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PROTECTING THE SEAS FROM NUCLEAR POLLUTION

GEORGE D. HAIMBAUGH, JR.*

With increased competing demands for a decreasing amount of available land, the United States is again looking towards the oceans as a possible alternative to land disposal for both low-level and high-level radioactive waste disposal. Many other nations are also now using or considering the future use of this ocean disposal alternative, particularly for their low-level radioactive waste.¹

This article is intended to describe existing or prospective international legal limitations on the extent to which the United States and other nations are precluded from using the oceans for the disposal of radioactive waste that may drain or settle into the seas.

I. GENERAL PRINCIPLES OF INTERNATIONAL LAW RECOGNIZED BY CIVILIZED NATIONS

Article 38 of the Statute of the International Court of Justice includes "the general principles of law recognized by civilized nations"² among the sources of law which that tribunal may apply.³ Article X of the 1972 London Convention on the

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1. R. Dyer, *Sea Disposal of Nuclear Waste: A Brief History* 5 (on file with Office of Radiation Programs, U.S. Environmental Protection Agency) (1980) (unpublished Report to the President prepared for the U.S. Environmental Protection Agency).

2. Statute of the International Court of Justice, June 26, 1945, ch. III, art. 38, 59 Stat. 104, T.S. No. 933 [hereinafter cited as *International Court Statute*].

3. *International Court Statute*, *supra* note 2, art. 38, provides as follows:

1. The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply:
 - a. international conventions, whether general or particular, establishing rules expressly recognized by the contesting states;
 - b. international custom, as evidence of a general practice accepted as law;

Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Dumping Convention)⁴ refers to "the principles of international law regarding State responsibility for damage to the environment of other States or to any other matter of all kinds."⁵ Borrowing from the language of T.E. Holland, a nineteenth century publicist, these general principles are "but private law 'writ large.'"⁶ The principles are an application, Holland continued, "to political communities of those legal ideas which were originally applied to the relations of individuals."⁷ For the purposes of this study, the most relevant legal idea from national law so magnified is the Latin maxim, *sic utere tuo ut alienum non laedas*; that is, "use your own property in such a manner as not to injure that of another."⁸ An aspect of the law of nuisance, this rule is an important one in Anglo-American tort law in which it is sometimes referred to as the rule in *Rylands v. Fletcher*.⁹ The *sic utere* rule is found in corresponding branches of other legal systems,¹⁰ and the process of its assimilation into the body of general principles of law recognized by civilized nations may be seen in the *Trail Smelter*, *Corfu Channel*, and *Lake Lanoux* decisions.

In the *Trail Smelter Arbitration*,¹¹ air pollution emanating from a smelter in British Columbia damaged farmland and timberland in Washington State, and the arbitral tribunal found

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- c. the general principles of law recognized by civilized nations;
 - d. subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law.

2. This provision shall not prejudice the power of the Court to decide a case *ex aequo et bono*, if the parties agree thereto.

4. Done Dec. 29, 1972, entered into force for the United States Aug. 30, 1975, 26 U.S.T. 2403, T.I.A.S. No. 8165 [hereinafter cited as London Dumping Convention]. A contracting party may withdraw from the Convention by giving six months' notice in writing. *Id.* art. XXV. For an extensive discussion of the London Dumping Convention, see notes 31-39 and accompanying text *infra*.

5. London Dumping Convention, *supra* note 4, art. X.

6. T. HOLLAND, *STUDIES IN INTERNATIONAL LAW* 152 (1898).

7. *Id.*

8. BLACK'S LAW DICTIONARY 1551 (Rev. 4th ed. 1968).

9. L.R. 3 E. & I. App. 330 (1868). For reception in the United States of the *Rylands* rule (stated by Lord Cranworth as "*sic ute non laedat alienum*"), see W. PROSSER, J. WADE & V. SCHWARTZ, *TORTS: CASES & MATERIALS* 717 (1976).

10. 1 L. OPPENHEIM, *INTERNATIONAL LAW* 346-47 (8th ed. H. Lauterpacht 1955).

11. *Trail Smelter Arbitration* (United States v. Canada), 3 R. INT'L ARB. AWARDS 1911 (1938), 1936 (1941); 33 AM. J. INT'L L. 182 (1939); 35 AM. J. INT'L L. 684 (1941).

Canada liable to the United States because

under the principles of international law, as well as of the United States, no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another State or the properties or persons therein¹²

After World War II, in the *Corfu Channel Case*,¹³ the International Court of Justice held, *inter alia*, that Albania was liable to the United Kingdom for failure to warn of mines that exploded and damaged British ships in Albanian waters. The International Court based its award on "certain general and well-recognized principles,"¹⁴ one of which was "every state's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other states."¹⁵ In the same year as the *Corfu Channel* decision, the United Nations Secretariat published a *Survey of International Law*, which described the *sic utere* rule as an "aspect of international law as to which there exists already a substantial body of practice" based on the "law bearing upon the obligations of territorial sovereignty in the interest of orderly neighborly intercourse and relations."¹⁶ Eight years later, in the *Lake Lanoux Arbitration*,¹⁷ an arbitral tribunal rejected Spain's objection to a unilateral decision by France to divert the waters of Lake Lanoux for use in a hydroelectric plant. The tribunal endorsed the French position that

[a] state has the right to utilize unilaterally that part of a river which runs through it so far as such utilization is of a nature which will effect on the territory of another State only a limited amount of damage, a minimum of inconvenience, such as falls within that which is implied by good neighborliness.¹⁸

12. 3 R. INT'L ARB. AWARDS 1936, 1965 (1941).

13. *Corfu Channel Case* (United Kingdom v. Albania), [1949] I.C.J. 4.

14. [1949] I.C.J. 4, 22.

15. *Id.* at 22.

16. *Survey of International Law in Relation to the Work of Codification of the International Law Commission*, U.N. Doc. A/CN. 4/1/Rev. 1, at 34-35 (1949).

17. *Lake Lanoux Arbitration* (Spain v. France), 24 I.L.R. 101 (Arb. Trib. 1957).

18. 24 I.L.R. at 124. The agreement between the United States and Canada establishing an arbitral tribunal to dispose of United States claims relating to Gut Dam provided for the arbitration of claims resulting from high water levels in Lake Ontario or the St. Lawrence River according to the "substantive law in force in Canada and in the United States of America" and which contains, in article III, paragraph 2(b), the provi-

The "body of practice" referred to in the Secretariat *Survey* has since been augmented by domestic legislation such as the enactment by the United States Congress of the Federal Water Pollution Control Act¹⁹ and enactment by the Canadian Parliament of the Arctic Waters Pollution Prevention Act,²⁰ both of which forbid the dumping at sea of, among other things, certain radioactive wastes detrimental to man, animals, fish, or plants.

In 1955, Oppenheim described the *sic utere* rule as "one of those general principles of law recognized by civilized States," which the World Court is bound to apply by virtue of article 38 of the Statute of the International Court of Justice,²¹ but cautioned that the application of the still controversial doctrine is not at all certain. He noted that the rule "is of recent origin in the literature and practice of International Law, and [that] it must be left to international tribunals to apply and develop the principle by reference to individual situations."²² Since then, in quest of greater certainty than may be realized from claims based on general principles, many states have entered into international agreements that prohibit or regulate the disposal of radioactive material, reduce the production of radioactive waste, or establish guidelines for the safe use of atomic energy.

II. INTERNATIONAL AGREEMENTS TO PROTECT THE MARINE ENVIRONMENT FROM POLLUTION BY RADIOACTIVE SUBSTANCES

A. Global Agreements

1. *Statute of the International Atomic Energy Agency (1956)*.²³—The International Atomic Energy Agency (IAEA) was established in 1956 to "accelerate and enlarge the contribution of atomic energy to peace, health, and prosperity throughout the world,"²⁴ and to cooperate with the United Nations to establish "standards of safety for protection of health and minimization

sion that the relevant law in the two states party to the agreement includes international law. Agreement Establishing Gut Dam Claims Tribunal, March 25, 1965, art. III, para. 2(b), 17 U.S.T. 1567, T.I.A.S. No. 6114.

19. 33 U.S.C. §§ 1251-65, 1281-92, 1311-28, 1341-45, 1361-76 (1976).

20. CAN. REV. STAT. ch. 2, §§ 2,4 (1st Supp. 1970).

21. International Court Statute, *supra* note 2. See also note 3 *supra*.

22. 1 L. OPPENHEIM, *supra* note 10, at 346-47.

23. Oct. 26, 1956, 8 U.S.T. 1093, T.I.A.S. No. 3873, 276 U.N.T.S. 3.

24. *Id.* art. II (Objectives).

of danger to life and property . . . and to provide for the application of these standards to its own operations" and to projects or arrangements under its supervision.²⁵ The Agency was given the power to "approve the means to be used for the chemical processing of irradiated materials solely to ensure that this processing will not lend itself to diversion of materials for military purposes" and to "require that special fissionable materials recovered or produced as a by-product be used for peaceful purposes under continuing Agency safeguards for research or in reactors . . . specified by the member or members concerned"²⁶

2. *Convention on the High Seas (1958).*²⁷—The First United Nations Law of the Sea Conference met in Geneva in 1958 and negotiated four treaties, one of which is the Convention on the High Seas. Article 25 of that Convention provides:

(1) Every State shall take measures to prevent pollution of the seas from the dumping of radioactive waste, 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 airspace above with radioactive materials or other harmful agents.²⁸

The Convention attempts to prevent pollution of the seas by establishing precautionary measures that regulate but do not ban ocean dumping.

The United States engaged in ocean dumping operations for twenty-five years, 1945-1970, and, during that time, three surveys of the disposal areas arrived at approximately the same conclusion: "within experimental error there was no radioactivity detected that exceeded background levels"²⁹ in the sea, sea

25. *Id.* art. III, para. 6 (Functions).

26. *Id.* art. XII (Agency Safeguards).

27. *Done*, Apr. 29, 1958, entered into force for the United States Sept. 30, 1962, 13 U.S.T. 2312, T.I.A.S. No. 5200, 450 U.N.T.S. 82.

28. *Id.* art. 25.

29. R. Dyer, *supra* note 1 (citing E. Jones, Special Report, Waste Disposal Program Project No. 10,000-827 of U.S. Coast Guard (1961) (special report for U.S. Atomic Energy Comm'n on file with AEC; Pneumodynamics Corporation, Survey of Radioactive Waste Disposal Sites (1961) (unpublished report on file with AEC); J. Faughn, Radiological Survey of the California Disposal Areas (1957) (unpublished report by Scripps Inst.

bed, or living organisms where the surveys were conducted. In 1970, the Council on Environmental Quality (CEQ) issued a report to President Nixon recommending that the ocean disposal of high level radioactive waste be prohibited and that the United States Atomic Energy Commission (AEC) not license ocean dumping of other levels of radioactive waste "except in a very few cases for which no practical alternative offers less risk to man and his environment."³⁰ Responding to the CEQ recommendations, the United States ceased disposing of nuclear waste at sea; the AEC issued appropriate modifications of its licensing operations and, as a matter of practice, ceased issuing permits. The United States Congress codified the CEQ recommendations in the Marine Protection, Research, and Sanctuaries Act of 1972.³¹ All of the foregoing presaged American adherence to the "London Dumping Convention" of 1972.³²

3. *London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972)*.³³—The London Dumping Convention prohibits dumping certain types of "[h]igh-level radioactive wastes or other high-level radioactive matter"³⁴ and requires prior special permits for dumping certain other radioactive substances.³⁵ To aid in the implementation of its objectives, the Convention further requires that a contracting party take "appropriate measures to prevent and punish conduct in contravention of the [Convention's] provisions . . ."³⁶ and to apply these measures "to all vessels and aircraft in its territory or flying [the party's] flags" and to "floating platforms under [the party's] jurisdiction believed to be engaged in dumping,"³⁷ except for those "entitled to sovereign immunity under international law."³⁸ Furthermore, the contracting parties are re-

of Oceanography for AEC and Office of Naval Research)).

30. COUNSEL ON ENVIRONMENTAL QUALITY, OCEAN DUMPING: A NATIONAL POLICY vii (1970) (Report to the President).

31. 16 U.S.C. §§ 1431-34; 33 U.S.C. §§ 1401-02, 1411-21, 1441-44 (1976).

32. R. Dyer, *supra* note 1, *passim*.

33. London Dumping Convention, *supra* note 4.

34. *Id.* art. IV, para. 1(a) and Annex I ("the Blacklist") (6).

35. *Id.* Annex IID.

36. *Id.* art. VII, para. 2.

37. *Id.* art. VII, para. 1(c).

38. *Id.* art. VII, para. 1. A definition of sovereign immunity is provided in article 236 of the Draft Convention on the Law of the Sea (Informal Text):

The provisions of this Convention regarding the protection and preservation of

quired to cooperate with the United Nations and other international bodies in supporting parties that request assistance with the disposal and treatment of waste and to cooperate with "other measures to prevent or mitigate pollution caused by dumping."³⁹ Contracting parties are required to promote "measures to protect the marine environment against pollution caused by [*inter alia*] . . . radioactive pollutants from all sources, including vessels"⁴⁰ and are required to cooperate in developing procedures for the assessment of liability and the settlement of disputes regarding dumping.⁴¹

Differing interpretations of the London Dumping Convention are exemplified by the attitudes of the governments of Japan and the Marianas. In 1980, the Japanese government announced that it would begin to dump radioactive waste in the Pacific Ocean 400 miles north of the territorial waters of the Commonwealth of the Northern Marianas.⁴² On the basis of environmental and safety estimates⁴³ of this ocean dumping program and a preoperational survey of the proposed area, the Nuclear Safety Bureau of the Science and Technology Agency of

the marine environment do not apply to any warship, naval auxiliary, other vessels or aircraft owned or operated by a state and used, for the time being, only on government noncommercial service. However, each State shall ensure by the adoption of appropriate measures not impairing operations or operational capabilities of such vessels or aircraft owned or operated by it, that such vessels or aircraft are operated in a manner consistent, so far as is reasonable and practical, with this Convention.

Id. See note 66 *infra*. Article 236 amounts to a codification of the Tate Letter (letter from Jack B. Tate, Acting Legal Adviser to the U.S. State Department, to Philip B. Perlman, Acting U.S. Attorney General (May 19, 1952), reprinted in 26 DEPT. STATE BULLETIN 984 (1952)).

39. London Dumping Convention, *supra* note 33, art. IX(c).

40. *Id.* art. XII(d).

41. Such procedures are to be developed "in accordance with principles of international law regarding State responsibility for damage to the environment of other States or to any other area of the environment, caused by dumping of wastes and other matter of all kinds." *Id.*

42. See W. DAVIS, THE PROPOSED JAPANESE NUCLEAR WASTE DISPOSAL PROGRAM: A SCIENTIFIC ANALYSIS 9 (1981) (citing JAPAN: RADIOACTIVE WASTE MANAGEMENT CENTER, NUCLEAR SAFETY BUREAU, SCIENCE AND TECHNOLOGY AGENCY, LOW-LEVEL RADIOACTIVE WASTES: DUMPING AT THE PACIFIC (1980)).

43. W. DAVIS, *supra* note 42 (citing JAPAN: RADIOACTIVE WASTE MANAGEMENT CENTER, NUCLEAR SAFETY BUREAU, SCIENCE AND TECHNOLOGY AGENCY, SAFETY ON SEA-DUMPING OF LOW-LEVEL RADIOACTIVE WASTES (1980); JAPAN: NUCLEAR SAFETY BUREAU, SCIENCE AND TECHNOLOGY AGENCY, ENVIRONMENTAL SAFETY ASSESSMENT ON SEA-DUMPING OF LOW-LEVEL RADIOACTIVE WASTES (1980)).

Japan announced findings that the planned dumping would pose no hazard to marine life, the environment, the local peoples,⁴⁴ or consumers of indigenous fish. The Northern Marianas government has challenged these claims in a lengthy analysis, which concludes that the implementation of the Japanese proposal would violate the letter and spirit of the London Dumping Convention by posing a potential health hazard to the Japanese public, the people of Micronesia, and other consumers,⁴⁵ and by potentially interfering with the harvest of seabed mineral resources concentrated in the abyssal basins of the North Pacific area.⁴⁶ The report further alleges that lack of a scientific basis for accurately evaluating the consequences of the Japanese proposal and Japan's failure to either seriously consider land-based storage methods or formulate measures to be taken in the event of release of radioactivity constitute further apparent violations of the London Dumping Convention.⁴⁷

4. *Conventions Defining the Liability of Nuclear Ship Operators.*

a. *Convention on the Liability of Operators of Nuclear Ships (1962).*⁴⁸—Each contracting state to this convention agreed to adopt measures necessary to ensure implementation of the Convention, which imposes liability on the operator of a nuclear ship⁴⁹ for any nuclear damage resulting from an incident involving the ship's nuclear fuel or from radioactive products or

44. W. DAVIS, *supra* note 42 (citing JAPAN: SCIENCE AND TECHNOLOGY AGENCY, PRE-OPERATIONAL STUDY OF THE PROPOSED AREA FOR SEA DISPOSAL OF LOW-LEVEL RADIOACTIVE WASTES (1979); JAPAN: SCIENCE AND TECHNOLOGY AGENCY, STUDY ON SOLIDIFIED WASTE PACKAGES (1979)).

45. W. DAVIS, *supra* note 42, at 9. See *Japanese Radioactive Dumping Plan Draws Criticism*, *The State* (Columbia, S.C.), May 17, 1981, at 13-A, cols. 1-6.

46. W. DAVIS, *supra* note 42, at 10.

47. *Id.* at 10-13 (citing PARIS: ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, DECISION OF THE COUNCIL ESTABLISHING A MULTILATERAL CONSULTATION SURVEILLANCE MECHANISM FOR SEA-DUMPING OF RADIOACTIVE WASTE (1977)).

48. *Opened for signature*, May 25, 1962. For partial text, see J. BARROS & D. JOHNSTON, *THE INTERNATIONAL LAW OF POLLUTION* 433-38 (1974) (citing Records of the 1962 conference in [1963] CONFERENCE DIPLOMATIQUE DU DROIT MARITIME, 11e Sess., 2e phase, 707-23 (Bruxelles 1962); *International Conventions on Civil Liability for Nuclear Damage*, IAEA LEGAL SERIES No. 4, at 36-36 (Vienna 1966); 4 PROGRESS IN NUCLEAR ENERGY, ser. X, L. & AD., app. 1 (1966)) [hereinafter cited as "NS Convention"]. The treaty has not been ratified. See Szasz, *The Convention on the Liability of Operators of Nuclear Ships*, 2 J. MAR. L. COM. 541, 550-51 (1971).

49. "Nuclear ship" is defined as "any ship equipped with a nuclear power plant." "NS Convention," *supra* note 46, art. III(1).

waste⁵⁰ produced in the ship.⁵¹

*b. Vienna Convention on Civil Liability for Nuclear Damage (1963).*⁵²—The Vienna Convention imposes liability on the operator of a nuclear installation for damage resulting from any nuclear incident (a) in such an installation or (b) “involving nuclear material [including radioactive waste]⁵³ coming from or originating in [such an] installation . . . and occurring before liability has been assumed . . . by the operator of another nuclear installation”⁵⁴

*c. Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material (Carriage Convention) (1971).*⁵⁵—This Convention was cooperatively drafted by the IAEA and the European Nuclear Energy Agency of the Organization for Economic Cooperation and Development (OECD). It imposes exclusive liability on the operator of a nuclear installation for damage caused by “a nuclear incident occurring in the course of maritime carriage of nuclear material” but protects such operators from multiple liability that might arise from overlapping provisions of national law and the Paris and Vienna Conventions.⁵⁶

50. “Radioactive products or waste” is defined as “any material, including nuclear fuel, made radioactive by neutron irradiation incidental to the utilization of nuclear fuel in a nuclear ship.” *Id.* art. I, para. 6.

51. *Id.* art. II, para. 1.

52. May 21, 1963. For text, see *Civil Liability for Nuclear Damage, Official Records, International Conference (Vienna Apr. 29-May 19, 1963)*, IAEA LEGAL SERIES No. 2, at 501-12 (Vienna 1964); IAEA LEGAL SERIES No. 4, at 3-15 (Vienna 1966); IAEA LEGAL SERIES No. 6, Annex II (Vienna 1970); reprinted in 2 INT’L LEGAL MATS. 727 (1963) [hereinafter cited as Vienna Convention]. “Denunciation shall take effect one year after the date on which notification to that effect has been received by the Director General of the International Atomic Energy Agency.” *Id.* art. XXVI.

53. “Radioactive products or waste” is defined as “any radioactive material produced in, or any material made radioactive by exposure to the radiation incidental to, the production or utilization of nuclear fuel, but does not include radioisotopes which have reached the final state of fabrication so as to be usable for any scientific, medical, agricultural, commercial, or industrial purpose.” *Id.* art. I, para. 1(h).

54. *Id.* art. II, para. 1. “The liability of an operator of a nuclear installation may be limited to not less than \$5 million for any one nuclear incident.” *Id.* art. V, para. 1.

55. Done Dec. 17, 1971, reprinted in 11 INT’L LEGAL MATS. 277 (1972). Any contracting party may denounce the Convention at any time, and the denunciation becomes effective no less than one year from receipt of notification by the Secretary General of the Intergovernmental Maritime Consultative Organization. *Id.* art. 7.

56. *Id.*, preamble and art. I. See notes 52 *supra* & 87 *infra*.

5. *Convention on the Physical Protection of Nuclear Materials* (1979).⁵⁷—Representatives of fifty-eight states (including all permanent members of the United Nations Security Council except the Peoples' Republic of China) and the European Atomic Energy Community met at the headquarters of the IAEA in Vienna in November 1977, to begin drafting a convention on the physical protection of nuclear material. The final draft of the Convention was completed and referred to governments on October 26, 1979, and was opened for signature on March 3, 1980.⁵⁸

Each state that ratifies, accepts or approves the Convention undertakes to establish, in conformity with its national law and with the Convention, effective measures for the physical protection of nuclear materials⁵⁹ used for peaceful⁶⁰ purposes while in export, import, or international transport. The latter include the transport of such materials (a) from one site within a signatory state to another locale within that state through international waters, or (b) on board ship or aircraft under its jurisdiction.⁶¹ More specifically, article 7 of the Convention provides that the attempt to commit or the international commission of

an act without lawful authority which constitutes the receipt, possession, use, transfer, alteration, disposal or dispersal [or demand for] nuclear material and which causes or is likely to cause death or serious injury to any person or substantial damage to property shall be made a punishable [and extraditable] offense under its national law.⁶²

Furthermore, the Convention requires each state party to ensure under its national law that applicable prosecution procedures are prompt⁶³ and fair⁶⁴ and that penalties are commensurate with the "grave nature" of these offenses.⁶⁵

57. *Opened for signature* Mar. 3, 1980, reprinted in 18 INT'L LEGAL MATS. 1422 (1979) [hereinafter cited as N. Mat. Protection Convention].

58. 18 INT'L LEGAL MATS. at 1419-21.

59. N. Mat. Protection Convention, *supra* note 57, art. 3.

60. *Id.* art. 2, para. 1.

61. *Id.* arts. 1, 2, & 4.

62. *Id.* art. 7.

63. *Id.* art. 10.

64. *Id.* art. 12.

65. *Id.* art. 7, para. 2.

6. *Draft Convention on the Law of the Sea (Informal Text)*.⁶⁶—The 320 articles of the Draft Convention on the Law of the Sea (Informal Text) contain no specific references to the handling or disposal of radioactive waste or material.⁶⁷ The text, however, in establishing the obligation of a state “to protect and preserve the marine environment” by taking measures “to prevent, reduce, and control pollution”⁶⁸ of that environment by various means including acts to minimize the release of noxious substances does employ language relevant to waste disposal.⁶⁹

Article 194 of the Informal Text of the Draft Convention describes states’ obligations to take measures⁷⁰ to prevent, reduce, and control pollution of the marine environment, “using

66. Drafted at the close of the Ninth Session (Aug. 1980) of the Third United Nations Law of the Sea Conference and reproduced from U.N. Doc. A/CONF.62/WP.10/Rev. 3 (Aug. 27, 1980), *reprinted in* 19 INT’L LEGAL MATS. 1131-1294 (1980) [hereinafter cited as Draft Convention]. The President of the Law of the Sea Conference, the late Ambassador H. Shirley Amerasinghe of Sri Lanka, cautioned that the draft is a negotiating text and not a negotiated text. 19 INT’L LEGAL MATS. at 1130.

67. Delegates to the Third United Nations Law of the Sea Conference have explained to the author that the London Dumping Convention provides the excuse for their avoidance of this subject. *See also* A. HOLLICK, U.S. FOREIGN POLICY AND THE LAW OF THE SEA 8, 386-87 (1981).

68. Article 1 of the Draft Convention defines “pollution of the marine environment” as

the introduction by man, directly or indirectly, of substances or energy into the marine environment (including estuaries) which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities.

Draft Convention, *supra* note 66, art. 1, para. 4.

69. *Id.* art. 194, para. 3 provides that

[t]he measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment. These measures shall include, *inter alia*, those designed to minimize to the fullest possible extent:

(a) Release of toxic, harmful, or noxious substances, especially those which are persistent:

- (i) from land-based sources;
- (ii) from or through the atmosphere;
- (iii) by dumping . . .

70. *Id.* art. 194, para. 2, provides:

States shall take all necessary measures to ensure that activities under their jurisdiction or control are so conducted that they do not cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.

for this purpose the best practicable means at their disposal”⁷¹ Draft article 210 expressly requires states to regulate dumping⁷² by prescribing that they must adopt their own “laws and regulations to prevent, reduce, and control pollution of the marine environment by dumping”⁷³ and by calling for the establishment of “global and regional rules, standards, and recommended practices and procedures to prevent, reduce and control pollution of the marine environment by dumping.”⁷⁴ The Informal Text recognizes the right of coastal states to permit, regulate, and control dumping “within the territorial sea and the exclusive economic zone or onto the continental shelf”⁷⁵ Draft article 216 prescribes responsibilities for the enforcement of dumping regulations.⁷⁶

Draft articles 22 and 23 provide that, when exercising the

71. *Id.* art. 194, para. 1.

72. *Id.* art. 210. The Draft Convention defines the term “dumping” as follows:

(a) “Dumping” means:

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

(ii) any deliberate disposal of vessels, aircraft, platforms, or other manmade structures at sea.

(b) “Dumping” does not include:

(i) the disposal of wastes or other matter incidental to, or derived from the normal operations of vessels, aircraft, platforms or other manmade structures at sea and their equipment, operating for the purpose of disposal of such matter or derived from the treatment of such wastes or other matter on such vessels, aircraft, platforms or other manmade structures at sea;

(ii) placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this Convention.

Id. art. I.

73. *Id.* art. 210, para. 1.

74. *Id.* art. 210, para. 4.

75. *Id.* art. 210, para. 5.

76. Draft article 216 provides:

Laws and regulations adopted in accordance with this Convention and applicable international rules and standards established through competent international, organizations or diplomatic conferences for the prevention, reduction and control of pollution of the marine environment by dumping shall be enforced:

(a) by the coastal State with regard to dumping within its territorial sea or its exclusive economic zone or onto its continental shelf;

(b) by the flag State with regard to vessels and aircraft flying its flag or of its registry;

(c) by any State with regard to acts of loading of wastes or other matter occurring within its territory or at its off-shore terminals.

Id. art. 216.

right of innocent passage through a territorial sea, tankers, nuclear-powered ships, and ships carrying nuclear or other inherently dangerous or noxious substances or materials may be required to confine their passage to such sealanes and traffic-separation schemes as the coastal state may designate and that the ships "shall carry documents and observe special precautionary measures established for such ships by international agreements."⁷⁷

Draft article 94 lists among the duties of signatory flag states on the high seas the requirement that "[e]very State shall effectively exercise its jurisdiction and control in administrative, technical, and social matters over ships flying its flag;" that "[e]very State shall take such measures for ships flying its flag as are necessary to ensure safety at sea;" and that such measures shall include those necessary to ensure "[t]hat the Master, officers and, to the extent appropriate, the crew are fully conversant with and required to observe the applicable international regulations concerning the . . . prevention, reduction and control of marine pollution . . ."⁷⁸ Article 94 further requires each state to hold an inquiry "into every marine casualty or incident of navigation on the high seas involving a ship flying its flag and causing . . . serious damage . . . to the marine environment."⁷⁹

Draft article 237(2) provides that the contracting parties should carry out in a manner consistent with this Convention any specific obligations assumed under special conventions concerning protection and preservation of the marine environment.⁸⁰ This article may provide protection to workmen engaged in the handling or disposal of radioactive waste if it is interpreted broadly enough to incorporate article five of the Convention Concerning the Protection of Workers Against Ionising Radiation (sponsored by the International Labor Organization),⁸¹ which states that "[e]very effort shall be made to restrict the exposure of workers to ionising radiations to the lowest practicable level, and any unnecessary exposure shall be avoided by all

77. *Id.* arts. 22 & 23.

78. *Id.* art. 94.

79. *Id.*

80. *Id.* art. 237, para. 2.

81. *Adopted June 22, 1960; entered in force June 17, 1962, 431 U.N.T.S. 41.*

parties concerned.”⁸²

The Informal Text of the Draft Convention on the Law of the Sea is suffused with additional suggestions for requirements that states in their navigation, overflight, exploration, exploitation or research of ocean areas, act singly or cooperatively for the “conservation of the living resources of the sea,” “the protection and preservation of the marine environment,” and “the prevention, reduction and control of pollution” of that environment.⁸³

B. Regional Conventions

1. *Treaty for the Establishment of the European Atomic Energy Community (Euratom) (1957)*.⁸⁴—The aim of Euratom is “to contribute to raising the standard of living in Member States and to development of commercial exchanges with other countries by creation of conditions necessary for speedy establishment and growth of nuclear industries.”⁸⁵ The obligations of the Community include that of establishing and ensuring the application of “uniform safety standards to protect the health of workers and of the general public.”⁸⁶ Article seventy-seven provides that, within the framework of the treaty’s chapter on inspection, the Euratom Commission shall satisfy itself that in the territories of member states

(a) ores, source materials, and special fissionable materials are not diverted from their intended uses as stated by the users, and (b) the provisions concerning supplies and any special undertaking concerning measures of control entered into by the Community in an agreement concluded with a third country or an international organization are observed.⁸⁷

2. *Paris Convention on Third Party Liability in the Field*

82. *Id.*

83. For example, article 237, paragraph 2 of the Draft Convention incorporates obligations assumed by states under other conventions with respect to the protection and preservation of the marine environment. Draft Convention, *supra* note 66, art. 237, para. 2.

84. *Done* Mar. 25, 1957, 298 U.N.T.S. 167 (1958).

85. *Id.* art. 1.

86. *Id.* art. 2.

87. *Id.* art. 77.

of *Nuclear Energy* (1960).⁸⁸—The Paris Convention, referred to in the Carriage Convention,⁸⁹ is a regional agreement presaging the Carriage Convention and the other conventions protecting against radioactive hazards described above. The Paris Convention was drafted by the European Nuclear Energy Agency of the OECD. The agency is “charged with encouraging the elaboration and harmonization of legislation relative to nuclear energy” in the OECD countries.⁹⁰ The Paris Convention provides that the operator of a nuclear installation in a contracting state shall be liable⁹¹ for damage caused by nuclear incidents.⁹² The Convention defines “radioactive products or waste” as

any radioactive material produced in or made radioactive by exposure to the radiation incidental to the process of producing or utilizing nuclear fuel, but does not include 1. nuclear fuel, or 2. radioisotopes outside a nuclear installation which are used or intended to be used for any industrial, commercial, medical or scientific purpose.⁹³

3. *Oslo Convention on the Control of Marine Pollution by Dumping from Ships and Aircraft* (1972).⁹⁴—Contracting parties to the Oslo Convention agree to take all possible steps to prevent the pollution of specified areas of the Baltic and Mediterranean Seas and the North Atlantic Ocean by substances that may be harmful to human health, marine life, or amenities, or may interfere with other legitimate uses of the sea.⁹⁵ The parties further agree to harmonize their policies and espouse measures to prevent the pollution of the sea by dumping from ships or other aircraft,⁹⁶ and to refrain from all dumping “without approval of the appropriate national authority or authorities.”⁹⁷

88. Adopted July 29, 1960, reprinted in J. BARROS & D. JOHNSTON, *supra* note 48, at 422 [hereinafter cited as Paris Convention].

89. See notes 55 & 56 and accompanying text *supra*.

90. Paris Convention, *supra* note 88, preamble.

91. The Convention sets the maximum liability for the operation “in respect of damages caused by a nuclear incident” at “15,000,000 European Monetary Agreement units of account as defined at the date of this Convention.” Paris Convention, *supra* note 88, art. 7(b).

92. *Id.* preamble and art. 3.

93. *Id.* art. 1(a)(iv).

94. Done Feb. 15, 1972, reprinted in 11 INT’L LEGAL MATS. 262 (1972).

95. *Id.* art. 1.

96. *Id.* art. 4.

97. *Id.* art. 7.

Despite such comprehensive language, there is no specific mention of radioactive waste in the annexes that specify the substances whose dumping is prohibited⁹⁸ or regulated.⁹⁹

4. *Convention on the Protection of the Marine Environment of the Baltic Sea Area (1974)*.¹⁰⁰—Article 6 of the Baltic Sea Convention provides that radioactive materials¹⁰¹ “shall not be introduced into the marine environment of the Baltic Sea Area¹⁰² in significant quantities without a prior special permit, which may be periodically reviewed, by the appropriate national authority” of the contracting parties of the region.¹⁰³ The Convention defines “dumping” as it is defined in article 1 of the Draft Convention on the Law of the Sea.¹⁰⁴

5. *Convention for the Protection of the Mediterranean Sea Against Pollution (1976)*.¹⁰⁵—“Realizing fully the need for close cooperation among the States and international organizations concerned in a coordinated and comprehensive regional approach for the protection and enhancement of the Marine Environment in the Mediterranean Sea Area,”¹⁰⁶ the contracting parties to the Mediterranean Convention agreed generally to take appropriate measures “to prevent, abate, and combat pollution in the Mediterranean Sea and to protect and enhance the Marine Environment in that Area.”¹⁰⁷ In a protocol that is an integral part of the Convention, the parties expressly agreed to apply the prohibitions¹⁰⁸ and prior special permit requirements¹⁰⁹ set forth in the London Dumping Convention pursuant

98. *Id.*, Annex I.

99. *Id.*, Annex II.

100. *Reprinted in* 13 INT'L LEGAL MATS. 546 (1974).

101. *Id.* art. 6, para. 3.

102. For purposes of the Convention, “the Baltic Sea Area shall be the Baltic Sea proper with the Gulf of Bothnia, the Gulf of Finland and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerrak at 57° 44' 8" N.” and “[i]t does not include international waters of the Contracting Parties.” *Id.* art. 1.

103. *Id.* art. 6, para. 3.

104. *Compare id.* art. 2, para. 3 with Draft Convention, *supra* notes 66 & 72, art. 1.

105. *Done* Feb. 16, 1976, *reprinted in* 15 INT'L LEGAL MATS. 290 (1976) [hereinafter cited as Mediterranean Convention]. Only Mediterranean coastal states are signatories of the agreement. 15 INT'L LEGAL MATS. at 289.

106. Mediterranean Convention, *supra* note 105, preamble.

107. *Id.* art. 4(1).

108. Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping, Feb. 16, 1976, art. 4, *reprinted in* 15 INT'L LEGAL MATS. 300 (1976).

109. *Id.* art. 5.

to the definitions and recommendations of the competent international body, which presently is the IAEA.¹¹⁰

6. *Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution* (1978).¹¹¹—In the spring of 1978, eight states of the Persian Gulf area¹¹² signed an agreement to take steps individually and/or jointly for the prevention and abatement of pollution in that area with a particular reference to pollution caused by dumping of wastes and other matter from ships and aircraft.¹¹³ The Convention's definition of "marine pollution"¹¹⁴ is virtually identical to the definition employed in the Draft Convention on the Law of the Sea (Informal Draft Text),¹¹⁵ as is a provision for sovereign immunity¹¹⁶ for "[w]arships or other ships owned by a State, and used only on Government noncommercial service."¹¹⁷ The conference that produced the Convention also agreed on a protocol establishing a Marine Emergency Mutual Aid Center to expedite regional cooperation in combating pollution by oil and other harmful substances in cases of emergency.¹¹⁸ Finally, the conference adopted an Action Plan for the Gulf Area that calls for ratification and implementation of relevant international conventions¹¹⁹ including in particular the London Dumping Convention.¹²⁰ The contracting parties and the United Nations Environmental Program (UNEP) have recognized the Persian Gulf region as a "concentration area" in which the UNEP and other relevant components of the United Nations system will play their "catalytic role" of providing assistance.¹²¹

110. See notes 33-35 and accompanying text *supra*.

111. Done Apr. 24, 1978, reprinted in 17 INT'L LEGAL MATS. 511 (1978) [hereinafter cited as Kuwait Convention].

112. For a description of the geographical area, see *id.* art. II.

113. *Id.* art. V.

114. See note 68 *supra*.

115. See note 66 *supra*.

116. Kuwait Convention, *supra* note 109, art. XIV.

117. Draft Convention, *supra* note 64, art. 236.

118. Protocol Concerning Regional Cooperation in Combating Pollution, Apr. 24, 1978 art. III, reprinted in 17 INT'L LEGAL MATS. 526, 528 (1978).

119. Action Plan for the Protection and Development of the Marine Environment and Coastal Areas of Bahrain, Iran, Iraq, Kuwait, Omar, Qatar, Saudi Arabia, and the United Arab Emirates, done Apr. 24, 1978, reprinted in 17 INT'L LEGAL MATS. 501 (1978).

120. See notes 33-41 and accompanying text *supra*.

121. Action Plan, *supra* note 119.

7. *Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources* (1980).¹²²—In this protocol, the contracting parties to the 1976 Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution “undertake to eliminate pollution of the Protocol Area from land-based sources by substances listed in Annex I of this Protocol.”¹²³ Item nine of Annex I is “[r]adioactive substances, including their wastes, when their discharges do not comply with the principles of radiation protection as defined by the competent international organizations, taking into account the protection of the marine environment.”¹²⁴

III. INTERNATIONAL AGREEMENTS LIKELY TO REDUCE THE AMOUNT OF RADIOACTIVE WASTES PRODUCED: QUALITATIVE, QUANTITATIVE, OR GEOGRAPHICAL LIMITS ON THE PRODUCTION, TESTING, OR USE OF NUCLEAR WEAPONS

A. *Pre-Atomic Age Disarmament Negotiations*

The goal of the first Hague Peace Conference of 1899 was that of “limiting the rapidly accelerating development of existing armaments.”¹²⁵ The twenty-six participating states at the first Conference and the forty-four states at the second Hague Conference in 1907 labored and, despite other results brought forth a *disarmament* mouse. Both conferences passed resolutions calling for the prohibition of the discharge of projectiles from balloons, and the first conference also produced resolutions, not renewed in 1907, denouncing the use of asphyxiating gases and expanding bullets.¹²⁶ World War I prevented the convening of the third Hague Peace Conference scheduled in 1915. The Versailles Treaty, adopted at the end of World War I, imposed disarmament on vanquished states—a process to be repeated at the termination of World War II. The Versailles Treaty also embodied the Covenant of the League of Nations, in which the members recognized “that the maintenance of peace

122. *Approved by consensus* May 16, 1980, reprinted in 19 INT’L LEGAL MATS. 869 (1980).

123. *Id.* art. 5.

124. *Id.*, Annex I(a).

125. See J. SCOTT, THE HAGUE CONVENTIONS AND DECLARATIONS OF 1899 AND 1907 (3d ed. 1918); B. TUCHMAN, THE PROUD TOWER 229-90 (1966).

126. See J. SCOTT, *supra* note 125; B. TUCHMAN, *supra* note 125.

requires the reduction of national armaments to the lowest point consistent with national safety and the enforcement by common action of international obligations."¹²⁷ League-administered general disarmament negotiations led to the adoption of the Five Power Washington Naval Disarmament Treaty of 1921¹²⁸ and the London Naval Agreement of 1930.¹²⁹ Further disarmament talks foundered, however, in the middle thirties amid power politics exemplified by the commencement of military operations in China by the Japanese in 1931 and in Ethiopia by the Italians in 1935 and by German rearmament.

B. Post World War II Disarmament Agreements

The first-named purpose of the United Nations is "[t]o maintain international peace and security."¹³⁰ Much of the United Nations Charter is devoted to establishing modalities for the implementation of a security system provided for in the Charter.¹³¹ Although the Charter does not mention disarmament, the United Nations Organization soon became involved in such negotiations and, in 1978, the General Assembly held a special session on disarmament. The Final Act of that session, which was adopted by consensus, assigned to nuclear weapons the highest priority for disarmament negotiations.¹³² The Act also called for a treaty prohibiting all nuclear weapons tests, an end to the proliferation of nuclear weapons, the creation of nuclear weapons-free zones, and the completion of a second strategic arms limitation agreement (SALT II).¹³³

127. *Done* Jan. 28, 1919, pt. 1, art. 8, 2 *Bevans* 43, 1919 U.S. Foreign Relations: Paris Peace Conference XIII, 82 (1947) (Senate resolution failed of adoption Nov. 19, 1919). See also LEAGUE OF NATIONS, RECORDS OF THE CONFERENCE FOR THE REDUCTION AND LIMITATION OF ARMAMENTS (1932-33); J. SHOTWELL, WAR AS AN INSTRUMENT OF NATIONAL POLICY AND ITS RENUNCIATION IN THE PACT OF PARIS (1929); Q. WRIGHT, A STUDY OF WAR (1942).

128. Feb. 6, 1922, 43 Stat. 1655, T.S. No. 671.

129. Apr. 22, 1930, 46 Stat. 2858, T.S. No. 830.

130. United Nations Charter art. 1.

131. *Id.* arts. 1, 2, 4, 11, 12, 14 (General Assembly), 23-32 (Security Council), 33-48 (Pacific Settlement of Disputes), 39-51 (Action with respect to Threats to the Peace, Breaches of Peace, and Acts of Aggression), 52-54 (Regional Arrangements), 99 (Secretariat).

132. Final Act of the United Nations General Assembly Special Session on Disarmament, U.N.G.A. Res. S-10/2 (S-X), 10 (Special) U.N. GAOR, Supp. (no. 4) 3, U.N. Doc. A/S-10/4 (1978), reprinted in 17 INT'L LEGAL MATS. 1016 (1978).

133. *Id.* at ch. III.

1. Early Initiatives.

a. The Baruch Plan.—One of the earliest and most far-reaching calls for nuclear disarmament was presented in 1946 by Bernard Baruch, the United States' member of the United Nations Atomic Energy Commission. In an unprecedented offer to sacrifice the sovereignty of the United States, Baruch proposed the creation of an International Atomic Development Authority (IADA), which would have been assigned authority over the whole field of atomic energy. The IADA would have controlled the *world's* supply of raw materials needed for the production of atomic energy, conducted *all* research in atomic explosives, operated or licensed *all* plants producing dangerous amounts of fissionable materials and their products, and encouraged the peaceful uses of atomic energy. The Commission adopted the Baruch Plan and sent it on to the United Nations General Assembly where it met a Soviet veto.¹³⁴

b. Atoms for Peace.—On December 8, 1953, President Eisenhower delivered his "Atoms for Peace" speech before the United Nations General Assembly. The heart of the speech was a proposal that the "governments principally involved, to the extent permitted by elementary prudence, . . . begin now and continue to make joint contributions from their stockpiles of . . . uranium and fissionable materials to an International Atomic Energy Agency . . . to be set up under the aegis of the United Nations."¹³⁵ The Atoms for Peace Plan was substantially implemented in 1957 when the IAEA began operations with the "major initial task to help member States prepare for eventual use of nuclear power and to promote, particularly in the economically less developed areas, the wider use of radioisotopes and radiation sources in research, industry, agriculture and medicine."¹³⁶

134. Speech by Bernard M. Baruch, U.S. Representative to U.N. Atomic Energy Commission, delivered at opening session of Atomic Energy Conference (June 14, 1946). For the full text of the speech, see XII VITAL SPEECHES OF THE DAY 547-51 (1946); 11 CURRENT HISTORY 133-40 (August 1946). See also Shotwell, *Blueprint for an Atomic Charter*, 35 SURVEY GRAPHIC 255-57 (July 1946); M. ROSENBLUM, *PEACE THROUGH STRENGTH: BERNARD BARUCH AND A BLUEPRINT FOR SECURITY* 255-93 (1953); J. BYRNES, *SPEAKING FRANKLY* 268-73 (1947); D. ACHESON, *PRESENT AT THE CREATION* 149-56 (1969).

135. Address before the U.N. General Assembly on Peaceful Uses of Atomic Energy, Dec. 8, 1953, reprinted in PUBLIC PAPERS OF THE PRESIDENT: DWIGHT D. EISENHOWER, 1953, 813-22 (1960). See D. EISENHOWER, *MANDATE FOR CHANGE* 251-55 (1963).

136. Summary Records of the International Atomic Energy Agency, YEARBOOK OF THE UNITED NATIONS: 1958 at 429 (1959).

c. *Open Skies*.—At the Geneva Summit Meeting in 1955, President Eisenhower presented to the Soviet leaders his “Open Skies” plan pursuant to which each superpower would permit the other to conduct continuous aerial surveillance of its military activity. Nikita Khrushchev rejected the plan the following spring.

During the last years of the Eisenhower Administration, the United States and the Soviet Union informally observed a suspension of nuclear testing in the atmosphere. This arrangement was shattered by the Soviets in 1962, and both powers resumed testing until the signing of the Nuclear Test Ban Treaty of 1963.¹³⁷

2. *Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Under Water* (1963).¹³⁸—By now, more than 100 states have joined the Test Ban Treaty’s original parties—the United States, the Union of Soviet Socialist Republics, and the United Kingdom—in agreeing not to conduct, cause, encourage, or in any way participate in the testing of nuclear weapons anywhere but underground and not even there “if such explosion causes radioactive debris to be present outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted.”¹³⁹ It is understood that war may annul or suspend the operation of the Treaty between warring parties.¹⁴⁰

137. See C. ALEXANDER, *HOLDING THE LINE* 201-67 (1975); R. DIVINE, *BLOWING ON THE WIND: THE NUCLEAR TEST BAN DEBATE 1954-60* 234-303 (1978); *TO TURN THE TIDE* 201-07 (J. Gardner, ed. 1962).

138. *Done* Aug. 5, 1963, *entered into force* for the United States October 10, 1963, 14 U.S.T. 1313, T.I.A.S. No. 5433, 480 U.N.T.S. 43, 2 INT’L LEGAL MATS. 889 (1963) [hereinafter cited as *Test Ban Treaty*]. “Each party in exercising its national sovereignty has the right to withdraw from the treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country.” *Id.* art. X. Three months’ notice is required. *Id.*

139. *Id.* art. I. See generally L. PAPER, *THE PROMISE AND THE PERFORMANCE: THE LEADERSHIP OF JOHN F. KENNEDY* 282-87, 321-23, 337, 347 (1975); A. SCHLESINGER, *A THOUSAND DAYS: JOHN F. KENNEDY IN THE WHITE HOUSE* 893-99, 909-13 (1965); R. WALTON, *COLD WAR AND COUNTERREVOLUTION: THE FOREIGN POLICY OF JOHN F. KENNEDY* 157-60 (1972).

140. It is understood that the parties are not bound by the ban while they are at war. In a letter to Chairman J. W. Fulbright of the United States Foreign Relations Committee, John T. McNaughton, general counsel of the Department of Defense stated: [I]t is standard practice in treaties outlawing the use of specified weapons or actions in time of war for the treaties to state expressly that they apply in time of war, in order to prevent possible application of the rule that war may sus-

3. *Treaty on the Non-Proliferation of Nuclear Weapons* (1968).¹⁴¹—Pursuant to the Non-Proliferation Treaty (NPT), each party possessing nuclear weapons agreed to refrain from transferring “nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly”¹⁴² These parties agreed further to refrain from assisting, encouraging, or inducing any state not possessing nuclear weapons “to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices”¹⁴³

Parties not possessing nuclear weapons agreed not to accept nuclear weapons or other nuclear explosive devices or “control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.”¹⁴⁴ Finally, each party not possessing nuclear weapons agreed to accept safeguards to verify compliance with treaty provisions.¹⁴⁵

On September 17, 1976, the IAEA Board of Governors approved the Agreement and Protocol between the United States of America and the Agency for the Application of Safeguards in

pend or annul the operation of treaties between the warring parties. (*Cf. Kar-muth v. United States*, 279 U.S. 231, 236-39; Oppenheim’s “International Law” Vol. II, 7th ed., pp. 202-306.)

In his speech of July 26, 1963, President Kennedy stated that the treaty “will not restrict their (nuclear weapons) use in time of war.” See *New York Times*, July 27, 1963, page 2 column 1. Significantly, this construction was not unilateral. Earlier, on July 2, Mr. Khrushchev in Berlin expressed a similar understanding

109 Cong. Rec. S-16009-10 (1963).

141. *Done* July 1, 1968, entered into force for the United States Mar. 5, 1970, 21 U.S.T. 483, T.I.A.S. No. 6839, 729 U.N.T.S. 161 [hereinafter cited as Non-Proliferation Treaty]. A three-month withdrawal provision in article 4 of this treaty is identical to the withdrawal provision in the Text Ban Treaty. See note 138 *supra*. For IAEA guidelines on safeguards agreements under the Non-Proliferation Treaty, see 10 INT’L LEGAL MATS. 885 (1971). For the text of the Final Declaration of the Review Conference of the Parties to the Treaty on Non-Proliferation of Nuclear Weapons, see 14 INT’L LEGAL MATS. 1061 (1975). See M. SHAKER, *THE TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS: A STUDY BASED ON THE FIVE PRINCIPLES OF UN GENERAL ASSEMBLY RESOLUTION 2028 (XX)* (1976); L. JOHNSON, *THE VANTAGE POINT: PERSPECTIVES OF THE PRESIDENCY*, 1963-69 462, 475-81 (1971).

142. Non-Proliferation Treaty, *supra* note 141, art. I.

143. *Id.*

144. *Id.*

145. *Id.*

the United States.¹⁴⁶ Implementation of the Agreement is provided for by the Nuclear Non-Proliferation Act of 1978.¹⁴⁷ Senator John Glenn of Ohio, the chief sponsor of this Act, has warned of the limitations of international safeguards that do not guarantee against diversion of nuclear materials. Instead, he explains, "they are designed to detect [diversion of nuclear materials] early enough so that the international community can take appropriate (though unspecified) action to prevent the actual construction of weaponry. The phrase 'timely warning' is used to denote this concept, and is key to successful Non-Proliferation Treaty/IAEA operation."¹⁴⁸ Suggesting to President Reagan that he plan a world nuclear energy policy conference and reopen the nuclear suppliers' conference, Senator Glenn issued the following caveat:

It will not be easy to reverse the disastrous trend that began with the rejection of the Acheson-Lilienthal recommendations [forerunner of the Baruch Plan¹⁴⁹] at the end of World War II, was accelerated by the well-intentioned Atoms-for-Peace program,¹⁵⁰ was slowed to some extent between 1976 and 1978 and which has picked up speed again in the aftermath of backtracking by executive branch officials since 1978¹⁵¹

On July 16, 1981, President Reagan announced basic guidelines to reinforce the nation's longstanding nonproliferation objectives. The guidelines include seeking international agreement on "requiring IAEA safeguards on all nuclear activities in a non-nuclear-weapons state as a condition for any significant new nuclear supply commitment."¹⁵²

146. Draft Agreement for the Application of Safeguards in the United States of America, United States—International Atomic Energy Commission, *reprinted in* 16 INT'L LEGAL MATS. 25 (1976). Protocol to the Agreement, *reprinted in* 16 INT'L LEGAL MATS. at 50.

147. 92 Stat. 120 (codified in scattered sections of 22 & 42 U.S.C. (Supp. II 1978)). A legislative history of the Act appears at 17 INT'L LEGAL MATS. 220 (1978). *See generally* B. BOSKEY & M. WILLRICH, NUCLEAR PROLIFERATION: PROSPECTS FOR CONTROL (1970); STANLEY FOUNDATION, STRATEGY FOR PEACE 26-32 (1980).

148. J. Glenn, *Nuclear Traffic, Toward Better Controls*, Washington Post, June 29, 1981, § A, at 13, col. 1.

149. *See* note 134 and accompanying text *supra*.

150. *See* notes 135 & 136 and accompanying text *supra*.

151. Washington Post, *supra* note 148, § A, at 13, col. 2.

152. 17 WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS 768-70 (July 20, 1981). The President also pledged the United States' support for "IAEA programs and other

The efficacy of the safeguard system was subjected to scrutiny during United Nations Security Council debates that led to the unanimous adoption of a resolution condemning Israel's military attack on Iraq.¹⁵³ That resolution expressed full awareness "that Iraq has been a party to the Non-Proliferation Treaty since it came into force in 1970; that in accordance with that treaty Iraq has accepted IAEA safeguards on all its nuclear activities; and that the agency has testified that these safeguards have been satisfactorily applied to date." The resolution further recognized "the inalienable sovereign right of Iraq, and all other states, especially the developing countries, to establish programs of technological and nuclear development to develop their economy and industry for peaceful purposes in accordance with their present and future needs and consistent with the internationally accepted objectives of preventing nuclear weapons proliferation."¹⁵⁴

During debate on the resolution, Yuhuda Blum, the Israeli delegate to the United Nations, stressed the inadequacies and weaknesses in the NPT safeguard system and noted that the Treaty "is written in such a way that a violation does not technically occur until nuclear material—uranium or plutonium—is diverted from its approved use" and that the IAEA safeguards "are focused on nuclear fuels, but not on facilities where fuel is not present."¹⁵⁵

4. *Strategic Arms Limitation Treaties Between the United States of America and the Union of Soviet Socialist Republics (1971-72).*—The four treaties commonly known as "SALT I" provide for (1) the undertaking by the parties "to notify each other immediately in the event of accidental, unauthorized or any other unexplained incident involving a possible detonation of a nuclear weapon which could create a risk of outbreak of nuclear war;"¹⁵⁶ (2) the creation of a "Hot Line" between the

international cooperative efforts in the areas of nuclear safety and environmentally sound nuclear waste management." *Id.* at 770.

153. New York Times, June 20, 1981, at 4, cols. 1-4.

154. *Text of U.N. Draft Resolution on Raid*, New York Times, June 19, 1981, at 6, col. 4.

155. *Excerpts from Speech of Israeli U.N. Delegate*, New York Times, June 20, 1981, at 4, col. 2.

156. *Agreements on Measures to Reduce the Risk of Outbreak of Nuclear War*, United States-U.S.S.R., Sept. 30, 1971, 22 U.S.T. 1590, T.I.A.S. No. 7186, 807 U.N.T.S.

heads of state of the two countries;¹⁵⁷ (3) an undertaking "not to deploy anti-ballistic missile (ABM) systems for defense of an individual region" except that each nation may deploy two systems as especially provided for in the Treaty;¹⁵⁸ and (4) an undertaking not to start construction of "additional fixed land-based intercontinental ballistic missile launchers"¹⁵⁹

5. *Nuclear Weapons-Free Zone Agreements*.¹⁶⁰—Although nuclear weapons-free zones are under discussion and may exist de facto in other areas, present agreements establish such zones in the Antarctic,¹⁶¹ in outer space,¹⁶² in Latin America,¹⁶³ and on

57.

157. Agreement on Measures to Improve the USA-USSR Direct Communications Link, United States-U.S.S.R., done Sept. 30, 1971, 22 U.S.T. 1598, T.I.A.S. No. 7186 (updating Memorandum of Understanding Regarding Establishment of a Direct Communications Link, United States-U.S.S.R., done June 20, 1963, 14 U.S.T. 825, T.I.A.S. No. 5362 (1963)).

158. Anti-Ballistic Missile Treaty, done May 26, 1972, 23 U.S.T. 3435, T.I.A.S. No. 7503 [hereinafter cited as ABM Treaty]. See also Protocol to the ABM Treaty, signed May 26, 1972, 27 U.S.T. 1645, T.I.A.S. No. 8276.

159. Interim Agreement on the Limitation of Strategic Offensive Arms, United States-U.S.S.R., done May 26, 1972, expired Oct. 3, 1977, 23 U.S.T. 3462, T.I.A.S. No. 7504, reprinted in 11 INT'L LEGAL MATS. 791 (1972).

160. See UNITED NATIONS OFFICE OF PUBLIC INFORMATION, NUCLEAR-WEAPONS-FREE ZONES, OP/585-77-35964-Aug., 1977-13M.

161. *Antarctic Treaty*, done Dec. 1, 1959, 12 U.S.T. 794, T.I.A.S. No. 4780, 402 U.N.T.S. 71. Article XII provides for withdrawal under certain circumstances after two years. *Id.* art. XII.

162. Treaty Governing the Exploration and Use of Outer Space, done Jan. 27, 1967, 18 U.S.T. 2410, T.I.A.S. No. 6347, 610 U.N.T.S. 205. Any party to the treaty may withdraw from it one year after giving notice of intent to withdraw to the depositary governments. *Id.* art. XVI. A somewhat redundant Draft Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (not as yet in force) emerged in a REPORT OF THE UNITED NATIONS COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE, 34 U.N. GAOR, Supp. (No. 20) 3, U.N. Doc. A/34/20 Annex II (1979).

163. Treaty of Tlatelolco, done Feb. 14, 1967, 634 U.N.T.S. 281. See Robinson, *The Treaty of Tlatelolco and the Latin American Nuclear Free Zone*, 64 AM. J. INT'L L. 282, 293-306 (1970). On July 16, 1981, President Reagan announced that he would "promptly seek the Senate's advice and consent to the ratification of Protocol I of the Treaty of Tlatelolco." 17 WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS 769 (July 20, 1981). Parties to Protocol I agree to denuclearize (for warlike purposes) those territories for which, de jure or de facto, they are intentionally responsible and which lie within the Latin American Zone defined by the Treaty of Tlatelolco. 6 INT'L LEGAL MATS. 269. See also Additional Protocol II to the Treaty of February 14, 1967 regarding the prohibition of nuclear weapons in Latin America, done Feb. 14, 1967, 22 U.S.T. 745, T.I.A.S. 7137, 634 U.N.T.S. 364. Non-Latin American states that are party to the Protocol include France, the People's Republic of China, the U.S.S.R., the United Kingdom, and the United States. U.S. DEP'T OF STATE, PUB. NO. 9136, TREATIES IN FORCE, A LIST OF TREATIES AND OTHER INTERNATIONAL AGREEMENTS OF THE UNITED STATES IN FORCE ON JANUARY

the seabed and subsoil underlying the high seas.¹⁶⁴ Common to all four nuclear weapons-free zone agreements is the proscription of nuclear weapons.¹⁶⁵ The agreements concerning Antarctica, Latin America, and outer space specify that the subject areas may be used only for peaceful purposes.¹⁶⁶ The Antarctic Treaty expressly proscribes nuclear weapons testing by the parties, and the agreements concerning Latin America and the ocean floor expressly prohibit nuclear weapons testing or storage.¹⁶⁷

IV. CUSTOMARY INTERNATIONAL LAW

Customary international law comprises the general practices that states in their mutual relations generally and consistently follow with an acknowledgement or acceptance of a binding obligation. It does not include those discretionary observances or practices to which states adhere only for reasons of humanity, comity, grace, courtesy, good will, concession, experimentation, convenience, utility, political expediency, safety, mutual accommodation, or random reciprocal tolerance. A rule need not have the express support of every member of the world community to be recognized as customary international law; it must, however, receive a widespread and representative acceptance without significant protest, especially from states affected by the application of the rule. In the few decades during which nations have faced problems of handling and disposing of radioactive wastes, little or no customary international law has crystallized to define the authority of states to deal with these problems.¹⁶⁸

1, 1980, at 327 (1980). See Robinson, *The Treaty of Tlatelolco and the Latin American Nuclear-Free Zone*, 64 AM. J. INT'L L. 282, 293-306 (1970). A Draft Treaty for Amazonian Cooperation was signed at Brasilia, July 3, 1978, reprinted in 17 INT'L LEGAL MATS. 1045 (1978). The contracting parties "agree to undertake joint action and efforts to promote [*inter alia*] the harmonious development of their respective Amazonian territories in such a way that these joint actions produce equitable and mutually beneficial results and achieve also the preservation of the environment, and the conservation and rational utilization of the natural resources of those territories." *Id.* art. I.

164. Treaty on the Prohibition of Emplacement of Nuclear Weapons in the Seabed, done Feb. 11, 1971, 23 U.S.T. 701, T.I.A.S. No. 7337.

165. See notes 161-164 *supra*.

166. See notes 161-163 *supra*.

167. See notes 161, 163 & 164 *supra*.

168. Compare the following scholarly and judicial opinions:

1. Corbett has distinguished customs acknowledged to be binding from discretionary

In a dissenting opinion in the Nuclear Tests case,¹⁶⁹ Judge Petren noted the avoidance by the International Court of Justice of the question of "whether atmospheric tests of nuclear weapons are, generally speaking, already governed by norms of

observances or habitual practices entered into for reasons of convenience, utility or safety. P. CORBETT, *CASES AND OPINIONS ON INTERNATIONAL LAW* 5-6 (1909).

2. McDougal has observed that those authoritative decision-makers—both national and international—authorized to create and apply a common public order "honor each other's unilateral claims to the use of the world's seas not merely by explicit agreements but also by mutual tolerances—expressed in countless decisions in foreign offices, national courts, and national legislatures—which create expectations that effective power will be restrained and exercised in certain uniformities of patterns." McDougal, *The Hydrogen Bomb Tests and the International Law of the Sea*, 49 AM. J. INT'L L. 356, 358 (1955).

3. DeVisscher has distinguished between customs by which governments hold themselves bound and mere adventitious practices often dictated by consideration of expediency and individualistic motivation, which are therefore devoid of definite legal significance. C. DEVISSCHER, *THEORY AND REALITY IN PUBLIC INTERNATIONAL LAW* 154-157 (rev. ed. Corbett translation, 1968).

4. In the *Scotia Case*, 81 U.S. (14 Wall.) 170 (1871), the United States Supreme Court stated:

Undoubtedly, no single nation can change the [customary] law of the sea. It is of force, not because it was prescribed by any superior power, but because it has been generally accepted as a rule of conduct.

Id. at 188-89.

5. In *The Paquete Habana*, 175 U.S. 677 (1900), Mr. Justice Gray of the United States Supreme Court recognized that the general assent or consent of civilized nations for a period of a hundred years to a practice which originally may have rested in comity, courtesy, concession, humanity or mutual accommodation or convenience was amply sufficient to enable such practice to grow into a settled rule of international law. *See id.* at 686-718.

6. In the *Asylum Case* (*Colombia v. Peru*), [1950] I.C.J. 266, the International Court of Justice based its decision on a failure to find "any constant and uniform usage, accepted as law, with regard to the alleged rule . . ." *Id.* at 277. Instead, the Court found that practice in the area was not constant but "much influenced by considerations of political expediency in the various cases . . ." *Id.*

7. In the *North Sea Continental Shelf Cases* (*Federal Republic of Germany v. Denmark and Federal Republic of Germany v. Netherlands*), [1969] I.C.J. 4, it was stated for a majority of the International Court of Justice that

[a]lthough the passage of only a short period of time is not necessarily, or of itself, a bar to the formation of a new rule of customary international law on the basis of what was originally a purely conventional rule, an indispensable requirement would be that within the period in question, short though it might be, a State practice, including that of States whose interests are specially affected, should have been both extensive and virtually uniform in the sense of the provision invoked;—and should moreover have occurred in such a way as to show a general recognition that the rule of law or legal obligation is involved.

Id. at 43.

169. *New Zealand v. France*, [1973] I.C.J. 135, 161 (Petren, J., dissenting).

international law, or whether they do not still belong to a highly political domain where the norms concerning their international legality are still in the gestation stage."¹⁷⁰ Judge Petren adopted the latter conclusion in a separate opinion citing the "example of China when it exploded a very powerful bomb in the atmosphere" as being "sufficient to demolish the contention that there is at present a rule of customary international law prohibiting atmospheric nuclear tests."¹⁷¹

V. SUMMARY

Although the maxim, "use your own property in such a manner as not to injure that of another" has been held to be among the principles of law recognized by civilized nations, its application by international tribunals has been too recent and spotty to afford reliable guidance about whether its scope is broad enough to encompass injuries alleged to have resulted from the disposal of radioactive wastes at sea or the mishandling of radioactive substances. Relevant customary international law is even less developed at the present time.

The United States is currently bound, with regard to those under its jurisdiction, by terminable international agreements that (1) prohibit dumping at sea of high-level radioactive wastes by those under its jurisdiction; (2) require prior special permits for the dumping at sea of other levels of radioactive waste and matter, with issuance of such permits conditioned on careful consideration of the effects of disposal on the marine environment; (3) prohibit dumping of any radioactive waste in Antarctica and probably in outer space; (4) require cooperation with competent international organizations and other states in the formulation of minimal international standards for the implementation of waste disposal regulations; and (5) limit the production, testing, use, or sale of nuclear weapons. Many of these obligations with regard to radioactive wastes would be inferentially reinforced by the adoption of any of the numerous provisions for protecting and preserving the marine environment in-

170. *Id.* at 161.

171. Nuclear Tests case (Australia v. France), [1974] I.C.J. 253, 306.

cluded in the present negotiating text of the Third United Nations Law of the Sea Conference.*

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