

INTERNATIONAL AND REGIONAL AGREEMENTS ON MARINE POLLUTION ABATEMENT

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The complexity and enormity of the problem of pollution of the environment can no doubt be easily appreciated, yet no where is this more relevant than in the future of the seas. Successful attempts to regulate and control marine pollution on the international level only began in 1954, and the mass of international (and national) legislation since, attests to the magnitude of the dilemma faced by the international community.

Traditional notions of marine pollution focus on the intentional, operational or accidental discharge of oil into the sea. But the problem is by no means static. Limited and rapidly depleting oil reserves, and expanded nuclear technologies, have led to new and more dangerous sources of marine pollution, for example, radioactive waste. As we tend to rely more increasingly on the sea and its abundant resources, solutions to these problems and others that develop are paramount to our survival on this planet. As such, international cooperation is obviously of great importance.

This study, therefore, purports to give an integrated account of the more important international and regional agreements on pollution control of the marine environment.

In contrast to the situation prevailing in the area of international watercourses pollution, the marine environment is governed more by treaty law than by customary international law. The United Nations Convention on the Law of the Sea of 1982 contains approximately 60 articles on the subject. There are also various multilateral treaties of a general nature, as well as bilateral and regional treaties regulating the protection and preservation of the marine environment. Since 1954, more than thirty such treaties have been concluded. Together, they regulate four categories of polluting substances¹ These are :

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1) This scheme is adopted from a United States Department of State research study published in Burke, Legatski and Woodhead, *National and International Law Enforcement in the Ocean*, 1975, pp. 198-235.

i. Oil.

- ii. Substances other than oil,
- iii. Sewage and garbage, and
- iv. Radioactive materials.

Each category will be discussed separately.

I. Oil Pollution

Oil pollution may be further classified into :

- a. Intentional or operational discharges,
- b. Accidental discharges, and
- c. Dumping.

A. Intentional or Operational Discharges

In 1954, the **International Convention for the Prevention of Pollution of the Sea by Oil** was concluded. It has since been amended in 1962, 1969 and 1971. Only sixteen states had ratified the convention by the end of 1962; however, these states owned two-thirds of total world tonnage then. The convention applied to all sea-going ships except naval auxiliaries, vessels under 500 gross tons, whaling vessels and vessels on the Great Lakes². The basic regulatory device in the convention is a "prohibited zone" within which intentional discharges may not occur³. The flag state was required to punish infractions, although other states might notify it of evidence that an infraction had been committed. Each party state was required to ensure that, within each main port on its territory, facilities for dealing with oil waste were available, and each vessel was required to carry an "oil record book" open to inspection in any port of a party state by the port authorities.

The **1958 Geneva Convention on the High Sea** contained only a general provision on pollution by oil because of the pre-existing 1954 Convention. Article 24 states that

"Every State shall draw up regulations to prevent pollution of the seas by the discharge of oil from ships or pipelines or resulting from the exploitation and exploration of the seabed and its subsoil, taking account of existing treaty provisions on the subject"

The **1962 Amendments** to the 1954 Convention concluded under the auspices of the Intergovernmental Maritime Consultative Organization (IMCO) enlarged the area of the prohibited zones; they extended the convention to cover all tankers over 150 gross tons and other vessels of whatever size; and they secured general acceptance of the principle that persistent oil should never be discharged into the sea (unless reception facilities are unavailable at either end of the voyage), and that reception facilities ashore should be expanded. The most important provision, however, was that ships over 20,000 gross tons, built after a spe-

2) Art. 2

3) "Prohibited zones" are defined in Annex A.

cified date, would be prohibited from discharging oil anywhere at sea, unless the Master has determined that special circumstances make discharge necessary. Entries in the Oil Record Book are to describe the facts and circumstances involved in the performance in each of a number of vessel operations which may result in the discharge of oil⁴. Statements are also required to give reasons for discharges which are allowed under exceptions to the convention, as for protection of life at sea, or when discharge results from accidental damage to the ship. The convention says that violations of its provisions are to be prohibited, and sanctions established, by the flag states of vessels to which the convention applies⁵. Penalties are to be severe enough to discourage violation, and the penalty for violations anywhere else is to be as severe as it would be for the same violation in the flag state's territorial sea⁶.

IMCO acts as an information center in that all party states are to report on legislation in force in their territories which give effect to the convention, as well as reports or summaries of reports indicating the results of application of the provisions of the convention⁷, and penalties imposed for infringements⁸. Parties are also to notify IMCO when waste-reception facilities in party state ports are inadequate⁹.

The 1969 Amendments to the 1954 Convention set more stringent discharge requirements. The limits set are in terms of an "instantaneous rate of discharge" not to exceed 60 litres per mile of a mixture of not over 100 ppm oily waste in water, with the total quantity discharges being limited to not over 1/15,000 of the ship's cargo volume¹⁰. Tankers must not discharge within 50 nautical miles of the nearest land, and other ships must be as far as practicable from the land during discharge¹¹. Provisions for a more detailed record book are also provided¹².

The 1973 Convention for the Prevention of Pollution from Ships supercedes the 1954 Convention as between parties to that convention. The convention is designed to control oil pollution and applies to all ships registered in, or operating under authority of, a party to the convention. "Ship" is defined to include floating craft or floating platforms¹³. It does not apply to military or other non-commercial government ships; however, these states are to regulate them as nearly as practicable in accordance with the provisions of the convention¹⁴. Each flag state is to enact laws to prohibit and establish sanctions for violations of the con-

4) Art. 9.

5) Art. 6.

6) Art. 6(2).

7) Art. 12.

8) Art. 6.

9) Art. 8.

10) Art. 3.

11) *id.*

12) Art. 9.

13) Art. 2(4), Art. 3(1).

14) Art. 3(3).

vention regardless of location¹⁵, and each port state is to establish laws to prohibit and sanction violations within its coastal jurisdiction¹⁶. When a violation occurs within a party state's jurisdiction, the party has the option to enforce its own law, or refer the case to the flag state for enforcement action¹⁷. Penalties imposed are to be adequate in severity to discourage violations, and equally severe wherever the violations occur¹⁸.

Specified ships are to be provided with a certificate by the flag state certifying that the ships comply with applicable construction and equipment standards¹⁹, such standards being partly directed at minimizing the need for operational discharges. Prior to certification, the flag state or its designee is to perform a thorough examination of a ship to verify that it does in fact conform to applicable standards, and certificates are to be renewed by complete reinspection at least every five years, with interim examinations at least every thirty months²⁰. The certification procedure may be regarded as a sort of preventive inspection, to ensure that a ship is capable of meeting operating requirements which will reduce or eliminate operational discharges, as well as to ensure that construction and equipment standards are met to reduce likelihood of accidental discharges. Upon entering a party state's port or offshore terminal, a ship is subject to inspection by that state's authorized enforcement personnel²¹. Ordinarily, verification of presence of a valid certificate is as far as the inspection may go; however, if no certificate is produced, or there are "clear grounds" to believe that the ship's actual condition does not substantially correspond with particulars stated in the certificate provided, a more complete inspection may be authorized²². Ships are subject to inspection when in a party state's port or terminal for the purpose of verifying whether discharges have been made in violation of the regulations²³, and party state may request another party state to conduct the inspection, the results of which are reported to the requesting state and flag state²⁴. Violations of certifications or discharge requirements are reported to the flag state by the inspecting state²⁵. If the inspecting state chooses to refer the case to the flag state, rather than enforce its municipal law, the flag state is to investigate promptly, and take proper enforcement action if the evidence is sufficient²⁶. The flag state is to inform IMCO and the state which referred the case of the results of whatever action it has taken²⁷. The inspecting state shall take such steps as will ensure that the ship will not sail until it can proceed to sea without presen-

15) Art.4(1).

16) Art.4(2).

17) *id.*

18) Art.4(4).

19) Art.5, Annex I.

20) Annex I, Regs. 4,5.

21) Art.5(2).

22) *id.*

23) Art.6.

24) Art.6(5).

25) Arts. 5, 6.

26) Art. 6(4).

27) *id.*

ting an unreasonable threat of harm to the marine environment, except that the ship may leave the port or offshore terminal for the purpose of proceeding to the nearest appropriate repair yard²⁸.

Whenever a ship is denied entry to a port or terminal for non-compliance with the convention, the flag state is to be immediately notified through diplomatic channels²⁹. The flag state is also to be informed when a ship of its registry fails to carry a valid certificate³⁰.

The convention deals with the "flag of convenience" problem by requiring ships not registered in states party to the convention to adhere to the same requirements as ships registered in party states³¹.

The convention provides for detailed reporting incidents involving violations of the convention, and other incidents of probable discharge of harmful materials³². There are, however, no specific penalties for reasonable failure to observe reporting requirements. Each party state is also to report to IMCO the text of all legislation implementing the convention including an annual standardized report of penalties actually imposed for violations³³.

The 1954 and 1973 Conventions require party states to provide adequate reception facilities in ports and terminals to receive oily wastes from ships³⁴, so that ships will have a reasonable alternative to discharge at sea. Failure to so provide is reportable to IMCO, which in turn files a formal complaint against the party state³⁵. However, no remedy is provided where a state fails to make adequate facilities available.

B. Accidental Discharges

The 1971 Amendments to the 1954 Convention regulate the size and arrangement of cargo tanks on oil tankers to which the convention applies, thereby minimizing damage when a spill inadvertently occurs³⁶. The amendments permit a party state to "request consultation" with a tanker's flag state where the tanker is suspected of not satisfying the tank-size limitations³⁷. If such consultation fails to dispel doubts about the tanker, the requesting party may deny that tanker access to its ports or offshore terminals³⁸. The importance of subsequent amendments to the 1954 Convention was realised even before they were specifically en-

28) Art.5(2).

29) Art.5(3).

30) *id.*

31) Art.5(4).

32) Art.8 and Protocol I.

33) Art.11.

34) Annex I, Regs.10,12.

35) Art.11 and Annex I, Reg.12(5).

36) Preamble.

37) Art.4.

38) *id.*

visaged. The 1954 Convention provides that any party which fails to accept them within twelve months of their entry into force will "cease to be a party to the present (1954) convention"³⁹.

The 1973 Convention for the Prevention of Pollution from Ships which supercedes the 1954 Convention and Amendments, updates the construction requirements of the 1971 Amendments. Changes include the construction dates to which the regulations apply, and addition of bottom and side damage assumptions which tankers must be capable of surviving in partly or fully loaded condition⁴⁰.

The 1969 Convention Relating to intervention on the High Seas in Cases of Oil Pollution allows coastal states to take action to mitigate or eliminate danger to their coasts when an accident has occurred beyond normal jurisdictional limits on the high seas. The convention applies to any seagoing vessel or floating craft, but excepts installations being used for seabed resource activity, and military or other public vessels⁴¹. Before taking any action, the coastal state must notify the flag state and those whose business interests may be affected⁴², and their views are taken into account in deciding how to respond to the casualty⁴³. However, in the case of "extreme urgency", the notice and consultation requirements are relaxed⁴⁴. The convention requires that measures taken "shall be proportionate to the damage actual or threatened"⁴⁵. In determining proportionality, the coastal state is to consider the extent and probability of imminent damage if nothing is done, the likelihood of effectiveness of measures proposed, and damage which the preventive measures themselves could cause⁴⁶.

The coastal state is liable to the shipowner for any excessive action taken⁴⁷, and must compensate him accordingly. To settle disputes over reasonableness or measures taken, compensation, and so forth, the convention provides for compulsory arbitration⁴⁸.

The 1969 Convention on Civil Liability for Oil Pollution Damage makes provision for compensation to those damaged by an oil spill and provides the formula for determining who is liable to pay such compensation. The convention does not apply to damage by military or other public ships, and is limited to "pollution damage caused on the territory including the territorial sea of a Contracting State and to preventive measures taken to minimize

39) *Preamble*.

40) *See Annex I*.

41) *Art.1*.

42) *Art.3*.

43) *id.*

44) *Art.3(d)*.

45) *Art.5(1)*.

46) *Art.5(3)*.

47) *Art.6*.

48) *Art.8 and Annex*.

such damage"⁴⁹. Thus, no compensation is available for a spill on the high seas which does no damage within a party state's territorial sea or does damage only on the coast of a non-party state.

The owner of the offending vessel is liable for pollution damage⁵⁰; however, where the owner can prove the damage was wholly the result of an act or omission of a third party who intended to cause damage⁵¹; or the damage was wholly the result of wrongful or negligent acts of a government or other authority responsible for maintaining lights or other navigation aids⁵², no liability will attach. The term "wholly" apparently means that the owner remains liable if damage was at least partially his fault. The owner may also be partly or fully exonerated if the party damaged was partly responsible through negligence or an intentional act⁵³.

The convention sets a limit on the total amount of liability so long as damage did not result from the owner's actual fault or privity in such fault, in which case no limit is set⁵⁴. Assuming the owner is entitled to the limitation, he may pay into the court with jurisdiction over the matter, the total maximum amount for which he may be found liable. Claimants are thus barred from pursuing or attaching any other of his assets⁵⁵. The limits are approximately 134 Dollars per ton, or 14 million dollars total, whichever is less⁵⁶. This limit was set basically by the requirements of the marine insurance market. If the maximum amount available is inadequate to satisfy all claims, it will be distributed on a pro rata basis among claimants⁵⁷.

Owners of ships over 2,000 tons oil cargo capacity must either carry insurance or evidence of financial responsibility up to the maximum amount of liability the ship could incur under the convention's limits⁵⁸. It is the flag state's responsibility to issue certificates to its ships indicating that the financial responsibility requirement has been met⁵⁹. Claims for compensation may be brought directly against the insurer or other guarantor⁶⁰. To prevent owners from registering their ships under flags of convenience and thus avoiding the above insurance provision, the convention provides that each party state is to ensure through national laws that no ship regardless of nationality of registry may enter or leave the party's ports or offshore terminals without such a certificate⁶¹. This implies that parties to the convention

49) Art.2.

50) Art.3(1).

51) Art.3(2) (b).

52) Art.3(2) (c).

53) Art.3(3).

54) Art.5.

55) *id.*

56) *id.*

57) Art.5(4).

58) Art. 7 (1).

59) Art.7(2).

60) Art.7(8).

61) Art.7(11).

may inspect any ship with over 2.000 tons oil cargo capacity at sea, before such ship enters a part in the state's jurisdiction. However, the port state may only inspect a ship within its juridical limits, i.e., within an economic or pollution control zone, and not on the highs seas.

When damage occurs in the territory of more than one party state from a single incident, the courts of any such state are competent to settle matters of liability⁶². The owner may decide which state's judicial system will settle the matter by paying in a compensation fund to that state's proper court, and thereafter such court has sole rights to disburse the fund among claimants⁶³, and in effect complete power to decide all claims under the convention. This type of forum shopping is a convenient way of preventing conflicts of jurisdiction among party states involved and also allows the owner to choose the court most likely to agree with his position, since the owner is eligible to share in the fund to recover his expenses incurred in efforts to combat the effects of the spill⁶⁴.

The 1976 Protocol to the 1969 International Convention on Civil Liability for Oil Pollution Damage converts the limits of an owner's liability from dollars to "units of account". Article 2 of the Protocol states that

"The owner of a ship shall be entitled to limit his liability under this Convention in respect of any one incident to an aggregate amount of 133 units of account for each ton of the ship's tonnage. However, this aggregate amount shall not in any event exceed 14 million units of account".

A "unit of account" is the Special Drawing Right as defined by the International Monetary Fund.

The 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage is intended as supplement to the 1969 Civil Liability Convention, the maximum compensation limits of which are thought to be inadequate. Only parties to the Liability Convention may become parties to the Fund Convention⁶⁵. Under the convention, a fund is available to shipowners to relieve them of some of the cost placed on them by the Liability Convention.

The Fund is to consist of an organization for managing assets obtained by payments from persons who receive in, or ship from, a party state over 150.000 tons of oil within a relevant calendar year⁶⁶. The Fund "Assembly" is to set the rate of payment per ton of oil, to meet its needs and support its purpose⁶⁷. Each party is to ensure by domestic legislation that persons in such state who are eligible to contribute to the Fund satisfy such obligation, and each

62) Art.9.

63) Art.9 (3).

64) Art.5(8).

65) Preamble.

66) Art.10.

67) Arts.10,11.

state is to impose sanctions for failure to meet the obligations⁶⁸. The Director of the Fund is authorized to take "all appropriate action" against persons liable for contributions, after they are three months or more in arrears, to attempt to recover the amount due⁶⁹.

The Fund is to pay any person who cannot receive adequate compensation under the Liability Convention, either because no liability arises thereunder, or because the owner who is liable is unable to satisfy all the obligations stemming from the liability, or where damages exceed the total amount available under the limitations in the Liability Convention⁷⁰. The total aggregate liability of the shipowner and the Fund is limited to 450 million Francs (32.4 million Dollars) to be distributed pro rata if it is not enough to fully pay all claims⁷¹. The Fund itself will pay up to this amount if damage results from an irresistible natural phenomenon⁷², and the Fund Assembly may change the upper limit to a maximum of 900 million Francs (64.8 million Dollars) per incident if experience dictates a need to do this⁷³. The Fund is also authorized to provide credit facilities to support preventive action, where the Fund may become liable and such action could mitigate that liability⁷⁴.

For payments which are made in excess of 1500 Francs per ton or 125 million Francs total, whichever is less, shipowners may receive an indemnity, but not for amounts which surpass the limit of liability which is set in the Liability Convention⁷⁵. This can be explained by the fact that the liability of the Fund is already incurred in respect of such amount. No indemnity will be provided where damage resulted from "willful misconduct" of the owner involved⁷⁶, and the Fund may be exonerated from obligations to indemnify the owner where damage is shown to have resulted wholly or in part from the owner's fault in disregarding provisions of any of several conventions⁷⁷ dealing with shipping safety and pollution prevention, whether or not the flag state of the offending ship is party to the convention thus involved⁷⁸.

The 1976 Protocol to the 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage converts the amounts referred to in the latter agreement from francs to "units of account". As previously mentioned, the unit of account is the Special Drawing Right as defined by the International Monetary Fund.

The 1969 Agreement for Cooperation in Dealing With Pollution of the North Sea

68) Art.13(2).

69) Art.13(3).

70) Art.4.

71) Art.4(5).

72) Art.4(4) (b).

73) Art.4(6).

74) Art.4(8).

75) Art.5(1).

76) Art.5(3).

77) *id.*

78) *id.*

by Oil is a regional arrangement designed to facilitate cleanup when a spill occurs in the North Sea. The parties undertake to inform each other of the identities of their respective national organizations for dealing with pollution⁷⁹, the competent agency to contact with reports of pollution or requests for aid⁸⁰, and new methods which may develop for dealing with or avoiding oil pollution⁸¹. The North Sea is divided among the parties into zones of responsibility, each party to maintain particularly close surveillance of its area and be ready to respond to pollution threats⁸². Parties are to have their pilots and ship masters observe the relevant area any time they pass through or over it, and promptly report any pollution threat sighted⁸³. Any time a spill may present a threat to any party, that state is to be immediately notified⁸⁴. If one party cannot deal with a spill alone, it may request aid from the other parties, beginning with the one nearest the spill and thus most likely to be affected⁸⁵. Parties called on for aid "shall use their best endeavors to bring such assistance as is within their power"⁸⁶.

The 1971 Agreement Between Norway, Denmark, Finland and Sweden concerning Cooperation in Taking Measures Against Pollution of the Sea by Oil is similar to the North Sea Agreement, but also requires the parties to assist each other in investigation of offences against anti-pollution regulations which presumably occurred in the territorial or adjacent waters of a party⁸⁷.

The convention calls for an exchange of information between the parties as to port facilities which exist or are being built for the reception of oily wastes from ships;⁸⁸ as to national laws and regulations and other matters relevant to dealing with or avoiding oil pollution;⁸⁹ and as to the identity of authorities in the state to which information required by the agreement is to be conveyed⁹⁰. The convention sets no geographical limits; thus, any pollution threat sighted anywhere is apparently to be reported and acted upon if it threatens the coast of a party.

C. Dumping

The 1972 International Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter defines "dumping" to mean:

79) Art.4(a).

80) Art.4(b).

81) Art.4(c).

82) Art.6 and Annex.

83) Art.5(2).

84) Art.5(1).

85) Art.7

86) *id.*

87) *id.*

88) Art.8(a).

89) Art.8(b).

90) Art.8(c).

(i) any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea;

(ii) any deliberate disposal at sea of vessels, aircraft, platforms or other man-made structures at sea⁹¹.

Excluded from the definition of dumping is: waste derived from normal ship operation other than dumping; the placement of material in the ocean for purposes other than disposal; and waste disposal related to seabed exploration or exploitation⁹².

Annex I to the convention lists substances, the dumping of which is prohibited. Included is crude oil, fuel oil, heavy diesel oil, and lubricating oils, hydraulic fluids, and any mixtures containing any of these, taken on board for the purpose of dumping⁹³. Annex II lists materials which may be dumped with a prior special permit, and other material not on either list requires a prior general permit from the responsible party⁹⁴. Annex III establishes the criteria governing the issue of permits. Exceptions to the prohibitions are provided for in cases of "emergencies, posing unacceptable risks relating to human health and admitting no other feasible solution"⁹⁵ and for military and other noncommercial government ships and aircraft. However, these ships and aircraft are to be regulated by the states responsible for them to the extent possible in line with the purposes of the convention⁹⁶.

A similar regional agreement was concluded in 1972 among Iceland, Norway, the Netherlands, Portugal, the United Kingdom and Sweden, known as the **Convention for the Prevention of Marine Pollution by Dumping From Ships and Aircraft**. The area regulated by this convention is the high seas and territorial seas which are situated:

(a) within those parts of the Atlantic and Arctic Oceans and their dependent seas which lie north of 36 degrees north latitude and between 42 degrees west longitude and 51 degrees east longitude, but excluding

(i) the Baltic Sea and belts lying to the south and east of lines drawn from Hasenore Head to Gniben Point, from Korshage to Spodsbjerg and from Gilbjerg Head to the Kullen, and

(ii) the Mediterranean Sea and its dependent seas as far as the point of intersection of the parallel of 36 degrees north latitude and the meridian of 5 degrees 36 minutes west longitude.

91) Art. 3.

92) *id.*

93) Annex I (5).

94) Art. 4.

95) Art. 5.

96) Art. 7(4).

- (b) within that part of the Atlantic Ocean north of 59 degrees latitude and between 44 degrees west longitude and 42 degrees west longitude⁹⁷.

Both conventions provide for an organizational framework to administer the new law.

II. Substances Other Than Oil

A. Intentional or Operational Discharges

The 1973 Convention for the Prevention of Pollution from Ships regulates the carriage of noxious liquid substances in bulk, and applies to all ships carrying such substances⁹⁸. Annex II lists various substances according to the degree of hazard they are believed to present, and if a ship wants to carry a bulk substance not mentioned, governments of parties involved are to establish a provisional classification of the substance for the purpose of the proposed operation⁹⁹. A substance must be handled according to the most severe limits proposed, until agreement is otherwise reached¹⁰⁰. The convention establishes general requirements for the discharge of noxious liquid substances into the sea and for control of these substances with respect to tank cleaning and emptying, piping system draining, etc. Special discharge requirements are provided for in the Baltic and Black Sea areas.

B. Accidental Discharges

Each party to the 1973 Convention is to appoint or authorize "surveyors" to implement control measures designed to prevent pollution¹⁰¹. A surveyor may sample effluent quality, observe various functions, give notice to the appropriate persons of infractions observed, make entries in a ship's Cargo Record Book or certify to the validity of such entries made by others, and so forth when the ship is in a port or terminal of the surveyor's state¹⁰².

All ships to which Annex II applies are to have a Cargo Record Book in the form specified in the Annex, with entries to be made therein when any of a number of listed functions occur on the ship¹⁰³. Entries are also to be made regarding accidental discharges, or discharges permitted under an exception to the convention, to explain such discharges¹⁰⁴. Entries are also to be made by authorized surveyors when they conduct an inspection of the ship. The ship's officer in charge of the particular operation must sign the book, and the Master of the ship must also sign each page¹⁰⁵. The Cargo Record Book must be kept for a minimum of two

97) Art.2.

98) Annex 2(2).

99) Annex 2(3.4).

100) Annex 2, Reg. 3(4).

101) Annex 2, Regs.8, 10.

102) *id.*

103) Reg.9.

104) *id.*

105) Reg.9(5).

years after the last entry¹⁰⁶. Competent authorities of any party may inspect the Record Book, make copies of any entry, and require the Master to sign such copies certifying their accuracy¹⁰⁷. Any such certified copy is to be admissible in any judicial proceedings, as evidence of the matters stated in the entries¹⁰⁸.

Any ship subject to the Annex, and carrying noxious liquid cargo between ports or terminals of parties, shall be provided with a certificate indicating that the ship complies with applicable standards of construction, equipment, etc¹⁰⁹. Certificates are only to be issued after a thorough "survey-inspection" of the ship by the flag state¹¹⁰. Complete resurvey and recertification are required at least every fifth year¹¹¹, and intermediate surveys at least every thirty months¹¹². Transfer of the ship to a new flag state will invalidate the certificate, unless transfer is made to another party state in which case the certificate is valid for five months, pending a new certification survey¹¹³.

The convention also regulates transport of harmful substances in packages, containers, portable tanks, etc.¹¹⁴. Requirements are established for packing, marking or labelling, stowage, limits on quantity, and notice to ports of intent to load or unload such cargoes in advance of such action¹¹⁵. Parties are also to provide more detailed regulations to supplement the general prescriptions in the Annex¹¹⁶.

Each flag state party to the convention must issue for ships of its registry detailed standards of design, construction, equipment and operations. The minimum requirements are set forth in two IMCO codes: The Code for Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk¹¹⁷ and the Code for Construction and Equipment of Ships Carrying Liquified or Compressed Gases in Bulk¹¹⁸.

A 1973 Protocol was added to the 1969 Convention Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances Other than Oil to extend the right of intervention by parties to maritime casualties involving hazardous substances other than oil. According to the protocol, parties may act on the high seas to prevent or mitigate grave or imminent danger to their coast and related interests from pollution by substances other

106) Reg.9(6).

107) Reg.9(7).

108) *id.*

109) Reg.11.

110) *id.*

111) Regs.11, 12.

112) Reg.10.

113) Reg.12(6), (7).

114) Annex 3, Reg.1.

115) Regs.2, 3, 5, 6, 8.

116) Reg.1(3).

117) IMCO Doc.Res. A212(7).

118) Dept. of State, *Draft Environmental Impact Statement on the Law of the Sea Conference, Chapter on Vessel-Source Pollution 111* (1974).

than oil¹¹⁹. The substances to which the protocol applies are listed in the annex¹²⁰, but if a party intervenes where a substance not on the list is involved, the party bears the burden of showing that the substance under the circumstances presented a danger analogous to that which might be posed by the listed substances¹²¹. The protocol further incorporates the provisions of the convention relating to such matters as consultation, compensation and dispute settlement¹²².

C. Dumping

The 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter discussed earlier in relation to oil pollution, also applies to many hazardous chemicals including: organohalogen compounds, mercury and mercury compounds, cadmium and cadmium compounds, etc.¹²³. These substances may not be dumped at all. Special permits are required for the right to dump the substances listed in Annex II and general permits for those listed in Annex III.

III. Sewage and Garbage

Annex IV of the 1973 Convention for the Prevention of Pollution From Ships deals with disposal of sewage from ships, and applies to new and existing ships of 200 gross tons or more, carrying more than 10 persons¹²⁴. Standards are not particularly strict, in that sewage may be discharged within 4 miles of land if treated according to standards developed by IMCO, or from 4-12 miles if comminuted¹²⁵. No treatment at all is required for discharge outside 12 miles¹²⁶. Ships are to be surveyed and certificates of compliance issued by the flag state. The survey is to determine that whatever sewage treatment or holding equipment or tanks the ship has, will satisfy standards set for such system, and that the ship is equipped with a pipeline to the exterior suitable for discharge of sewage to on-shore reception facilities in ports¹²⁸. Party states must provide sufficient reception facilities in its ports and terminals to receive wastes of vessels using such ports and terminals without undue delay to the vessels¹²⁹.

Annex V regulates pollution by disposal of garbage from ships and applies to all

119) Art.1.

120) Art.1(2).

121) Art.1(3).

122) Art.2.

123) Annex 1.

124) Annex 4, Reg. 2.

125) Reg. 8.

126) *id.*

127) Regs. 3, 4.

128) Reg.3.

129) Reg.10.

ships subject to the annex¹³⁰. In specified areas, only food wastes may be disposed of at sea, and then only if 12 or more miles from land¹³¹. States bordering on such areas must provide reception facilities to handle other garbage as necessary¹³². Disposal of all plastics is prohibited¹³³. Packing materials and dunnage which will float may be disposed of 25 or more miles from land¹³⁴. Food wastes and other garbage may be disposed of 12 or more miles from land, or from 3 miles out if ground or comminuted¹³⁵.

Annex I of the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter discussed earlier in relation to oil compounds and other hazardous chemicals also prohibits dumping of persistent plastics and other persistent synthetic materials, for example, netting and ropes, which may float or remain in suspension in the sea in such a manner as to interfere materially with fishing, navigation, or other legitimate uses of the sea. Annex II allows dumping of containers, scrap metals and other bulky waste which may sink to the bottom only with special permits. Annex III allows dumping of other wastes with a general permit.

IV. Radioactive Materials

Article 25 of the 1958 Geneva Convention on the High Seas provides that

"1. Every State shall take measures to prevent pollution of the seas from the dumping of radioactive wastes, taking into account any standards and regulations which may be formulated by the competent international organizations.

"2. All States shall cooperate with the competent international organizations in taking measures for the prevention of pollution of the seas or air space above, resulting from any activities with radioactive materials or other harmful agents".

The International Atomic Energy Agency Regulations for the Safe Transport of Radioactive Materials¹³⁶ lists safety standards for all modes and kinds of transport of radioactive material. All transport-related activity is covered, including loading and unloading, packing, labelling, storage, etc.

The 1973 Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances Other than Oil includes radioactive materials, so that a party to the protocol is authorized thereby to take measures on the high seas in the event of a maritime casualty involving threat of radioactive pollution.

130) Annex 5.

131) Annex 5, Reg.5.

132) Reg.5(4).

133) Reg.3(1).

134) *id.*

135) *id.*

136) I.A.E.A. Safety Series No. 6, STI/PUB/323 (rev.ed. 1973).

The **1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter** also prohibits dumping of high level radioactive waste matter¹³⁷, and further prohibits dumping of all other radioactive materials except by special permit¹³⁸.

Finally, efforts have recently been aimed at controlling marine pollution in the Mediterranean Sea on a regional basis. Primary examples are the **Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution**, dated 16th February, 1976; the **Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft**, and the **Protocol Concerning Cooperation in Combatting Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency**, dated same. The provisions in these instruments are similar to their respective international counterparts.

137) Annex I.

138) Annex 2.