,599 sea birds. N.Y. Times, May 27, 1967, at 51, col. 4, But see NEWSWEEK, Apr. 10, 1967, at 51, col. 1: "[A]t least 100,000 sea birds . . . had been killed by the chocolate-brown ooze." See also id., at 110, col. 2-3. For a statement by the director of public information for the National Audubon Society before the Senate Subcommittee on Air and Water Pollution that of the 6,000 birds brought ashore after the Torrey Canyon disaster, "less than 500 were saved." See N.Y. Times, June 9, 1967, § M, at 80, col. 1. See also id., June 11, 1967, at 55, col. 1; LIFE, Apr. 14, 1967, at 34. A British observatory is said to have estimated that 40,000 sea birds died. 1 ENVIRONMENTAL SCIENCE AND TECHNOLOGY 273 (1967). See also Rienow
The wrecked tanker, carrying a cargo of 117,000 tons of Kuwait crude oil, was American-owned and chartered, Liberian registered, manned by an Italian master and crew, contracted for salvage to a Dutch company, grounded on the Seven Stones reef in international waters, abandoned by the owners, and destroyed by the British naval and air force bombers using rockets and napalm. The pending legal battle will raise several complex issues of international maritime law, including the determination of liability for oil pollution which is of primary concern to all parties involved in the controversy.

In addition to the imposition of liability, however, the Torrey Canyon disaster has highlighted two other major needs — that effective preventive measures be taken to avert such a disaster, and that effective restorative measures be devised to handle such a crisis if it occurs. This article will discuss these issues by examining and appraising past practices and pertinent norms of national and international law. The discussion will conclude with recommendations that measures be taken both on national and international levels to deal with a future Torrey Canyon type of situation.

I. The Extent of the Problem

Each year, more than 700 million tons of petroleum and petroleum products are carried over the seas by oil tankers that account

---

6 The tanker was owned by the Barracuda Tanker Corp., a subsidiary of the Union Oil Co. of California, operating out of Bermuda. Gill, supra note 2, at 17. For a brief statement attributed to a spokesman for the Union Oil Co. of California that the Torrey Canyon was only under "long-term, bareboat charter" to the Union Oil Co. and that there was "no corporate relationship between Union Oil and Barracuda Tanker Corporation," see N.Y. Times, July 18, 1967, at 33, col. 8.

7 However, the ship was on single voyage charter to the British Petroleum Co., Ltd. The "Torrey Canyon," supra note 1, at 2.

8 The Liberian registry entitled the Torrey Canyon to fly the Liberian flag under which she was sailing.

9 See Gill, supra note 2, at 18, 22.

10 The accident occurred 15 miles west of the Cornish Peninsula. Gill, supra note 2, at 12, 19-20.

11 Gill, supra note 2, at 33, 41.

12 See The "Torrey Canyon," supra note 1, at 6.


14 Horne, Tanker Operators Strive to Avoid Pollution of Sea, N.Y. Times, June 11, 1967, at 88, col. 2. Recently Secretary of the Interior Stewart Udall, testifying before the Subcommittee on Air and Water Pollution of the Senate Committee on Public Works in connection with proposed amendments to the Oil Pollution Act (S. 1591, S. 1604), put the figure at approximately one billion tons. Water Control News, June 19, 1967, at 1.
for 40% of the world ocean traffic.\textsuperscript{15} Tankers built since the last world war are considerably larger in size than earlier models. While pre-World War II standard tankers carried about 15,000 tons,\textsuperscript{16} at present the Japanese tanker \textit{Idemitsu Mara} has a 206,000 dead-weight tonnage, six vessels of 312,000 dead-weight tonnage are now on order,\textsuperscript{17} and super tankers of more than 500,000 dead-weight tonnage capacity are already in the planning stage.\textsuperscript{18} Among other factors, heavy traffic, congested sea lanes, and the human element in navigation\textsuperscript{19} would demand that the world be prepared to face the possibility of huge amounts of oil slick caused by an accidental collision, grounding or fire even if effective preventive measures were rigidly and faithfully followed.

Accidental pollution is only one source of oil pollution. In varying degrees deliberate discharges from bilge pumping, ballast dumping and tank cleaning operations, oil seeping and leakage, especially spills resulting from carelessness during fueling operations, and the trickle of refuse from oil-burning ships, add to the continuing pollution of the oceans.\textsuperscript{20} Yearly discharge of waste oil into the seas is substantial, amounting to millions of tons.\textsuperscript{21} According to one estimate, yearly traffic to the American ports alone — approximately 100

\textsuperscript{15} Rienow & Rienow, supra note 5, at 24.

\textsuperscript{16} The New Republic, Apr. 29, 1967, at 4, 5.

\textsuperscript{17} For a report that these vessels were on order in Japanese yards for service under charter to the Gulf Oil Corp., see N.Y. Times, July 22, 1967, at 40, col. 6; Kentfield, \textit{Two Kinds of Tankers — Clean and Dirty}, N.Y. Times, May 14, 1967 (Magazine), at 24, 5. The Humble Oil and Refining Company and Esso International, Inc., have both ordered new supertankers for their fleets. N.Y. Times, Aug. 14, 1967, at 44, col. 3.

\textsuperscript{18} For a report than tankers up to 500,000 dead-weight tons are both economically and technically feasible, see \textit{Oil & Gas J.}, May 22, 1967, at 79. For a statement that the British claim to have developed a structural method to build a ship of a million tons, see Kentfield, supra note 17, at 24, 98.

\textsuperscript{19} It is reported that the Liberian Board of Inquiry found the Captain of the \textit{Torrey Canyon} negligent and blamed him for the wreck, recommending that his master’s license be revoked. See N.Y. Times, May 6, 1967, at 62, col. 1.

\textsuperscript{20} Hawkes, supra note 5, at 21:

The U.S. Coast Guard’s proceedings of the Merchant Marine Council for April 1960 lists the principal sources of oil pollution of the oceans. Two of the commonest from shipping are spills during bunkering (fueling) operations and discharges from bilge and ballast tanks. Nearly half of all the oil spills whose causes were determined by the U.S. Coast Guard from January 1, 1956 to September 22, 1959 originated while oil-burning ships were taking on fuel. Bilge pumping ranked third as a traceable cause of oil pollution.

During this period hull leakage is said to have accounted for 20% of the traceable spills. See also Rienow & Rienow, supra note 5, at 112; Horne, supra note 14.

\textsuperscript{21} Admiral Richmond, Commandant, U.S. Coast Guard, and Chairman of the U.S. Delegation to the 1962 London Conference convened by the Inter-Governmental Maritime Consultative Organization [hereinafter IMCO] to amend the 1954 Convention for the Prevention of Pollution of the Sea by Oil, is said to have reported to the Secretary of State: “...recent estimates indicate that world shipping is discharging waste oil into the sea at the rate of one million tons per year...” Stubbs, \textit{Oil Pollution: Penalty and Damage Aspects}, 16 \textit{JAG. J.} 140, 141 (1962).
million tons of petroleum products\textsuperscript{22} — accounts for 2.8 million barrels of oil residue dumped into the sea.\textsuperscript{23}

Another potential pollutant is the emission of oil from loaded tankers torpedoed and sunk in World War II. The United States coasts alone are reported to have lying submerged as many as 150 such tankers\textsuperscript{24} containing 5 million barrels of oil,\textsuperscript{25} some of which might have been responsible for the pollution of the New Jersey\textsuperscript{26} and Virginia\textsuperscript{27} beaches, and the recent black tides on Cape Cod.\textsuperscript{28}

Since oil spreads fast and over vast areas, the problem assumes serious proportions. According to a recent report the British have demonstrated that even such a negligible amount as 15 tons of oil “dropped into a calm sea can cover 8 square miles in less than a week, and that oil slicks can be traced for many hundreds of miles.”\textsuperscript{29}

A report two months after the Torrey Canyon disaster points to the recontamination of some English beaches after the winds and tides had washed away sand and exposed even further oil deposits.\textsuperscript{30} Another study to examine the effects of oil pollution on a beach damaged in 1957 by two thousand tons of oil from a vessel run aground off Baja California, showed that eight years later the damaging effects still continued.\textsuperscript{31}

Oil pollution has destructive effects on the ocean’s ecology. It is widely accepted that surface slicks upset the immensely complex chain of sea life.\textsuperscript{32} One study found that the growth of Nitzschia —

\textsuperscript{22}Rienow & Rienow, supra note 5, at 111.
\textsuperscript{23}Id. at 112.
\textsuperscript{24}From a statement by Representative Jim Wright before the House Subcomm. on Rivers and Harbors, reported in N.Y. Times, May 23, 1967, at 10, col. 7. Deep sea divers have recently been inspecting sunken tankers off the New Jersey coast to see if their oil cargos pose a threat to the coast line. N.Y. Times, Aug. 15, 1967, at 12, col. 5.
\textsuperscript{25}Horne, supra note 14.
\textsuperscript{26}See editorial, Control of Oil Pollution, N.Y. Times, May 15, 1967, at 40, cols. 1-2; Horne, supra note 14.
\textsuperscript{27}See statement by Secretary Udall, reported in N.Y. Times, May 27, 1967, at 51, col. 4. See also Chemicals vs. Crude Oil, CHEMICAL WEEK, May 20, 1967, at 49.
\textsuperscript{28}Three articles from daily newspapers reporting on the Cape Cod pollution are reprinted in 113 CONG. REC. H4778-79 (daily ed. Apr. 27, 1967).
\textsuperscript{29}Rienow & Rienow, supra note 5, at 24.
\textsuperscript{31}Reported by Clive Manwell of the Marine Biological Association in Plymouth, in 1 ENVIRONMENTAL SCIENCE AND TECHNOLOGY 273 (1967). Although no detergent had been used in the study, it was reported that in laboratory tests where detergent was used for experimental purposes, it had caused more harm than the crude oil.
a diatom food of the oyster — is seriously inhibited if oil remains for more than one week on the water’s surface. To illustrate, in September 1960, oil pollution is said to have caused substantial damage to the oyster fishery of Narragansett Bay. The destructive effects of oil on sea birds have been repeatedly witnessed in several coastal states including the United States, United Kingdom, Germany and Canada, and were recently dramatized by the Torrey Canyon disaster. Oil pollution may affect human beings even more directly in the future if man is compelled to rely upon ocean water through artificial desalination as a major source of his domestic and industrial water supply and the adverse effects of oil and the materials used to eliminate it, including detergents, are not confined to the surface alone. However, the ecological effects of oil have thus far been neither systematically studied nor widely publicized. The problem is therefore hard to comprehend fully, which makes it rather difficult to suggest meaningful preventive and remedial measures.

Within the narrow confines of the Torrey Canyon wreck, the concept of the supremacy of the law of the flag on the high seas

---

33 Dr. Paul Galtsoff, biologist for the U.S. Fish and Wildlife Service, conducted the study, which is reported in Hawkes, supra note 5, at 24.
34 Rienow & Rienow, supra note 5, at 110.
35 Hawkes, supra note 5, at 24-25.
36 See Gill, supra note 2, at 88-112.
38 See Hawkes, supra note 5, at 26. The detergent industry has agreed to cooperate with the Department of the Interior to develop "minimum-phosphate detergents." Secretary Udall called it a "significant and giant step forward" in adopting preventive techniques of pollution control. CHEMICAL & ENGINEERING NEWS, Aug. 7, 1967, at 16.
39 There is some difference of opinion as to the exact nature and variety of the effects of oil on different forms of marine life." Hawkes, supra note 5, at 23.
[T]hose most aware of and concerned about oil pollution have failed to present clear, well documented, and voluminous information relative to the real extent of this problem. There is no question that the problem exists and is of disastrous proportions in some areas but there is real need for sound information making this clear to all concerned. Therein lies one of the major contributions needed from the biologists and conservationists of the world.

Id. at 26.
40 Article 6(1) of the 1958 Geneva Convention on the High Seas provides: "Ships shall sail under the flag of one State only and, save in exceptional cases expressly provided for in international treaties or in these articles, shall be subject to its exclusive jurisdiction on the high seas. . . ." Convention on the High Seas, Apr. 29, 1958, art. 6, para. 1, [1962] 2 U.S.T. 2312, 2315, T.I.A.S. No. 5200, 450 U.N.T.S. 82, 86 (effective Sept. 30, 1962), quoted in 52 AM. J. INT’L L. 842 (1958). See also id., art. 5 and 7.
needs reevaluation. The problem is accentuated by the widespread practice of the flags of convenience.41

II. POLICY CONSIDERATIONS

The international community has a common interest in keeping the oceans — the joint property of nations42 — free from pollution. At the highest level of generality, this objective finds unanimous acclamation by the leading participants — nation states,43 concerned industrial enterprises,44 and interested groups.45

In specific instances, however, the conduct of participants, which is in varying degrees influenced by their conflicting and contending interests, might result in defeating the overall objective. Thus economic expediency might dictate that a tanker dump slops in the ocean instead of carrying around a tank full of it until it found shore facilities for disposal. Similarly, the objective of attracting a larger tanker fleet under its flag might result in a nation state’s offering the owners of different nationalities inducements in the form of imposing less stringent national regulatory and enforcement measures. In the same way, a state might choose to reject such international regulatory norms as the 1954 Convention for the Prevention of Pollution of the Sea by Oil,46 thus freeing the owners from being otherwise subjected to international standards and discipline.

Thus there might be a clash between the overall interest in the prevention of oil pollution and the special interests sought by the group of tanker owners and nation states unwilling to comply with

---


42 Chisholm v. Georgia, 2 U.S. (2 Dall.) 419, 473 (1792).

43 The 1954 Convention for the Prevention of Pollution of the Sea by Oil and the 1962 Amendments are an expression of this common interest. See notes 46-59 infra and accompanying text.

44 See, e.g., Horne, supra note 14, at 88, cols. 2-6.

45 See, e.g., statements by the officers of the American Humane Education Society, the Audubon Society, and National Wildlife Federation in Hearing Before the Senate Comm. on Foreign Relations, supra note 5, at 15, 21 and 31 respectively.

the international standards. The urgency of the situation might demand that in the near future these special interests be controlled by an international agreement prohibiting the pollution of the seas by oil, irrespective of the reason therefor,\textsuperscript{47} and imposing more severe penalties. The agreement might also establish an international agency to provide the structure and machinery for enforcement and determination of the conflicting claims.

Notwithstanding the maritime practice widely accepted heretofore and reflected in the international norms that the regulation, control and enforcement of antipollution measures on the high seas be exclusively administered by the state of the flag,\textsuperscript{48} a first step might be taken to recognize the equally strong claim for concurrent jurisdiction when events occurring in the contiguous zones of a coastal state are likely to affect its interests. The British action of bombing the \textit{Torrey Canyon} is one such instance.

III. TRENDS IN DECISION

Pollution of waterways caused by leaking oil-carrying wooden vessels can be traced back to the mid-18th century.\textsuperscript{49} However, it was not until the first World War when vessels had started switching from steam to oil and oil tankers began plying the oceans that oil pollution came to be recognized as a serious problem, necessitating national and international preventive and regulatory measures. This section will briefly examine the prevalent international norms and relevant measures undertaken by two maritime powers, the United States and Great Britain, to deal with oil pollution. This will be followed by a discussion of the jurisdictional aspects.

A. International Norms

As the first major effort on an international scale to regulate the discharge of oil and oily wastes into the seas, the 1954 Convention for the Prevention of Pollution of the Sea by Oil\textsuperscript{50} is applicable to "sea-going ships registered in any of the territories of a Contracting Government."\textsuperscript{51} Since the purpose of the Convention was to prevent the pollution of the sea by oil, it sets up areas generally extending

\textsuperscript{47} For exceptions, recognized by the 1962 Amendments to the 1954 Convention, as not constituting an offense under the Convention, see Amendments to the Convention of 1954, \textit{adopted} Apr. 4-11, 1962, art. IV (a), (b), (c), [1966] 2 U.S.T. 1523, T.I.A.S. No. 6109 (effective May 18, 1967) [hereinafter cited as the 1962 Amendments].

\textsuperscript{48} \textit{Id.} art. VI(1).

\textsuperscript{49} Hawkes, \textit{supra} note 5, at 21. For the report that in 1754 the Caspian Sea off Baku was polluted by leakage of bulk oil cargo in wooden bottoms, see 16 \textit{PROCEEDINGS OF THE MERCHANT MARINE COUNCIL} 199 (1959) \textit{cited in} Stubbs, \textit{supra} note 21, at 140.

\textsuperscript{50} 1954 Convention, \textit{supra} note 46.

\textsuperscript{51} \textit{Id.} art. II.
50 miles from land as prohibited for the discharge of oil and oily wastes.\textsuperscript{52} It contains requirements that ships be fitted with oily-water separators\textsuperscript{58} and that skippers keep oil record books on board the ship.\textsuperscript{54} It pledges the signatory nation state to enforce the prohibition against the dumping or spilling of oil within those prohibited zones in offshore international waters.\textsuperscript{55} Although the Convention does not prescribe specific penalties for violation, it says they shall be no less stringent than the penalty for a comparable discharge within the signatory's territorial waters.\textsuperscript{56}

In 1962 the Convention was amended\textsuperscript{57} to extend its scope and to strengthen it by bringing within its purview new categories of ships, extending the restricted zones where no oil or oily wastes may be discharged, and amending the prescribed penalties and enforcement procedures. Amendments were also adopted to meet the United States' reservations pertaining to the amendment procedure of the Convention\textsuperscript{58} and her objection concerning the Federal Government's responsibility for providing shore facilities for the reception of oil residues.\textsuperscript{59}

The 1958 United Nations Geneva Convention on the High Seas\textsuperscript{60} provides that taking account of the existing treaties on the prevention of pollution of the seas, each state shall draw up regulations to prevent pollution "by the discharge of oil from ships or pipelines or resulting from the exploitation and exploration of the sea bed and its subsoil . . ."\textsuperscript{61}

\textbf{B. The United States Action}

Following the long-established and unchallenged practice of maritime nations to have a nation state prescribe and apply norms to all ships, irrespective of their nationality, entering its territorial and internal waters,\textsuperscript{62} federal legislation enacted in 1886 dealt with

\textsuperscript{52} Id. art. III, annex A.
\textsuperscript{53} Id. art. VII.
\textsuperscript{54} Id. art. IX.
\textsuperscript{55} Id. art. III and VI.
\textsuperscript{56} Id. art. VI.
\textsuperscript{57} The 1962 Amendments were adopted by the Conference of Contracting Governments to the Convention of 1954, held at London, April 4 to 11, 1962.
\textsuperscript{58} Compare the 1954 Convention, art. XVI, with the 1962 amendments, art. XVI.
\textsuperscript{59} Compare the 1954 Convention, art. VIII, with the new article VIII, which merely obligates a nation state to "take all appropriate steps to promote" the shore facilities. 1962 Amendments, art. VIII.
\textsuperscript{61} 1958 Convention, art. 24, quoted at 52 Am. J. Int'l L. 842, 848 (1958).
the problem of water pollution in New York harbor. The statute, preventive in nature, made it unlawful to discharge refuse into New York harbor. In 1888, it was superseded by another Act, broader in scope, which made the act of dumping refuse "in the tidal waters of the harbor of New York, or its adjacent or tributary waters, or in those of Long Island Sound," a misdemeanor punishable by a fine ranging from $250 to $2,500 and a prison sentence from 30 days to a year.

The purpose of the Act was to prevent the discharge of any matter which would tend to obstruct navigation or would injure boats in the harbor. Although oil waste was not specifically mentioned in the Act, the courts have consistently held that discharging waste fuel oil or dumping oil into the tidal waters is within the provisions of the Act.

Further legislation was adopted in 1890 and 1894 controlling the deposit of refuse in the United States navigable waters generally. These Acts were superseded by the River and Harbor Act of 1899, which also provided for penalties for violations similar to the ones prescribed by the 1888 Act. Construing the Act of 1899, the Court held the discharge of oil from vessels to be "refuse matter" under the Act and hence considered the discharge punishable.

The first comprehensive legislation dealing with oil pollution was adopted in 1924. Entitled the Oil Pollution Act, 1924, the Act is an addition to the laws already existing "for the preservation and protection of navigable waters." It prohibits the "discharge of oil by any method, means, or manner into or upon the coastal navigable waters of the United States from any vessel using oil as

---

64 Id.
67 The Albania, 30 F.2d 727 (S.D.N.Y. 1928).
68 S.S. Nea Hellis, 116 F.2d 803 (2d Cir. 1941).
69 Act of Sept. 19, 1890, ch. 907, § 6, 26 Stat. 453, prohibiting the obstruction of navigation by deposits of refuse, etc., in navigable waters.
70 Act of Aug. 18, 1894, ch. 299, §§ 6-8, 28 Stat. 363, which prohibited the depositing of refuse in navigable waters for the improvement of which money had been appropriated, and prescribed penalties for violations.
72 United States v. Standard Oil Co., 384 U.S. 224, 230 (1966). See also United States v. Ballard Oil Co., 195 F.2d 369, 370-71 (2d Cir. 1952); La Merced, 84 F.2d 444, 446 (9th Cir. 1936).
fuel . . . or any vessel carrying or having oil thereon in excess of that necessary for its lubricating requirements . . . "75 The penalties provided by the Act are similar to the ones mentioned earlier.76 The United States Coast Guard is the enforcing agency.77

More recently Congress adopted major legislation in 1966 to fight water pollution. Called the Clean Waters Restoration Act of 1966,78 the Act amends the Federal Water Pollution Control Act,79 and the Oil Pollution Act, 1924.80 It requires the person 81 discharging oil from a vessel in the navigable waters of the United States to remove the same, failing which the Secretary of the Interior may arrange for its removal and the person responsible for such discharge shall be liable for the costs of such removal. It also provides for penalties: in addition to a fine of up to $2,500 and imprisonment up to a year, the vessel is liable for a penalty of up to $10,000.82

Since the passage of the Act, further efforts to strengthen it are already underway. Under the 1966 Act the "discharge" meant "any grossly negligent, or willful spilling, leaking, pumping, emitting or emptying of oil."83 There was no provision for dealing with accidental discharge of oil. Now amendments have been proposed to make accidental discharge into coastal waters subject to the penalties mentioned above. The proposed bill, called the "Navigable Waters Pollution Control Act of 1967,"84 would substitute "accidental, negligent" for "grossly negligent" in defining discharge 85 thus making the owners liable for cleaning up the oil slick if there is even an accidental spilling or leaking of oil. It would also raise the limit of the penalty to $50,000.86

In the hearings before the Senate Public Works Committee on the bill,87 the officials of the Federal Government enthusiastically

81 Act of June 7, 1924, ch. 316, 43 Stat. 605, 33 U.S.C. § 432(b) is amended to define person as "an individual, company, partnership, corporation, or association; any owner, operator, master, officer, or employee of a vessel; and any officer, agent or employee of the United States." Pub. L. 89-753, § 211(a), 80 Stat. 1252 (1966).
84 S. 849, 90th Cong., 1st Sess., introduced in the Senate on Feb. 6, 1967, and referred to the Committee on Public Works.
85 Id. § 2(e), amending 33 U.S.C. § 432 (1964).
endorsed the amendment saying that its passage would assist them in enforcing the basic federal law on the subject — the Oil Pollution Act of 1924 — while the representatives of the oil industry have strongly opposed it. The industry's main arguments are that (1) covering of accidental discharge under the Act would not be fair or equitable; (2) Congress should defer action until the Inter-Governmental Maritime Consultative Organization has done a thorough study on the subject; and (3) the United States should not act unilaterally.

Finally, the Oil Pollution Act of 1961, the implementing legislation for the 1954 International Convention, should be mentioned. It may also be noted that the United States' delay in ratifying the Convention and adopting the implementing legislation stemmed primarily from the oil industry's response that since the Convention did not provide means for effectively enforcing anti-pollution measures, no useful purpose would be served by joining it. Instead, voluntary arrangements by industry were considered to be more effective.

In 1961, however, the Convention was ratified by the United States subject to an understanding, reservations, and recommendations. The understanding concerned the supremacy of the United States' action in United States territorial waters. The reservations pertained to the amendment procedures of the Convention and its provision that the Federal Government be obligated to provide adequate shore facilities for receiving oil and oily wastes. Recommendations were made for future amendment of the Convention. The 1961 Act prohibits discharge by ships of American registry of oil or oily wastes beyond the United States territorial waters in specified zones. It also provides for the maintenance and examination of oil record books and for penalties. Subsequently, the United States accepted the 1962 Amendments to the Convention and the 1961

---

89 Statement by Ralph Casey, President, American Merchant Marine Institute, reported in N.Y. Times, June 8, 1967, at 30, col. 4.
90 Statements attributed to Ralph Casey, General Manager of the Marine Dep't of the Gulf Oil Corporation, and W.C. Brodhead, Chairman of the American Petroleum Institute's Central Committee on Transportation by Water, cited in N.Y. Times, June 8, 1967, at 30, cols. 4, 5.
94 Id. at 2.
Act was amended\textsuperscript{96} to implement the amended Convention. The provisions of the Act are in addition to those of the 1924 Act, which with some modifications, are still applicable to all ships within the territorial waters.

C. The United Kingdom Action

The United Kingdom adopted its first major legislation dealing with the problem of oil pollution in 1922. Entitled the Oil in Navigable Waters Act, 1922,\textsuperscript{97} the Act made the discharge or escape of oil into the British territorial waters,\textsuperscript{98} from a vessel capable of carrying more than 25 tons of oil\textsuperscript{99} an offense punishable with a fine not exceeding £100 to be imposed upon the owner or master of the vessel.\textsuperscript{100} It also provided for keeping records with respect to transfer of oil.\textsuperscript{101}

The next step was the implementing legislation for the 1954 Convention. Entitled the Oil in Navigable Waters Act, 1955,\textsuperscript{102} it repealed the 1922 Act.\textsuperscript{103} The provisions of the new Act are similar to those in the United States Oil Pollution Act of 1961.\textsuperscript{104} The new Act is wider in scope since it also covers the regulation of oil pollution from all vessels within the British territorial and inland waters.\textsuperscript{105} Pursuant to the 1962 amendments to the 1954 Convention, the 1955 Act was amended in 1963.\textsuperscript{106} The Board of Trade is the enforcement agency under the Act.\textsuperscript{107}

Finally, the Continental Shelf Act, 1964,\textsuperscript{108} makes an offense the discharge or escape of oil into any part of the sea as a result of operations for exploring the sea bed and subsoil or the exploitation of the sea’s resources in designated areas. Under the Act the owner of the pipeline or the person carrying on such operations is liable and may be fined.\textsuperscript{109}

\textsuperscript{97}12 & 13 Geo. 5, c. 39 [hereinafter cited as the 1922 Act].
\textsuperscript{98}\textit{Id.} § 8(3).
\textsuperscript{99}\textit{Id.} § 8(2).
\textsuperscript{100}\textit{Id.} § 1.
\textsuperscript{101}\textit{Id.} § 3(1).
\textsuperscript{102}3 & 4 Eliz. 2, c. 25.
\textsuperscript{103}\textit{Id.} § 24.
\textsuperscript{105}3 & 4 Eliz. 2, c. 25, §§ 2(1) and 3(2).
\textsuperscript{106}Oil in Navigable Waters Act, 1963, c. 28.
\textsuperscript{107}Statutory Instrument 1965, No. 145.
\textsuperscript{108}\textit{Statutes 1964, c. 29}. On the possibility and the technique of laying deep pipelines, see DeLarvelle, French install submarine pipeline at depth of 1,080 ft., \textit{Oil & Gas J.}, Aug. 7, 1967, at 118.
\textsuperscript{109}The Continental Shelf Act, 1964, c. 29, §§ 5(1) (2).
IV. Issue of Jurisdiction

While each nation state enjoys an almost exclusive competence to prescribe and apply norms to events occurring within its territorial waters, it has to share this competence with other nation states with respect to events occurring upon the high seas. Thus, among others, the law of the flag, the nationality of the participants involved, and the impact upon the coastal state may all be relevant factors in asserting competence regarding occurrences on the high seas. However, the admiralty jurisdiction exercised by nation states, including the United States and the United Kingdom, is quite broad and would extend to the damage caused by the oil pollution from a vessel.

A. The United States Practice

The United States federal courts exercise a broad admiralty jurisdiction. While maritime torts have always been considered a principal subject of admiralty jurisdiction, until 1948 the traditional test of jurisdiction in torts was the locality of the damage, injury, or occurrence. Thus, to confer admiralty jurisdiction on the courts, the damage or injury must have occurred on the navigable waters. The court’s jurisdiction did not extend to injuries caused to persons or property on land.

Since 1948, pursuant to a statute adopted by Congress, the Extension of Admiralty Jurisdiction Act, the admiralty jurisdiction of the United States extends to all ship-to-shore torts committed on navigable waters. It includes “all cases of damage or injury, to person or property, caused by a vessel on navigable water, notwithstanding that such damage or injury be done or consummated on land,” and is not limited to injury actually caused by the physical agency of the vessel or a particular part of it.

Thus in a case dealing with claims for alleged damage to shore waterfront and beaches caused by the negligent overflow of a cargo

---

111 See, e.g., Brown v. United States, 12 U.S. (8 Cranch) 110, 137 (1814) (separate opinion).
112 See, e.g., The Clarita and the Clara, 90 U.S. (23 Wall.) 1 (1874); The Belfast, 74 U.S. (7 Wall.) 624 (1868).
113 The Russell No. 6, 1941 A.M.C. 1610, 42 F. Supp. 904, 907 (E.D.N.Y. 1941).
of heating oil in harbor waters, admiralty jurisdiction was accepted and damages awarded in "such situations of claimed injury."\textsuperscript{118}

B. United Kingdom Practice

The Administration of Justice Act, 1956,\textsuperscript{119} is comprehensive legislation dealing with the admiralty jurisdiction of the English courts. The Act extends to any claim for damage done by a ship.\textsuperscript{120} The Colonial Courts of Admiralty Act, 1890,\textsuperscript{121} extended the admiralty jurisdiction to the colonial courts, under which the Bermuda Supreme Court has jurisdiction to hear the \textit{Torrey Canyon} controversy, and that is where the case is pending.\textsuperscript{122}

V. LIABILITY FOR OIL POLLUTION

The issue of alleged liability for producing an oil slick may be conveniently examined under the following heads: (1) international conventions and the implementing legislation; (2) municipal oil pollution statutes; and (3) at common law. The first two deal with criminal liability and the third, civil liability.

A. International Conventions and Implementing Legislation

The amended 1954 Convention\textsuperscript{123} provides that it shall not constitute an offense under the Convention if (1) discharge of oil or oily mixture from a ship was done to secure the safety of the ship, prevent damage to the ship or the cargo or save life at sea;\textsuperscript{124} or (2) the escape of oil or oily mixture resulted from damage to the ship or unavoidable leakage, provided all reasonable precautions had been taken "after the occurrence of the damage or discovery of the leakage for the purpose of preventing or minimizing the escape";\textsuperscript{125} or (3) the discharge of residue resulted from the "purification or clarification of fuel oil or lubricating oil," provided that such discharge was made "as far from land as is practicable."\textsuperscript{126}

In other cases of "any discharge or escape" of oil\textsuperscript{127} and oily mixture,\textsuperscript{128} howsoever caused, the Convention requires the state of

\textsuperscript{118}Id. at 932.
\textsuperscript{119}4 & 5 Eliz. 2, c. 46. For the various Acts that it repeals see id. § 57, sched. 2.
\textsuperscript{120}Id. § 1(d).
\textsuperscript{121}53 & 54 Vict., c. 27. See generally id. § 2 for admiralty jurisdiction of such courts.
\textsuperscript{123}See notes 46-59 supra and accompanying text.
\textsuperscript{124}1962 Amendments, art. IV (a).
\textsuperscript{125}Id. art. IV (b).
\textsuperscript{126}Id. art. IV (c).
\textsuperscript{127}Id. art. I (1), defines oil as "crude oil, fuel oil, heavy diesel oil and lubricating oil."
\textsuperscript{128}Id. art. I (1), defines oily mixture as "a mixture with an oil content of 100 parts or more in 1,000,000 parts of the mixture."
the registry of the vessel to impose penalties upon the offender making such discharge outside the territorial waters of the state. The penalties shall be imposed "adequate in severity to discourage any such unlawful discharge and shall not be less than the penalties which may be imposed under the law of that territory in respect of the same infringement within the territorial sea."\textsuperscript{129} The implementing legislation in the United States, the Oil Pollution Act, 1961,\textsuperscript{130} and the British acts of 1955 and 1963,\textsuperscript{131} contain similar provisions.

B. Municipal Statutes

A trend toward stricter regulations for the purpose of controlling oil pollution from vessels within the territorial waters is increasingly in evidence. To illustrate, while the purpose of the proposed "Navigable Water Pollution Control Act of 1967" which was recently introduced in the United States Senate\textsuperscript{132} is "to expand and improve existing law,"\textsuperscript{133} its effect would be to make even accidental or negligent spilling of oil punishable, and to increase the penalty for such spillage.\textsuperscript{134} Cases of "emergency imperiling life or property, or unavoidable accident, collision or stranding" are saved from the application of the Act.\textsuperscript{135} The statement of policy announced in the bill is instructive. It says, "The Congress further finds that to abate and prevent such pollution [of the navigable waters by oil, sewage, and refuse of every kind discharged or dumped by vessels plying them] in the public interest, it is necessary that the disposal by vessels of oil, sewage, and refuse on these waters be controlled by forbidding it to the greatest practical extent . . . ."\textsuperscript{136}

Similarly the British legislative measures, Oil in Navigable Waters Acts of 1955 and 1963,\textsuperscript{137} and the Continental Shelf Act, 1964,\textsuperscript{138} make the discharge of oil a punishable offense with a few exceptions. Following the lead of the 1954 Convention and the amendments thereto, it is a defense under the 1955 and 1963 Acts to prove that (1) the discharge of oil was necessary and a reasonable step "for the purpose of securing the safety of the vessel, or of preventing damage to the vessel or her cargo, or of saving life."\textsuperscript{139} or

\textsuperscript{129} Id. art. VI (2).
\textsuperscript{131} 3 & 4 Eliz. 2, c. 25; Oil in Navigable Waters Act, 1963, c. 28.
\textsuperscript{133} Id. at 1.
\textsuperscript{134} Id. § 2(e).
\textsuperscript{135} Id. § 3(a).
\textsuperscript{136} Id. § 2.
\textsuperscript{137} 3 & 4 Eliz. 2, c. 25; Oil in Navigable Waters Act, 1963, c. 28.
\textsuperscript{138} Statutes 1964, c. 29.
\textsuperscript{139} 3 & 4 Eliz. 2, c. 25 § 4(1).
the escape of oil was caused by damage to the vessel, or by leakage which "was not due to any want of reasonable care," and that as soon as practicable after the damage occurred or the leakage was discovered "all reasonable steps were taken for stopping or reducing" the escape of oil.\textsuperscript{140}

However, the Acts make it an offense even in these emergency cases if the owner or master of the vessel discharging oil into waters of the British harbors did not report his action to the harbor officials.\textsuperscript{141}

Under the Continental Shelf Act, 1964, it is a defense if the person owning the pipeline or carrying on drilling operations proves that he took all reasonable care to prevent the leakage and that after it was discovered "all reasonable steps were taken for stopping or reducing it."\textsuperscript{142} The trend in England is also toward stiffer penalties.\textsuperscript{143}

C. Civil Liabilities at Common Law

Oil spillage by a vessel, resulting in damage to oyster beds, fisheries, rowboats, or property on the beaches and waterfront may cause liability in tort. Civil actions pertaining to such damage will generally lie in negligence or nuisance. Although there is lack of sufficient authority in case law on various aspects of the subject, a few representative cases from the United States and the British jurisdictions will be examined here before looking into the civil aspects of the \textit{Torrey Canyon} case.

1. The United Kingdom Case Law

In \textit{Southport Corp. v. Esso Petroleum Co.},\textsuperscript{144} a 680 ton oil tanker was stranded while approaching an estuary after developing steering trouble. The master discharged over 400 tons of oil to lighten the vessel which he considered necessary to save the vessel and the crew from grave danger. The oil became deposited on the respondents' foreshore, causing damage. In an action brought for trespass and/or nuisance and/or negligence, the trial judge found that there was no trespass or nuisance and held that since the plaintiffs had failed to prove negligence, they could not recover.\textsuperscript{145} It may be noted that the plaintiffs had pleaded as negligence, negligent navigation and nothing more. The defendants had denied negligence in addition to the

\textsuperscript{140} \textit{Id.} § 4 (2).
\textsuperscript{141} \textit{Id.} § 10.
\textsuperscript{142} 3 & 4 Eliz. 2, c. 25, § 5(1).
\textsuperscript{144} [1953] 2 All E.R. 1204 (Q.B.).
\textsuperscript{145} \textit{Id.} at 1213.
denial of trespass and nuisance, pleading that the steering had gone out of control.

The Court of Appeals reversed, finding the defendants negligent because they had failed to sustain the burden of explaining how the well-found vessel came to be stranded and the stern frame fractured, an accident not in the ordinary course of events. Denning, L.J., considered the discharge of oil a public nuisance for which he would hold the defendants liable, unless the defendants could show that such discharge was an inevitable accident, that is, "a necessity which arose utterly without their fault." He would hold them liable for negligence, too, but not in trespass. Finally, the House of Lords heard the appeal in *Esso Petroleum Co. v. Southport Corp.* Overruling the Court of Appeals, it held that the trial judge had rightly determined that the master was not negligent, and that therefore the vicarious liability allegations against the shipowners must also fail. The House of Lords however only considered the cause of action for negligence and did not pass on the issues of trespass and nuisance. Nevertheless, Lord Tucker and Lord Radcliffe shared the view of Denning, L.J., that on the facts of the case trespass did not lie. Lord Radcliffe also said that the appellants were not responsible for private nuisance.

In *Overseas Tankship (U.K.) Ltd. v. Morts Dock and Engineering Co.* (the *Wagon Mound* case), in an appeal from the decision of the Supreme Court of New South Wales, the Privy Council expressed itself on the negligence aspects of oil spillage. Substantial damage to a wharf was caused by the carelessness of the servants of the charterer of a ship, in allowing bunkering oil to spill into Morts Bay in the port of Sydney. The oil spread to the respondents' wharf where it was subsequently ignited by molten metal falling from the wharf and setting fire to cotton waste floating on the oil. It was found as a fact that the charterers "did not know and could not reasonably be expected to have known that it was capable of being set afire when spread on water." The court held them not liable as they could not reasonably have foreseen that the damage would have resulted from their servants' action.

---

147 Id. at 199.
148 Id. at 200.
150 Id. at 244.
151 Id. at 241.
152 Id. at 242.
154 Id. at 391.
In this case, apart from the damage to the wharf by fire, the escape of the oil had also damaged the respondents' slipways and caused interruption to their operations. Although the respondents had not initially pressed any claim in respect of this damage, the trial judge said:  

"The [respondents'] failure to press a claim for this damage is not an admission that it was not actionable damage. . . . It follows, since foreseeable damage was caused to the [respondents], that the [appellants'] careless act became impressed with the legal quality of negligence and the case therefore is covered by the principles of Re Polemis[156] and not those laid down in Hay (or Bourhill) v. Young."[157] Later, the respondents sought to place their claim in nuisance. The Privy Council left the question open.158

In another case, Miller Steamship Co., Pty v. Overseas Tankship (U.K. Ltd.),159 a large quantity of oil in a harbor was held to be a public nuisance.

2. The United States Case Law

In Petition of New Jersey Barging Corp.,160 damages were granted for nuisance caused by an oil slick. There, the spilling of oil in the harbor was alleged to have caused damage to property ashore. Claims pertained to damages "for loss of use of the beach and shore . . . for loss of use of littoral or riparian rights — i.e., swimming, sun-bathing, fishing, boating, picnicking, etc. . . . ."161 The Commissioner's report,162 confirmed by a federal court,163 discussed the admiralty law rules with respect to damages. Stating that in admiralty the general rules of damages are applicable,164 the Commissioner relied upon earlier cases allowing for compensation based on the element of annoyance, inconvenience and discomfort,165 and made awards for compensation "for such annoyance, inconvenience and discomfort suffered by particular claimants to the extent of and in an amount commensurate with the annoyance and discomfort proven."166

In Salaky v. Atlas Tank Processing Corp.,167 an action was brought to recover damages to various small craft — motorboats,
sailboats and rowboats — caused by oil sludge allegedly discharged from barges into the waters of a bay in New Jersey where these craft had been moored. The court found that since the damage could be traced to the oil slick from a barge, it would assume admiralty jurisdiction and award damages.\textsuperscript{168}

D. Civil Aspects of the "Torrey Canyon"\textsuperscript{169}

The oil slick from the Torrey Canyon hit the Cornish coast hardest. Besides the British\textsuperscript{170} and the French\textsuperscript{171} suits for cleaning up the slick/sludge, claims pertaining to damage to oyster beds and fisheries, shore fronts and beaches, hotels and restaurants are likely to arise. Counterclaims from the owners of the ship and the cargo owners against the British Government for the bombing of the ship and destroying the ship and the oil cargo may also arise, although the cargo owners could not sue the shipowners on any other grounds than the alleged unseaworthiness of the vessel.\textsuperscript{172}

The British have brought the action in Bermuda, the headquarters of the Barracuda Tankers Corporation, the owners of the ship. However, the suit could also have been brought in Liberia, the state of the ship's registry, or in Italy, whose nationals the skipper and crew were, especially since the skipper's negligence had caused the ship to run aground.\textsuperscript{178}

At least three main questions would arise. First, how can the damage be ascertained? For example, how much is a shore front worth? Does the loss of economic opportunity amount to damage? If so, how can it be measured? Secondly, how can negligence be proven? And, thirdly, what are the possible defenses? In their defense, for example, the ship owners could prove that they took all reasonable precautions after the occurrence of the damage to the ship.\textsuperscript{174} They could perhaps also plead Act of God. The British Government could plead the necessity of their action and thus escape liability for bombing the ship and the oil.

\textsuperscript{168} Id. at 227-28.

\textsuperscript{169} For a rather cursory treatment of the subject, see Gill, supra note 2, at 113-22. The authors rely heavily upon newspaper accounts and on a report in Newsweek, Apr. 10, 1967, at 51.


\textsuperscript{171} See for a Reuter's report from Singapore on the futile effort of the French Government agents to serve a writ on Lake Palourde, the sister ship of the Torrey Canyon, N.Y. Times, July 21, 1967, at 3, col. 3.

\textsuperscript{172} On unseaworthiness generally, see 35 Halsbury's Laws of England 401-10 (3d ed. 1961).


\textsuperscript{174} See, e.g., the exception recognized by the 1954 Geneva Convention, and incorporated by the British legislature in the 1955 Act, discussed in the text accompanying notes 124 and 139 supra.
As a sanction, the Administration of Justice Act, 1956,\textsuperscript{176} confers the right to arrest any other ship which, at the time the action is brought, is in the same ownership as the ship in respect of which the cause of action is alleged to have arisen.\textsuperscript{176} This explains the arrest of the \textit{Torrey Canyon}'s sister ship, \textit{Lake Palourde}, by serving the writ on her in Singapore when she made a one-hour stop to "take on two coils of wire rope."\textsuperscript{177}

Finally, the law pertaining to the limitation of liability should be noted. Under the recent British Statute, the Merchant Shipping (Liability of Ship Owners and Others) Act, 1958,\textsuperscript{178} the provisions pertaining to the limitation of liability apply to master, member of crew, or servant of the owner\textsuperscript{179} as well as to the charterers, manager or operator.\textsuperscript{180} The limitation of liability is applicable in the case of an act or omission done in the capacity of master or member of the crew or by one in the course of employment as a servant of the owners, causing damage to vessels, goods, or other property or rights without the owner's fault or privity. The limit on liability in respect of loss of vessels or goods is the equivalent of 1,000 gold francs per ton, or £23, 13s., 9 27/32d.\textsuperscript{181} Thus the liability in the \textit{Torrey Canyon} case would amount to about £4\frac{1}{4} million.

\section*{VI. Appraisal and Recommendation}

Presently, widespread concern is being felt about the inadequacy of the prevalent norms of international maritime law to handle the liability aspects of a \textit{Torrey Canyon} type of case, and the lack of satisfactory attention given thus far on national and international levels to deal with the preventive and restorative aspects of oil pollution in general. President Johnson's appointment of a special committee headed by the Secretaries of the Interior and Transportation to make an urgent study to determine how the United States could best "cope with the danger that oil spillage and other hazardous substances pose for shoreline areas and inhabitants,"\textsuperscript{182} Prime Minister Wilson's call for international agreements to control the movement of

\begin{footnotesize}
\bibitem{176} 4 & 5 Eliz. 2, c. 46.
\bibitem{176a} Id. § 3 (4b). See also St. Elefterio, [1957] 2 All E.R. 374, 377A (P.D.A.).
\bibitem{177} For a brief report, see N.Y. Times, July 18, 1967, at 33, col. 6; Manchester Guardian Weekly, July 20, 1967, at 16, col. 2. For a Reuter's report that after an $8.4 million bond was posted, the ship sailed from Singapore, see N.Y. Times, July 21, 1967, at 3, col. 3.
\bibitem{178} 6 & 7 Eliz. 2, c. 62. See for an earlier Act, Merchant Shipping Act, 1894, 57 & 58 Vict., c. 60. The 1958 Act has modified and repealed provisions in several earlier Acts. See 6 & 7 Eliz. 2, c. 62, § 8 and sched.
\bibitem{179} 6 & 7 Eliz. 2, c. 62, § 3 (2) (a) (b).
\bibitem{180} Id. § 3 (1).
\bibitem{181} Id. § 1 (1).
\bibitem{182} See N.Y. Times, June 11, 1967, at 55, col. 1; id. May 27, 1967, at 1, col. 3.
\end{footnotesize}
giant tankers, and the recent recommendations by the IMCO, meeting in London, the American Institute of Underwriters, and the oil industry, are indicative of such concern.

A. Preventive Steps

Changes in future construction of ships, better equipment and technological devices, stricter navigational regulation, sea traffic supervision and control, international licensing of captains and officers of merchant marines, further amendments to the 1954 Convention, improved municipal enforcement measures, and special research projects, are a few steps that might reduce the potential harm by oil pollution to water, wildlife, and shore fronts.

1. Future Design and Construction of Ships

Better compartmentalization by building stronger and smaller compartments could limit the total loss of oil even if the ship ran aground, or was rammed or torpedoed, since oil would be lost only at the point of impact. Inner epoxy coatings in the tanks would also minimize the amount of oil left coating the surfaces, and simplify the cleaning process. The size of the tankers could perhaps be limited by international agreements. The industry may be responsive to this idea as indicated by the recent observation by the chairman of the Japan Tanker Owners Association that a number of practical considerations of costs and risks might limit the tanker size.

2. Better Equipment and Technological Devices

Modern giant tankers are being equipped with oil separators and slop tanks that would reduce the discharge of oil. More recent developments such as the use of demulsifiers for breaking up oil residues, refined processes of tank washing, for example, Standard's and Mobil's "load-on-top" technique which segregates tanker

---

185 Reported in Denver Post, July 28, 1967, at 54, col. 2.
187 At present only military ships are equipped with better compartmentalization; otherwise, the trend is in the opposite direction. The cost involved in building smaller and stronger compartments would perhaps deter the industry from accepting this recommendation. New supertankers' compartments will be so large that internal inspection will be performed by men in small boats inside partially flooded tanks, rather than by using ladders and scaffolds.
188 According to a recent report, most modern tankers provide for it. N.Y. Times, June 11, 1967, at 88, col. 2.
189 The statement was made in a paper presented before the Seventh World Petroleum Congress in Mexico City, Apr. 17, 1967. Reported in Disappearing cost advantages may end rise in tanker sizes, Oil & Gas J., Apr. 17, 1967, at 183.
washings and ballast water into a single tank and allows them to remain distributed until the oil and water have separated naturally and thus results in "95 per cents of oil formerly discharged during tank washings and deballasting all vessels" being retained, show a healthy trend. So does the newly introduced system by Cities Service for burning crude oil and "slop" in place of more expensive bunker "C" fuel which will eliminate the need to flush tanks and discharge bunker fuel between voyages. The Cities Service system has the added attraction of being economically advantageous. Reportedly calculations show that close to one million dollars over the 20-year economic life of a tanker could be saved by employing it. Such a system could perhaps be made mandatory on all tankers. Improved harbor and terminal facilities should also be provided to handle huge tankers safely.

3. Navigational Regulation, Sea Traffic Control, and International Licensing of Officers

It is desirable to have an international body supervise and inspect ships' navigation equipment regularly. This body could also administer international licensing of big ships' officers and provide training schools and refresher courses for them so that they keep abreast of the latest developments in the art of navigation, especially in view of the enlarged size of the tankers and the rapidly changing technology. As a first step, this body should at least establish international standards for licensing such officers.

As tankers get larger and more numerous, it will also be essential to provide well-defined routes and new mandatory sea lanes for them, since huge tankers of 500,000 dead-weight tonnage cannot travel the normal shipping lanes nor enter many harbors. Furthermore, their travel as well as the routes of smaller dry-cargo ships should be controlled from the shore. Thus, the "rampant individualism" in this field, that is, the lack of any obligation on the master of

---

193 The enforcement procedure could be similar to the one currently followed by some states in denying entry to their harbors to vessels that do not meet certain health safety standards.
194 See N.Y. Times, July 22, 1967, at 40, col. 6. It is also reported that "the Japanese port authorities, as well as Japanese oil companies, have been concerned for some time by the potential disaster hazard of supertankers unloading in congested harbors." OIL & GAS J., Mar. 20, 1967, at 102.
the ship to report his course, speed and position to coastal stations, should be replaced by control systems similar to the aircraft control systems. Present technology, using LORAN type equipment with identification attachments, long-range, shore-based radar equipment or Doppler systems could perhaps efficiently track all vessels from port to about 500 miles offshore. Computerized control could be established and ships approaching ports could be regulated as aircraft are when they approach metropolitan airports. This device could be used to warn ships of collisions or navigation errors that might cause disaster on congested sea routes. The cost of controlling and operating such a system could be borne by the maritime nations alone or be shared with the industry — shipowners and charterers.

4. Amendments to the 1954 Convention

Further amendments to the 1954 Convention are recommended which would ban the dumping of all kinds of oil products including the nonpersistent ones, and provide severe penalties for violations and stronger enforcement machinery.

5. Municipal Enforcement

Enforcement of existing norms on a national level may be improved by the enforcing agencies, such as the United States Coast Guard, by setting up a regular patrol system to keep a constant watch in strategic areas. Current practice in most nation states is similar to that of the United States Coast Guard which relies for its information about oil slicks on random sightings by ships and planes. In many instances such sightings will be made too long after the oil slick has formed to enable the patrolling agency to trace the oil slick to a particular ship.

6. Research Projects

A common objective in preventing oil pollution of the seas would suggest that regional and international research projects, staffed by competent scientists and technical experts, be undertaken to study both the preventive and restorative aspects of the problem. A beginning could be made by establishing two regional arrange-


198 See for a brief report from London on the IMCO meeting discussing a similar proposal, N.Y. Times, May 5, 1967, at 16, col. 1. The United States government has just released the Navy's transit satellite navigational system for use by any United States merchant ship. Although the system is expensive it allows a ship to plot its position with pinpoint accuracy. TIME, Aug. 11, 1967, at 56-57.

199 1954 Convention, supra note 46.

200 See, e.g., a report that the industry endorses such an agreement, N.Y. Times, supra note 186.

ments, one for Britain and other European states and the other for the United States and Canada, or an international body, to conduct such research and provide technical expertise—information, know-how and assistance—to the parties in need. Each participating nation state could contribute to this fund according to its resources.

B. Restorative Measures

Although adequate preventive steps could decrease the probability of accidents, human error and equipment failure will still result in accidents. A tanker might get off course, collide with other ships in narrow passages, run aground, or be torpedeed. Thus further improvement of post-disaster restorative measures is urgently needed. The two major problems, clean-up techniques and the liability and compensation aspects, will be studied in this section.

1. Clean-up Techniques

Since the Torrey Canyon disaster, effective techniques of detection, recovery, neutralization, and dispersal of spilled oil, are being widely explored. In the aftermath of the Torrey Canyon the British introduced floating booms of urethane foam and polystyrene to protect harbors and estuaries and detergent agents to emulsify the oil slick, and tried methods of coagulating and absorbing the oil with such materials as straw and verniculate. The French used sawdust which soaked up oil and was later scooped up by ships, and rigged air-pumps which sucked floating oil into specially built containers that were later disposed of ashore.

Later developments include a bill introduced in the United States Senate, which is aimed at developing chemical procedures for neutralizing spillages after future disasters. Furthermore, several firms are experimenting with products for discharge, sinking, dissolution, or sweeping the oil. Among other possibilities are the use of

---

202 Federal investigators appointed to study the aftermath of the Torrey Canyon wreck are reported to have suggested NATO as a proper vehicle for such study. N.Y. Times, June 11, 1967, at 55, col. 1. The British weekly, The Statist, suggested a West European cooperative solution. British Information Services, British Weeklies, Mar. 31, 1967, at 1.


204 See for a report on the President's concern with this aspect, N.Y. Times, May 27, 1967, at 1, col. 3, and at 51, col. 4.

205 The wreck of the Torrey Canyon, CHEMICAL WEEK, Apr. 8, 1967, at 59, 62.


rotating drums,209 oil solubilization agents,210 digesting culture capable of "eating petroleum" like natural bacteria,211 silicone treated fuel ash,212 and cargo solidifications or jelling compounds.213 However, the possibility of biological hazards of some of these products to marine, shore, and bird life cannot be ruled out.214 Among other measures, stockpiling of cleaning materials at strategic locations and free use of salvage vessels to enable rapid salvage of a tanker and/or its oil would be helpful.215

Still another device to handle the oil pollution effectively is to set up coordinating bodies at both national and international levels. Recently federal investigators who studied the British and French operations in dealing with the Torrey Canyon wreck have found that the absence of such bodies in both Britain and France had hampered the clean-up operations.216

2. Liability and Compensation Aspects

Compulsory insurance,217 strict liability laws prescribed by international agreements, improved enforcement means by the state of registry of the vessel, and recognition under an international convention of a coastal state's right to take the protective action such as access to and destruction of a damaged ship and/or its cargo in international waters in case of a threat to its coastline,218 are further measures to be explored. Notwithstanding the traditional deference to the law of the flag, concurrent jurisdiction of interested nation states in emergency situations should be recognized. A reevaluation of the widespread practice of the "flag of convenience" should also be undertaken.

209 Rienow & Rienow, The Oil Around Us, N.Y. Times, June 4, 1967 (Magazine) at 115.
210 See Chemical Week, supra note 205; Time, July 28, 1967, at 68.
211 Rienow & Rienow, supra note 209, at 115.
212 Chemical Week, supra note 207.
213 Id. See also N.Y. Times, June 11, 1967, at 55, col. 1.
214 "[T]he American Petroleum Institute usually cautions against the use of chemicals to remedy oil spills. Among the reasons: the chemicals cause foam, possibly harmful effects on shellfish and other marine life. And coagulated oil is often a problem if it should wash up on the beach." The wreck of the Torrey Canyon, Chemical Week, Apr. 8, 1967, at 59, 62. The British had studied the problems of the reduction of the biological hazards to marine, shore and bird life from the use of detergents after the Torrey Canyon wreck. The "Torrey Canyon," supra note 206, at 8.
215 For a brief report on such suggestions, see N.Y. Times, June 11, 1967, at 55, col. 1.
216 Id.
217 See, for the comment made by the Chairman of the IMCO Council that he could not foretell if any Council recommendation on the "sensitive, complex" issue of compulsory insurance would be forthcoming soon, N.Y. Times, May 6, 1967, at 62, col. 1.
Another suggestion for dealing with the damages of such disaster is to establish an international fund, into which all shipbuilders, owners, and charterers would be obligated to pay. As experience builds up showing that ships manufactured by certain firms, or operated by certain companies had fewer accidents, their contributions to the fund per ton built or carried would decrease. Simultaneously, those builders or shippers with higher accident rates would be forced to contribute heavily to the fund to maintain their privilege of entering the ports of participating nations. Those persons or nation states harmed by oil pollution would be paid from the fund, rather than having to collect from the ship that caused the damage, whether there was negligence or fault or lack of it. Such a system, which is similar in concept to the state and federal unemployment compensation funds in the United States, will require setting up an international administrative body to serve as trustee of the funds paid in, and as arbitrator of how much to pay out, and to whom in case of an accident. Such a system will also act as an economic deterrent and perhaps be helpful in curing the shipping industry of what Secretary Udall called, "sloppy habits and poor standards."  

CONCLUSION

Some of these recommendations are necessarily predicated upon a common interest of nation states and oil and shipping industries to find effective means to avert the hazards of oil pollution if possible, and to deal with them more economically and swiftly when such pollution occurs. For both prescription and implementation purposes, an international body such as the Inter-Governmental Maritime Consultative Organization will be a necessary vehicle. But its structure and machinery will need further strengthening. If nothing else, the Torrey Canyon wreck has certainly highlighted the need for international cooperative measures in this field.

---


220 On a voluntary basis, an international non-governmental organization, International Maritime Committee (IMC), founded in Brussels in 1897, has been active in drafting conventions on collisions at sea, limitation of shipowners' liability and salvage and assistance at sea. The purpose of the IMC is to contribute to unification of maritime law by means of conferences, publications and other activity. For a brief description, see YEARBOOK OF INTERNATIONAL ORGANIZATIONS 719 (11th ed, 1966-1967).