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Survey of liability regimes relevant to the topic of international liability for injurious consequences arising out of acts not prohibited by international law (international liability in case of loss from transboundary harm arising out of hazardous activities)

Prepared by the Secretariat

Contents

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Abbreviations

BSG	Federal Soil Protection Act (Germany)
BSV	Soil Protection and Contaminated Land Ordinance (Germany)
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (United States of America)
CIV	International Convention concerning the Carriage of Passengers and Luggage by Rail
CRISTAL	Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution
CRTD	Convention on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels
CWA	Clean Water Act (United States)
EHG	Act on the Liability of Railway and Steamboat Enterprises (Switzerland)
EKHG	Statute on liability for keeping railway and motor vehicles (Austria)
ELA	Environmental Liability Act (Germany)
EPA	United States Environmental Protection Agency
FFCA	Federal Facility Compliance Act of 1992 (EPA)
FWPCA	Federal Water Pollution Control Act (Clean Water Act) (United States)
HNS	International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea
HpfIG	Liability Act (Germany)
HSWA	Hazardous and Solid Waste Amendment (United States)
LNA	Air Navigation Act (Spain)
LRCSCVM	Road Traffic Liability Act (Spain)
LRPD	Products Liability Act (Spain)
OECD	Organization for Economic Cooperation and Development
OPA	Oil Pollution Act (United States)
RCRA	Solid Waste Disposal Act (Resource Conservation and Recovery Act) (United States)
SARA	Superfund Amendments and Reauthorization Act (United States)
TOVALOP	Tank Owners Voluntary Agreement Concerning Liability for Oil Pollution

Chronological list of treaties

1924 International Convention for the Unification of Certain Rules Relating to the Limitation of the Liability of Owners of Seagoing Vessels

1957 International Convention Relating to the Limitation of the Liability of Owners of Seagoing Ships

1960 Convention on Third Party Liability in the Field of Nuclear Energy (1960 Paris Convention)

1961 International Convention Concerning the Carriage of Passengers and Luggage by Rail (CIV)

1962 Convention on the Liability of Operators of Nuclear Ships (Nuclear Ships Convention)

1963 Agreement Supplementary to the Paris Convention of 1960 on Third Party Liability in the Field of Nuclear Energy (1963 Brussels Convention)

1963 Vienna Convention on Civil Liability for Nuclear Damage (1963 Vienna Convention)

1966 Additional Convention to the 1961 International Convention concerning the Carriage of Passengers and Luggage by Rail (CIV)

1969 International Convention on Civil Liability for Oil Pollution Damage (1969 CLC)

1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties

1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (1971 Fund Convention)

1971 Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material

1972 Convention on International Liability for Damage Caused by Space Objects

1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter

1976 Convention for the Protection of the Mediterranean Sea against Pollution

1977 Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources (Seabed Mineral Resources Convention)

1978 Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution

1981 Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region

1981 Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific

1982 Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment (Jeddah Convention)

1982 United Nations Convention on the Law of the Sea

1983 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention)

1985 Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region

1986 Convention for the Protection of the Natural Resources and the Environment of the South Pacific Region

1988 Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention (Joint Protocol)

1988 Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA)

1989 Convention on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (CRTD)

1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

1989 Basel Protocol on Liability and Compensation for Damage Resulting in Transboundary Movements of Hazardous Wastes and their Disposal

1990 Protocol (to the 1978 Kuwait Regional Convention) for the Protection of the Marine Environment against Pollution from Land-based Sources

1990 International Convention on Oil Pollution Preparedness, Response and Cooperation

1991 Convention on Environmental Impact Assessment in a Transboundary Context

1991 Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa

1991 Protocol on Environmental Protection to the Antarctic Treaty

1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area

1992 Convention on the Protection of the Marine Environment of the Black Sea against Pollution

1992 Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)

1992 Convention on the Protection of the Black Sea against Pollution

1992 Protocol amending the 1969 International Convention on Civil Liability for Oil Pollution Damage (1992 CLC)

1992 Protocol to Supplement the International Convention on the Establishment of an International Fund for Oil Pollution Damage (1992 Fund Convention)

1992 Convention on the Transboundary Effects of Industrial Accidents

1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes

1992 Convention on Biological Diversity

1993 Lugano Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment (Lugano Convention)

1995 Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region (Waigani Convention)

1996 International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS)

1997 Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage (1997 Vienna Convention)

1997 Convention on the Law of the Non-navigational Uses of International Watercourses

1997 Convention on Supplementary Compensation for Nuclear Damage (1997 Supplementary Compensation Convention)

1998 Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention)

1999 Basel Protocol on Liability and Compensation for Damage Resulting from the Transboundary Movements of Hazardous Wastes and their Disposal (1999 Basel Protocol)

2000 Cartagena Protocol on Biosafety to the Convention on Biological Diversity

2001 International Convention on Civil Liability for Bunker Oil Pollution Damage (Bunker Oil Convention)

2003 Protocol establishing an International Oil Pollution Compensation Supplementary Fund

2003 Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters (2003 Kiev Protocol)

2003 World Health Organization Framework Convention on Tobacco Control

2003 African Convention on the Conservation of Nature and Natural Resources

2004 Protocol to amend the Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982 (2004 Paris Convention)

2004 Protocol to amend the Convention of 31 January 1963 Supplementary to the Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy, as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982 (2004 Brussels Convention)

Introduction

1. The present study further updates a study published in 1984 under the title "Survey of State practice relevant to the topic of international liability for injurious consequences arising out of acts not prohibited by international law"[1] and updated by the Secretariat in 1995.[2]

2. Bearing in mind that the International Law Commission has already adopted and submitted to the General Assembly the preamble and the draft articles on prevention of transboundary harm from hazardous activities,[3] the Secretariat has focused the study on liability aspects of the topic.

3. The study reviews existing international conventions, international case law, other forms of State practice as well as available domestic legislation and domestic courts' decisions bearing on the issue of liability. For the sake of comprehensiveness, it incorporates as far as possible material on liability included in the 1995 survey.

4. The inclusion of material on specific activities is without prejudice to the question whether such activities are "prohibited by international law". It is useful to consider the handling of some disputes in which there was no general agreement as to the lawfulness or unlawfulness of the activities giving rise to injurious consequences.

5. The study also includes, in addition to treaties, judicial decisions and arbitral awards and documents exchanged between foreign ministries and government officials. These documents are important sources of State practice. Another important source is settlements through non-judicial methods which, although they are not products of conventional judicial procedure, may represent a pattern in trends regarding substantive issues in dispute. Statements made by the State officials involved as well as the content of actual settlements are examined for their possible relevance to the substantive principles of liability.

6. The study has not ignored the difficulties of evaluating a particular instance as "evidence" of State practice.[4] Different policies may motivate the conclusion of

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[1] *Yearbook of the International Law Commission, 1985*, vol. II (Part One) (Addendum), document A/CN.4/384.

[2] *Yearbook of the International Law Commission, 1995*, vol. II (Part One), document A/CN.4/471.

[3] The General Assembly, in its resolution 56/82 of 12 December 2001, expressed its appreciation to the International Law Commission for the valuable work done on the issue of prevention on the topic of "international liability for injurious consequences arising out of acts not prohibited by international law (prevention of transboundary harm from hazardous activities)".

The text of the preamble and draft articles appears in the report of the Commission on its fifty-third session (2001): *Official Records of the General Assembly Fifty-sixth Session, Supplement No. 10* (A/56/10), chap. V.E.

[4] For example, abstention by States from engaging in activities which, although lawful, may cause injuries beyond their territorial jurisdiction, may or may not be relevant to creating customary behaviour. The Permanent Court of International Justice and its successor, the International Court of Justice, have observed that the mere fact of abstention without careful consideration of the motivating factors is insufficient proof of the existence of an international legal custom. Abstention by States from acting in a certain way may have a number of reasons, not all of which have legal significance. See the judgment rendered on 7 September 1927 by the Permanent Court of International Justice in the *Lotus* case (*P.C.I.J., Series A*, No. 10, p. 28). A similar point was made by the International Court of Justice in its judgment of 20 November in

treaties or decisions. Some may be compromises or accommodations for extraneous reasons. But repeated instances of State practice, when they follow and promote similar policies, may create expectations about the authoritativeness of those policies in future behaviour. Even though some of the policies may not have been explicitly stated in connection with the relevant events, or may purposely and explicitly have been left undecided, continuous similar behaviour may lead to the creation of a customary norm. Regardless of whether the materials examined here have been established as customary law, they demonstrate a trend in expectations and may contribute to the clarification of policies concerning some detailed principles of liability relevant to the topic. Practice also demonstrates ways in which competing principles, such as "State sovereignty" and "domestic jurisdiction", are to be reconciled with the new norms.

7. In referring to State practice, caution must be exercised in extrapolating principles, for the more general expectations about the degree of tolerance concerning the injurious impact of activities can vary from activity to activity.

8. The materials examined in the study are not, of course, exhaustive. They relate primarily to activities concerning the physical use and management of the environment, for State practice in regulating activities causing injuries beyond territorial jurisdiction or control has been developed more extensively in this area. The study is also designed to serve as useful source material; hence, relevant extracts from domestic legislation, treaties, judicial decisions and official correspondence are also cited. The outline of the study has been formulated on the basis of functional problems which may appear relevant to liability issues of the topic.

9. Chapter I describes the general characteristics of liability regimes such as the issue of causality. It reviews the historical development of the concept of strict liability in domestic law and provides an overview of the development of this concept in international law.

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the *Asylum Case* (*I.C.J. Reports 1950*, p. 286), and in its judgment of 20 February 1969 relating to the *North Sea Continental Shelf* cases (*I.C.J. Reports 1969*, p. 44, para. 77). See also the advisory opinion of 8 July 1996 on the *Legality of the Threat or Use of Nuclear Weapons* (*I.C.J. Reports 1996,* p. 226, at pp. 253-255). See further C. Parry, *The Sources and Evidences of International Law,* 1965, pp. 34-64.

However, in its judgment of 6 April 1955 in the *Nottebohm* case (second phase), the Court relied on State restraint as evidence of the existence of an international norm restricting freedom of action (*I.C.J. Reports 1955*, pp. 21-22).

On the importance of norm-generating properties of "incidents", Michael Reisman observes that:

> "The normative expectations that political analysts infer from events are the substance of much of contemporary international law. The fact that the people who are inferring norms from incidents do not refer to the product of their inquiry as 'international law' in no way affects the validity of their enterprise, any more than the obliviousness of Molière's M. Jourdain to the fact that he was speaking prose meant that he was not. Whatever it is called, law it is."

See W. Michael Reisman, "International Incidents: Introduction to a New Genre in the Study of International Law", in *International Incidents: The Law that Counts in World Politics*, W. Michael Reisman and Andrew R. Willard (editors), (Princeton Univ. Press), 1988, p. 5.

10. Chapter II examines the issue of the party that is liable. It describes the polluter-pays principle, operator liability and instances where States are considered liable.

11. Chapter III attempts to identify instances and conditions in which the operator or the State may be considered exonerated from liability.

12. Chapter IV examines the issues relevant to compensation. Such issues include the content of compensation, namely compensable injuries, forms of compensation and limitation on compensation. The chapter also examines the authorities recognized in State practice as competent to decide on compensation.

13. Chapter V describes the statute of limitations provided mostly in treaties.

14. Chapter VI reviews the requirements of insurance and other anticipatory financial schemes to guarantee compensation in case of injury.

15. Finally, chapter VII examines the issue of enforcement of judgements granted mostly by domestic courts, in respect to compensation to injured parties.

I. General characteristics of liability regimes

A. The issue of causality

16. The concept of liability was developed in domestic law in connection with tortious acts. The evolution of the notion in domestic law reveals its policy considerations, many of which have shaped the current theory of liability and particularly the place of "fault" in accountability and payment of compensation in relation to certain activities. In order to understand fully the development of the concept of liability and to foresee its future configuration in international law, it is useful to review the historical development of this concept in domestic law.

17. This is not to suggest that the development of the liability concept in international law will or should have the same content and procedures as in domestic law. The concept of liability is much more developed in domestic law and its introduction to international law cannot ignore the experience gained in this area in domestic law. The domestic law references to liability are mentioned only to provide guidelines when appropriate for understanding the concept of liability and its development.

18. Historically, one of the main concerns and most important elements in the evolution of the law of liability was the maintenance of public order by preventing individual vengeance. Under primitive law causation was sufficient to establish liability. Damages were offered primarily to avoid recourse to private vengeance. So long as the misfortune was traceable to the cause of the injury, it did not matter that the victim was subjected to flagrant aggression or accidental injury.[5] Primitive law did not look so much to "the intent of the actor as [it did to] the loss and the damage of the party suffering".[6] Some explanations have been advanced for this apparent indifference to fault in the approach of primitive law. First, it has been suggested that it was a result of early law's lack of sophistication in its inability or

[5] John G. Fleming, *The Law of Torts* (8th ed.), 1992, p. 327 (hereafter Fleming).
[6] *Lambert and Olliot v. Bessey* (1681) T. Raym. 421, 422 cited in Fleming, pp. 6-7.

unwillingness to assume that harm could occur unintentionally rather than a lack of concern for such intention.[7] Secondly, it was a myth that early common law was based on the unqualified principle that individual human beings acted at their own risk and therefore were responsible for all the consequences of their actions.[8] In view of the limited causes of action recognized then, it was easy to conceive of the overall system as one of "no liability rather than pervasive liability without fault".[9] Gradually, the law began to pay more attention to exculpatory considerations and partially, "under the influence of the Church, tilted towards moral culpability as the proper basis for tort".[10] This approach, which tended to benefit the party causing injury rather than the injured, was influenced by the industrial revolution:

> "During the 19th century, the 'moral advance' of tort law vastly accelerated. With the blessings of the moral philosophy of individualism (Kant) and the economic postulate of laissez-faire, the courts attached increasing importance to freedom of action and ultimately yielded to the general dogma of 'no liability without fault'. This movement coincided with, and was undoubtedly influenced by, the demands of the industrial revolution. It was felt to be in the better interest of an advancing economy to subordinate the security of individuals, who happened to become casualties of the new machine age, rather than fetter enterprise with cost of 'inevitable' accidents. Liability for faultless causation was feared to impede progress because it gave the individual no opportunity for avoiding liability by being careful and thus confronted him with the dilemma of either giving up his projected activity or incurring the cost of any resulting injury. Fault alone was deemed to justify a shifting of loss, because the function of tort remedies was seen as primarily admonitory or deterrent."[11]

19. This approach is undergoing revision. While morality continues to be predominant in intentional tortious injuries, views in the area of accidents have been changing drastically:

> "It is being increasingly realized that human failures in a machine age exact a large and fairly regular toll of life, limb and property, which is not significantly reducible by standards of conduct that can be prescribed and enforced through the operation of tort law. Accident prevention is more effectively promoted through the pressure exerted by penal sanctions attached to safety regulations and such extralegal measures as road safety campaigns, insurance premiums based on the insured's safety record, improvements in the quality of roads and motor vehicles and of production processes in industry. But despite all these controls, accidents and injuries remain. Some no doubt are attributable to negligence in the conventional sense, that is to unreasonable risks, but others to 'unavoidable' accidents. Either may fairly be ascribed, not just to the immediate participants, but to the activity or enterprise itself with which they are connected ... The question is simply, who is to pay for them, the hapless victim who may be unable to pin conventional fault on any

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[7] See Ehrenzweig, "Psychoanalysis of Negligence", *NW.U.L.Rev.,* vol. 47, 1953, p. 855, cited in Fleming, p. 7

[8] See Winfield, "Myth of Absolute Liability", *42 L.Q.R* (1926), p. 37, cited in Fleming, p. 7.

[9] Fleming, p. 7.

[10] Ibid.

[11] Ibid.

> particular individual, or those who benefit from accident-producing activity? If rules of law can be devised that will require each industry or those engaging in a particular activity, like drivers of motor cars, to bear collectively the burden of its own operating costs, public policy may be better served than under a legal system that is content to leave the compensation of casualties to a 'forensic lottery' based on outdated and unrealistic notions of fault and excessively expensive to operate."[12]

20. Recognizing the fact that in conditions of modern life, many activities may exact a high toll on life and limb and property, society has had to make several choices: (a) to proscribe the activity or enjoin its conduct; (b) to allow it for its social utility but specify conditions or prescribe the manner in which it would be carried out; or (c) to tolerate the activity on condition that it pays its way regardless of the manner in which it was conducted.[13]

21. The last choice leads to strict liability for hazardous activities. There are two paradigms for strict liability: strict liability for criminal and civil public welfare offences and strict liability in tort for "ultrahazardous" or abnormally dangerous activities.[14] In the latter case, strict liability does not require proof of the mens rea. The focus of the inquiry is on the harm that flows from an instrumentality and not on the harm from the conduct of the specific individual defendant.[15] Thus, the liability of the defendant is based on the relationship of the defendant to the instrumentality. The defendant is the owner, the operator or the user, etc.[16] The person whose activity causes the injury is held liable "not for any particular fault occurring in the course of the operation, but for the inevitable consequences of a dangerous activity which could be stigmatized as negligent on account of its foreseeably harmful potentialities, were it not for the fact that its generally beneficial character requires us to tolerate it in the interest of the community at large."[17]

22. Strict liability is in one sense another aspect of negligence. Both are based on responsibility for the creation of a risk which is abnormal. While strict liability is concerned with activities which remain dangerous despite all reasonable precaution, negligence is concerned primarily with an improper manner of doing things which are safe enough when properly carried out.[18] There is a dilemma in all this, which has been explained thus:

> "[I]f such an activity were branded as negligent on account of its irreducible risk it would be tantamount to condemning it as unlawful. Some activities, no doubt, deserve that fate either because the object they serve is not sufficiently beneficial or because it can be attained in a safe manner. Other activities, however, may have to be tolerated despite their irreducible risk … These should not be penalized as reprehensible by labelling them negligent although

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[12] Ibid., p. 8. Emphasis added.

[13] Ibid., p. 328.

[14] James R. MacAyeal, "The Comprehensive Environmental Response, Compensation, and Liability Act: the correct paradigm of strict liability and the problem of individual causation", *18 UCLA J. Envtl. L & Pol* (1999-2001), 217, at p. 218.

[15] Ibid., p. 219.

[16] Ibid.

[17] Fleming, p. 328.

[18] Ibid.

the risk they entail may not be avoidable (at least statistically) despite all possible precaution. If all the same they should pay their way, it must be on some principle other than negligence. That principle is strict liability."[19]

23. Unlike the earlier primitive law individualistic approach, the return to strict liability is justified "by considerations of social and economic expediency of our own age".[20] In domestic law, there are at least two underlying reasons for adopting strict liability: first, the limited knowledge about the increasingly developing science and technology and their effects;[21] and second, the difficulty in establishing which conduct is negligent and presenting evidence necessary to establish negligence.[22] The core of strict liability is therefore to impose liability on lawful, not "reprehensible"[23] activities which entail extraordinary risk of harm to others, because of either the seriousness or the frequency of the potential harm.[24] The activity has been permitted on the condition[25] and the understanding that the activity will absorb the cost of its potential accidents as part of its overhead.[26] Moreover, society ensures that the true costs of an activity are distributed among those benefiting from the activity. Usually, the costs of compensation are factored into the price of related goods and services. Those profiting from an activity are generally better positioned to compensate victims than the victims themselves.[27]

24. In essence, the main goal of strict liability for ultrahazardous activity is to compensate those injured by lawful conduct for the inevitable consequences of a highly hazardous instrumentality.[28] If injury ensues from the use of such instrumentality, there is legal cause.[29]

25. The need to link the defendant to the instrumentality gives rise to notions of causation intended to justify such linkage. Causation in strict liability is linked not so much to the personal acts of the defendant as it is to the instrumentality or the activity in which the instrumentality is used.[30] Doubt has been expressed as to whether the notion of "proximate causation" is applicable to strict liability since it arose mainly from the law of negligence and is not always applicable in cases involving intentional wrongs. However, this has not dissuaded the courts from employing it in strict liability cases, although they have focused such connection in reference to the instrumentality.

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[19] Ibid., pp. 328-329.

[20] Ibid., p. 329. See also Prosser and Keeton, *On Torts* (5th ed.), 1984, p. 537 (hereinafter cited as Prosser).

[21] Goldie elaborates on this issue by stating that in the current "state of the art" of new industries, no amount of foresight or feasible measures may avert injuries. See Goldie, "International Liability for Damage and the Progressive Development of International Law", *14 ICLQ*, 1965, p. 1203 (hereinafter Goldie, International Liability ...).

[22] Ibid.

[23] This term is used by Fleming to distinguish between negligence and strict liability.

[24] Strahl, "Tort Liability and Insurance", *Scand. Stud. L.*, vol. 3, 1959, pp. 213-218.

[25] See Keeton, "Conditional Fault in the Law of Torts", *72 Harv. L. Rev.* (1958) 401, cited in Fleming, p. 329, note 10.

[26] Fleming, p. 329.

[27] MacAyeal, op. cit., at p. 233.

[28] Ibid., pp. 232 and 239.

[29] Ibid., p. 239.

[30] Ibid., p. 227.

26. The notion of "proximate causation" is also conceptually challenging and difficult to define precisely. Its temporal or spatial attributes or its direct connotations of immediacy have sometimes been accentuated. Others have emphasized the sense that proximate causation produces a "result in a natural and continuous sequence". In yet other instances, "substantial cause" has been employed, without necessarily intending it to mean "sole cause" insofar as notions of "joint and several liability" also come into the picture when dealing with strict liability cases.

27. Some cases have defined proximate causation in terms of harm that is foreseeable. Others perceive it as a determination in judicial policy based on the circumstances of each case. Put simply, it is a practical way of cutting off liability on an ad hoc basis when it appears that the imposition of liability is too extreme.[31] On this account, "*legal cause*" is more apt a description:

> "Legal cause is not a question of causation: it is simply a policy determination of whether or not the defendant should be held responsible … Legal cause defines the scope of the legal duty. To the extent proximate cause is little more than a policy judgement to define the outer limits of liability for a particular claim, courts must look to the policies of the particular statute or area of the law involved …"[32]
>
> "Any proximate cause analysis of a strict liability claim, to the extent applicable at all, should not include a component of foresight by a reasonable person in the shoes of the defendant[33] … The essence of strict liability … is that a plaintiff need not prove that the defendant acted intentionally or negligently[34] … If courts become bogged down in an analysis of the details of the use of the instrumentality, the analysis becomes one of negligence. To show legal cause in the context of strict liability for ultrahazardous activity it should only be necessary to show that the defendant voluntarily engaged in the conduct subject to strict liability."[35]

28. Various designations are used to describe the modern doctrine imposing strict liability, among them "liability without fault" (*responsabilité sans faute*), "negligence without fault", "presumed responsibility", "fault per se", "objective liability" (*responsabilité objective*) or "risk liability"[36] (*responsabilité pour risque crée*).

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[31] Ibid., p. 238. See generally MacAyeal, op. cit., note 14, pp. 232-241.

[32] Ibid., p. 238.

[33] Ibid., p. 239.

[34] Ibid., p. 240.

[35] Ibid., pp. 240-241. For an analysis of the notion of causing, see the judgment of Lord Hoffmann in *Empress Car Co. (Abertillery) Ltd.* v. *National Rivers Authority* [1998] 1 All E.R. 481.

[36] See Ferdinand F. Stone, "Liability for damage caused by things", in Andre Tunc, ed., *International Encyclopedia of Comparative Law*, vol. XI, *Torts*, part I (The Hague, Nijhoff, 1983), chap. 5, p. 3, para. 1.

B. Strict liability

1. Domestic law

(a) Nature of the thing or activity

29. A number of factors have influenced the development of strict liability under domestic law. In the first place, many legal systems have shown a persistent tendency to recognize the concept of strict liability based on the "nature" of the thing or activity causing the damage, namely its dangerous qualities or propensities. Classifications have for example been made based on whether an animal is wild or domesticated. English common law has placed greater reliance on such a distinction based on animal classification. Thus, strict liability is imposed in respect of damage caused by wild animals (*ferae naturae*) or on tame animals (*mansuetae naturae*) which their keeper knows to have a "vicious, mischievous or fierce" propensity and the action was based on such scienter.[37] In England, under the Animals Act of 1971, any person who is a keeper of an animal is now liable for "any damage caused by an animal which belongs to a dangerous species". In respect of non-dangerous species the keeper is liable if the animal had abnormal characteristics which were known or must be taken as known to the keeper.[38] The United States of America also draws a distinction between "dangerous animals" and those "normally harmless".[39]

30. The civil codes (CC) of many States, including those of Belgium, the Czech Republic, France, Italy and Spain, impose strict liability upon the owner or keeper of an animal for the damage it causes, whether the animal was in his keeping or had strayed or escaped. The same rule however is applied to all animals irrespective of their nature.[40] The German Civil Code of 1900 also imposes strict liability for all animal damage. However, its 1908 amendment provides for an exception in the case of domestic animals used by the owner in his profession or in his business, or under his care, in which case proof of *culpa* is required.[41] Article 1905 of the Spanish Civil Code contemplates exoneration for the owner of an animal when the damage is attributable to force majeure.

31. Strict liability is also recognized in respect of owners or keepers of animals in Argentina (CC, art. 1126), Brazil (CC, art. 1527), Colombia (CC, art. 2353), Greece (CC, art. 924), Hungary (CC, art. 353), Mexico (CC, art. 1930), the Netherlands (CC, art. 1404), Poland (CC, art. 431), and Switzerland (CC, art. 56).[42] Traditional concepts of fault remain in some jurisdictions although there is a shift in liability through "presumptions of fault".[43] Thus, under article 56 of the Swiss Civil Code the keeper may escape liability by proving that he exercised all reasonable care

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[37] Ibid., p. 12, para. 43.

[38] See generally M. Mullholland, "Animals", in *Clerk and Lindsell on Torts*, 18th ed., Sweet and Maxwell, 2000, chap. 21.

[39] Stone, op. cit., p. 12, para. 42.

[40] Ibid.

[41] Article 833 of the German Civil Code; ibid., p. 13, para. 47.

[42] Stone, op. cit., p. 14, paras. 51-52.

[43] Bernhard A. Koch and H. Koziol, "Comparative Conclusions", in B. A. Koch and H. Koziol (eds.), *Unification of Tort Law: Strict Liability*, Kluwer Law International, 2002, p. 396.

under the circumstances or that the damage would have occurred in spite of the exercise of such care.[44]

32. Strict liability for damage caused by fire is also widely recognized. Ancient common law, under the *ignis suus rule*, catered for a special action of trespass against occupiers for "negligently using fire and allowing its escape contrary to the general custom of the realm".[45] The reference to negligence may have been superfluous because liability was so stringent that it could only be excused by an act of God or an act of a stranger.[46] The law was later changed by statute to allow an excuse to "any person in whose house, chamber, stable, barn or other building, or on whose estate any fire shall … accidentally begin".[47] Thus, the courts have held that the landholder was not ordinarily liable, unless the fire originates or spreads through negligence on his part or was set intentionally.[48] However, in situations where the fire has its origin in the course of an activity which is considered abnormally dangerous, the earlier rule has been reverted to and the landowner held strictly liable.[49] American courts, on the other hand, have consistently rejected the earlier rule and have held, in the absence of statutory provisions to the contrary, that there is no liability for the escape of fire in the absence of negligence.[50] On its part, the French Civil Code, in article 1384, holds a person who possesses by whatever right all or part of a building or personal property in which a fire occurs liable vis-à-vis third persons for damage caused by such fire only if it is proved that it was attributable to his fault or to the fault of a person for whom he is responsible.[51] The 1979 Act concerning the Prevention of Fire and Explosions of Public Building and concerning Compulsory Insurance of Civil Liability of Belgium imposes strict liability for bodily or material damage to third parties upon the operator of certain categories of buildings specified by royal decree, such as restaurants and hospitals.

33. Article 178 of the Egyptian Civil Code, article 231 of the Iraqi Civil Code, article 291 of the Jordanian Civil Code and article 161 of the Sudanese Civil Code all establish the strict liability of persons in charge of machines or other objects requiring special care. Article 133 of the Algerian Civil Code goes even further and recognizes the strict liability of a person in charge of any object when that object causes damage.

(b) State of economic development

34. Secondly, the type of the economy in which the activity takes place is also an important factor which has shaped liability under domestic law. Germane examples are legion, including in developments concerning vicarious liability, product liability and genetic technology.

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[44] Amendment to the Code: *Loi fédérale RS 220 complétant le Code civil suisse*.

[45] Fleming, p. 349.

[46] Ibid.

[47] Fires Prevention Act 1775, quoted in Fleming.

[48] *Job Edwards, Ltd. v. Birmingharm Navigations* [1924] 1K.B.341; *Vaughan v. Menlove*, 1837, 3 Bing. 468; *Filliter v. Phippard*, 1847, 11 Q.B. 347, quoted in Prosser, p. 43. See also Fleming, pp. 349-350.

[49] *Musgrove v. Pandelis* [1919] 2 K.B.43.

[50] See Prosser, pp. 544-545. It is noted that statutes in many States have restored the strict liability rule in certain very dangerous situations.

[51] As amended by law of 7 November 1922. The 1922 law does not apply to relations between lessor and lessee.

35. Vicarious liability, by which the law holds a person, without blameworthiness or fault, responsible for the acts of another, is a form of strict liability and was a common feature under primitive law. The fact that the head of the household was held responsible for the conduct of members of his family[52] gave way to the liability of the master for the torts of his servants.[53] With the end of the feudal system, the liability was subsequently limited to particular acts ordered or ratified.[54]

36. The modern theory for the liability of the employer has its origins in the early nineteenth century. In addition to the accident prevention value, the main policy consideration is that "a person who employs others to advance his own economic interest should in fairness be placed under a corresponding liability for losses incurred in the course of that enterprise; that the master is a more promising source of recompense than his servant who is apt to be a man of straw; and that the rule promotes wide distribution of tort losses, the employer being a most suitable channel for passing them on through liability insurance and higher prices".[55] Vicarious liability is based not on a breach of any personal duty owed by the master, but on imputability of the servant's tort.[56] The theory of strict liability, deriving from the limited tort liability of the master to his servant at common law, has for instance been incorporated in the workers' compensation acts in the United States; the employer is strictly liable for injuries to his employees. The policy behind liability for employers is one of "social insurance" and of determining who can best carry the loss.[57]

37. The strict liability of the employer is also recognized in France. Under article 1 of the 1898 law concerning liability for industrial accidents to workers (*concernant la responsabilité des accidents dont les ouvriers sont victimes dans leur travail*), the victim or his representatives are entitled to demand compensation from the employer if, in consequence of the accident, the person concerned is obliged to stop work for more than four days. Article 1384, sub.3, of the Belgian Civil Code imposes liability for damage by servants and other appointed persons such as employees.

38. In a comparatively more recent development, the principle of strict liability has been applied in regard to defective products. Two types of product conditions may result in some kind of loss either to the buyer or to a third party. One concerns the dangerous condition of the product and the other the inferior condition of the product.[58] The former is likely to result in damaging events such as a traffic accident, an aeroplane crash, a medical mishap or an industrial accident, while the latter is likely to cause intangible economic losses.[59]

39. Four possible theories of recovery are available under modern product liability law, which involves the liability of those who supply goods or products for the use of others to buyers, users and bystanders for losses of various kinds arising from

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[52] Fleming, p. 366. A husband was for example held liable for the torts of his wife.
[53] Ibid.
[54] Ibid.
[55] Ibid., p. 367.
[56] Ibid., p. 368.
[57] See Prosser, pp. 568 et seq.
[58] Ibid., p. 677.
[59] Ibid., p. 678. See also the decision of the California Supreme Court in *Greenman v. Yuba Power Product, Inc.*, 377 P.2d 897 (Cal. 1962).

defects in such goods or products.[60] These theories are: (a) strict liability in contract for breach of a warranty express or implied; (b) negligence liability in contract for breach of a warranty, express or implied, that the product was designed and constructed in a workmanlike manner; (c) negligence liability in tort for physical harm to persons and tangible things; and (d) strict liability in tort for physical harm to persons and tangible things.[61] These policy considerations informed the adoption in the United States of section 402A[62] of the Second Restatement of Torts, 1965. However, section 402A was created to deal with manufacturing defects. It was ill suited for application to questions of defects in the design or defects based on inadequate instructions or warnings. It has since been revised by the Third Restatement of Torts (Product Liability), 1997:[63]

"*1. Liability of Commercial Seller or Distributor for Harm Caused by Defective Products*

"One engaged in the business of selling or otherwise distributing products who sells or distributes a defective product is subject for harm to persons or property caused by the defect.

"*2. Categories of Product defect*

"A product is defective when, at the time of sale or distribution, it contains a manufacturing defect, is defective in design, or is defective because of inadequate instructions or warnings. A product:

(a) Contains a manufacturing defect when the product departs from its intended design even though all possible care was exercised in the preparation and marketing of the product;

(b) Is defective in design when the foreseeable risks of harm posed by the product could have been reduced or avoided by the adoption of a reasonable alternative design by the seller or other distributor, or a predecessor in the commercial chain of distribution, and the omission of the alternative design renders the product not reasonably safe;

(c) Is defective because of inadequate instructions or warnings when the foreseeable risks of harm posed by the product could have been reduced or avoided by the provision of reasonable instructions or warnings by the seller or

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[60] Ibid., p. 677.

[61] Ibid., p. 678.

[62] Special Liability of Seller of Product for Physical Harm to User or Consumer:

(1) One who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer, or to his property, if

(a) The seller is engaged in the business of selling such a product, and

(b) It is expected to and does reach the user or consumer without substantial change in the condition in which is sold.

(2) The rule stated in subsection (1) applies although

(a) The seller has exercised all possible care in the preparation and sale of his product,

(b) The user or consumer has not brought the product from or entered into any contractual relation with the seller.

See American Law Institute, *American Restatement of the Law of Torts* (Washington, D.C., 1965), vol. II, chap. 14, sects. 281-503.

[63] Ibid.; *American Restatement of the Law of Torts (Products Liability)*, Washington, D.C., 1998, sects. 1-end.

other distributor, or a predecessor in the commercial chain of distribution, and the omission of the instructions or warnings renders the product not reasonably safe.

"…

"15. Whether a product defect caused harm to persons or property is determined by the prevailing rules and principles governing causation in tort."

40. The developments in the United States influenced developments in Europe. The European Union (EU) first took the initiative to develop community policy on product liability in 1985. The EU Directive on defective product liability[64] seeks to ensure a high level of consumer protection against damage caused to health or property by a defective product as well as to reduce the disparities between national liability laws which distort competition and restrict the free movement of goods. It establishes the joint and several strict liability of the producer in cases of damage caused by a defective product. The person injured is required to prove the actual damage, the defect in the product and a causal relationship between damage and defect. The directive initially applied to all movables industrially produced and excepted "primary agricultural products and game". In the aftermath of the mad cow crisis an amendment in 1999 extended the directive to "primary agricultural products and game".[65]

41. Several European countries passed legislation to give effect to the 1985 Directive. In the United Kingdom of Great Britain and Northern Ireland, Part 1 of the Consumer Protection Act 1987, which was introduced as a result of the 1985 Directive, limits claims in relation to a product that is dangerous and has actually caused damage to the claimant or other property of his. Section 2 (1) of the Act provides:

"Subject to the following provisions of this Part, where any damage is caused wholly or partly by a defect in a product, every person to whom subsection (2) below applies (i.e. the manufacturer and various others) shall be liable for the damage."

42. The Belgian Act on Product Liability 1991 and the Act on the Liability caused by the Defective Product 1998 of the Czech Republic also give effect to the 1985 EU Directive. The Belgian Act complements an earlier application of the strict liability rule for defective goods introduced in article 1384, sub.1, of the Civil Code by a decision of the Cour de Cassation of 26 May 1904. The decision sought to resolve problems arising from an increased number of accidents and imposes liability on the guardian for the defective goods (*le gardien de la chose*).[66] Article 1386, subs. 1 to 18, of the French Civil Code also give effect to the 1985 Directive and contains extensive exceptions.[67] The Spanish Product Liability Act (LRPD) also

[64] Council Directive 85/374/EEC of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the member States concerning liability for defective products [*Official Journal* L 210 of 07.08.1985].

[65] Directive 1999/34/EC of the European Parliament and of the Council of 10 May 1999 amending Council Directive 85/374/EEC on the approximation of the laws, regulations and administrative provisions of the member States concerning liability for defective products [*Official Journal* L.141 of 4 June 1999]

[66] Herman Cousy and Dimitri Droshout, "Belgium", in Koch and Koziol, op. cit., note 43.

[67] Law No. 98-389 of 19 May 1998, introduced changes to the Civil Code.

establishes a strict liability regime for producers of defective products. It also contains grounds for exoneration.

43. In another recent development, strict liability is established for the regulation of genetically modified organisms. For example, the Australian Gene Technology Act of 2000; the Austrian Law on Genetic Engineering, the Gene Technology Act No. 377/95 and the Genetic Engineering Act 1990 of Finland, the German Genetic Engineering Act and the Act relating to the Production and Use of Genetically Modified Organisms of 1993 of Norway are based on strict liability.[68]

(c) Balancing of interests

44. As a third factor, strict liability has been imposed based on the utility of an activity to society as a whole in comparison with its potential harm to individuals. A "balancing of interests" has come into play in deciding whether strict liability should be imposed in respect of transportation, installations of electricity, gas or nuclear power.

45. In the United States, the principle of strict liability was apparent in the Uniform Aeronautics Act of 1922. The object of the act was to place the liability for damage caused by accidents of aircraft upon operators and to protect innocent victims, even though the accident might not be attributable to the fault of the operator.[69] In the United Kingdom, New Zealand and several states in Australia, owners of aircraft are liable under strict liability for all damage to person or property during flight, take-off and landing.[70] In the United Kingdom, by section 76 of the Civil Aviation Act of 1982:

> "where material damage or loss is caused to any person or property on land or water by, or by a person in, or by an article, animal or person falling from, an aircraft while in flight, taking off or landing, then unless the loss or damage was caused or contributed to by the negligence of the person by whom it was suffered, damages in respect of the loss or damage shall be recoverable without proof of negligence or intention or other cause of action, as if the loss or damage had been caused by wilful act, neglect, or default, or the owner of the aircraft."[71]

46. Section 10(2) of the Civil Aviation Act 1977 of Botswana is similar. A number of Latin American and European countries have also adopted the principle of strict liability, often similar to 1952 Rome Convention on Damage caused by Foreign Aircraft to Third Parties on the Surface. Argentina, Guatemala, Honduras and Mexico are among the Latin American countries which have imposed strict liability based on the concept of risk. Among European countries doing the same are

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[68] UNEP/CBD/ICCP/3/INF.1.

[69] See E. C. Sweeney, "Is special aviation liability legislation essential", *Journal of Air Law and Commerce*, vol. 19, p. 166; *Prentiss et al.* v. *National Airlines, Inc.*, 112 F. Supp., pp. 306 and 312.

[70] Civil Aviation Act 1982 (United Kingdom); Civil Aviation Act 1964 (New Zealand); Damage by Aircraft Act 1952 of New South Wales; Damage by Aircraft Act 1963 of Tasmania and Wrongs Act 1958 of Victoria.

[71] The Act only applies to liability in respect of civil aircraft. It does not apply to military aircraft.

Belgium, Denmark, Finland, France, Germany, Italy, Norway, Spain, Sweden and Switzerland.[72] Article 120 of the Air Navigation Act (LNA) of Spain provides:

> "[T]he recoverability of the loss has its objective foundation in the accident or damage and will be appropriate up to the limits of liability established in this chapter in any case, even in the case of casual accident and even if the carrier, operator or their employees can justify that they acted with due care."

47. Strict liability has also been applied in respect of train accidents in Austria,[73] Germany,[74] Spain[75] and Switzerland.[76] England, South Africa and the United States still adhere to the fault principle.[77]

48. The rule of strict liability has also been applied in respect of owners and operators of power sources for damage caused by the production or storage of electricity. In this area, the concept of strict liability corresponds to the notion that "electricity is a thing in one's keeping" (France, CC art. 1384), or to the notion that "the owner is presumed to be at fault" (Argentina, CC art. 1135), or to the notions of "dangerous things" (United Kingdom and United States), or of "dangerous activities" (Italy, CC art. 2050).[78] Section 11(1) of the Electricity Supply Act 1973 of Botswana also imposes strict liability: "it shall not be necessary for the plaintiff to prove that the damage or injury was caused by the negligence of the defendant, and damages may be recovered notwithstanding the absence of such proof." It is however a defence if "the damage or injury was due to the wilful act or to the negligence of the person injured or of some person not in the employ of the defendant or of some person operating the plant or machinery of the defendant without his consent." South Africa dispensed with a prior strict liability rule, in favour of a rebuttable presumption of fault.[79]

49. Strict liability is also invoked in respect of nuclear power. Nuclear installations with their own inherent dangers have given rise to new problems of liability. The spectre of a nuclear accident makes it difficult to fathom whether the liable party would adequately recompense the damage. In the United Kingdom, under the Nuclear Installations Act 1965, as amended by the Energy Act 1983, no person other than the United Kingdom Atomic Energy Authority shall use any site for the operation of a nuclear plant unless a licence to do so has been granted in respect of that site by the Minister of Power. The Act regulates liability for a nuclear incident, and under section 7(1):

> "[I]t shall be the duty of the licensee to secure that:
>
> (a) No such occurrence involving nuclear matter as is mentioned in subsection (2) of this section causes injury to any person or damage to any property of any person other than the licensee, being injury or damage arising out of or resulting from the radioactive properties, or a combination of those

[72] See Flora Lewis, *One of Our H-Bombs is Missing*, New York, McGraw Hill, 1967, pp. 45-46, paras. 178-181.

[73] Statute on liability for keeping railway and motor vehicles (EKHG).

[74] Liability Act (HpfIG).

[75] Road Traffic Liability Act (LRCSCVM).

[76] Act on the Liability of Railway and Steamboat Enterprises (EHG).

[77] Bernhard A. Koch and H. Koziol, "Comparative Conclusions", in Koch and Koziol, op. cit., note 43, p. 396.

[78] Stone, op. cit., pp. 48-49, paras. 193-197.

[79] Section 50(1) of the Electricity Act of 1958 was replaced by section 19 of Act No. 54 of 1986.

and any toxic, explosive or other hazardous properties, of that nuclear matter; and

(b) No ionizing radiations emitted during the period of the licensee's responsibility

(i) From anything caused or suffered by the licensee to be on the site which is not nuclear matter; or

(ii) From any waste discharge in whatever form on or from the site, cause injury to any person or damage to any property of any person other than [the] licensee."

50. Once damage within the Act is proved to have resulted, the liability of the licensee is strict. There is no need to prove negligence on the part of anyone.[80]

51. The Belgian Act Concerning Legal Liability in the Field of Nuclear Energy 1985 imposes liability for nuclear accidents on the operator of nuclear facilities, while the 1997 Nuclear Energy Act of the Czech Republic implements the Vienna and Paris Conventions.[81]

52. The "balancing of interests" is also exemplified by the concept of nuisance under common law and the civil law concept of *troubles du voisinage*. The civil law concept was first elaborated on the basis of article 1382 of the French Civil Code and has since acquired an independent status "No one may cause an abnormal degree of inconvenience in the neighbourhood" (*Nul ne doit causer à autrui un trouble anormal du voisinage*). Strict liability is imposed on the owner or occupier of a piece of land whose activity generates an "abnormal degree of inconvenience" (*un trouble anormal*) for his neighbours.[82] It is sufficient in such cases for the victim to show the inconvenience and its abnormal character.[83]

53. The maxim *sic utere tuo ut alienum non laedas* underlies the law of nuisance. Originally, nuisance meant nothing more than harm or annoyance.[84] Nuisance is an act or omission which is an interference with, disturbance of or annoyance to a person in the exercise or enjoyment of (a) a right belonging to him as a member of the public (public nuisance), or (b) his ownership or occupation of land or of some easement, profit or other right used or enjoyed in connection with land (private nuisance). Public nuisance is a criminal offence. It is only a civil wrong and actionable as such when a private individual has suffered particular damage over and above the general inconvenience and injury suffered by the public.[85] On the other hand, in private nuisance, the conduct of the defendant which results in the nuisance is, of itself, not necessarily or usually unlawful. It

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[80] R. Buckley, "Rylands v. Fletcher Liability" in *Clerk and Lindsell on Torts*, op. cit., note 38, para. 83.

[81] Vienna Convention on Civil Liability for Nuclear Damage, 1963, *2 ILM* (1963) 727; and Paris Convention on Third Party Liability in the Field of Nuclear Energy, 1960 (as amended in 1964 and 1982), United Nations, *Treaty Series*, vol. 956, p. 251.

[82] Suzanne Galand-Carval, "France", in Koch and Koziol, op. cit., note 43, pp. 127-145, at p. 134.

[83] Ibid.

[84] William Prosser, Selected Topics on the Law of Torts (Ann Arbor, Univ. of Michigan Law School, 1954) (hereafter Prosser, *Selected Topics* ...), p. 164. See also F. H. Newark, "The Boundaries of Nuisance", *65 L.Q.R.* 480.

[85] R. Buckley, "Nuisance", in *Clerk and Lindsell on Torts*, op. cit., note 38, chap. 19, paras. 01-03.

"may be and is usually caused by a person doing, on his own land, something which he is lawfully entitled to do. His conduct only becomes a nuisance when the consequences of his act are not confined to his own but extend to the land of his neighbour by:

(1) Causing an encroachment on his neighbour's land, when it closely resembles trespass;

(2) Causing physical damage to the neighbour's land or building or works or vegetation upon it;

(3) Unduly interfering with his neighbour in the comfortable and convenient enjoyment of his land".[86]

54. A private nuisance is primarily a wrong to the owner or the occupier of the land affected.[87] At common law, the principle of strict liability has been applied in cases of encroachment and physical damage, without regard to the defendant's intent or precautions. In the case of interference with enjoyment, the degree of inconvenience is taken into account.[88] Although there is no universal formula, a useful test is what is reasonable according to ordinary usages of mankind living in a particular society.[89] In effect, if the user is reasonable, the defendant would not be liable for the consequent harm to his neighbour's enjoyment of his land. On the other hand, if the user is unreasonable, the defendant would be liable even if he may have exercised reasonable care and skill to avoid the harm.[90]

55. Nuisance, however, remains "immersed in undefined uncertainty".[91] The consequence of this has been that liability, which should have arisen only under the law of negligence, has been allowed under the law of nuisance, which historically was a tort of strict liability. There was also a tendency for "cross-infection to take place, and notions of negligence began to make an appearance in the realm of nuisance proper".[92] In some instances, negligence has been found essential to liability, while in others it is irrelevant. Furthermore, in *Wagon Mound (No. 2)*,[93] the

[86] Ibid., para. 06.

[87] *Hunter* v. *Canary Wharf Ltd* [1997] 2.K.B.141.

[88] R. Buckley, op. cit., note 85, paras. 09 and 10.

[89] Lord Wright in *Sedleigh-Denfield v. O'Callaghan* [1940] A.C.880 at 903.

[90] Lord Goff in *Cambridge Water Co. v. Eastern Counties Leather PLC*, 1994, 1 All E.R.53 at p. 71.

[91] Erle C. J. in the undelivered judgement in *Brand v. Hammersmith Railway* (1867) (L.R. 2 Q.B.223 ar. 247, quoted in F. H. Newark, "The Boundaries of Nuisance", 65 L.Q.R. 480.

[92] F. H. Newark, op. cit., at pp. 487-488. For examples of inconsistencies in Mauritius, see also Etienne Sinatambou, "The Approach of Mixed Legal Systems: The Case of Mauritius", in Michael Bowman and Alan Boyle, *Environmental Damage in International and Comparative Law: Problem of Definition and Evaluation* (2002) (hereafter Bowman and Boyle), p. 271, at pp. 272-273.

[93] [1976] A.C.617 (P.C.). Lord Reid at p. 640 noted:

"It could not be right to discriminate between different cases of nuisance so as to make foreseeability a necessary element of determining damages in those cases where it is a necessary element in determining liability, but not in others. So the choice is between it being a necessary element in all cases of nuisance or in none. In their Lordships' judgement the similarities between nuisance and other forms of tort to which *The Wagon Mound (No. 1) [see Overseas Tankship (UK) Ltd v. Morts Dock and Engineering Co. Ltd, The Wagon Mound* [1961] 1 All ER 404, [1961] AC 388] applies far outweigh any differences, and they must therefore hold that the judgement appealed from is wrong on this branch of the case. It is not sufficient that the injury suffered by the respondents' vessels was the direct result of the nuisance if that injury was in the relevant sense of unforeseeable."

Privy Council noted that the liability of nuisance was limited, just like in negligence, to foreseeable consequences alone. On this basis, Fleming asserts that "it would seem to follow that one cannot be liable for nuisance at all unless and until some injury is foreseeable".[94] This point was confirmed by the House of Lords in *Cambridge Water Co. v. Eastern Counties Leather PLC*. Lord Goff noted that "foreseeability of harm is indeed a prerequisite of the recovery of private nuisance, as in the case of public nuisance … It is unnecessary in the present case to consider the precise nature of this principle; but it appears from Lord Reid's statement of the law [in *Wagon Mound (No. 2)*] that he regarded it essentially as one relating to remoteness of damage."[95]

(d) Judicial interpretation and hazardous activities

56. The fourth factor has been the imaginative recourse of the law in employing old techniques to solve problems that were previously not known or contemplated. Strict liability in the case of abnormally dangerous activities and objects is a comparatively new concept. The leading decision which has influenced domestic law, particularly in the United Kingdom and the United States, and has its origins in the law of nuisance, was rendered in 1868 in *Rylands v. Fletcher*.[96] Justice Blackburn, in the Exchequer Chamber, had this to say:

> "We think that the true rule of law is that the person who, for his own purposes, brings on his land and collects and keeps there anything likely to do mischief if it escapes, must keep it at his peril, and if he does not do so, is prima facie answerable for all the damage which is the natural consequence of its escape".[97]

57. This broad language was later limited by the House of Lords, which stated that the principle applied only to a "non-natural" use of the defendant's lands, as distinguished from "any purpose for which it might in the ordinary course of the enjoyment of land be used".[98] Numerous subsequent decisions by English courts have followed the ruling in this case, and strict liability has been confined to things or activities that are "extraordinary", "exceptional" or "abnormal", to the exclusion of those that are "usual and normal".[99] This doctrine does not appear to be applicable to the ordinary use of land or to such use as is proper for the benefit of the general community. It must be some special use bringing with it increased danger to others.[100] In determining what is a "non-natural use", the English courts appear to have looked not only to the character of the thing or activity in question, but also to the place and manner in which it is maintained and its relation to its surroundings. In other words, the defendant would be liable when he causes damage

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[94] Fleming, p. 428.

[95] 1994, 1 All E.R.53, at p. 72.

[96] *The Law Reports, Court of Exchequer*, vol. I, 1866, p. 265, affd. in *Rylands v. Fletcher, House of Lords*, vol. 3, 1868, p. 330. In regard to the implications for United States law, see Prosser, op. cit., note 20, pp. 545-559. See also Anderson, "The *Rylands v. Fletcher* doctrine in America: abnormally dangerous, ultrahazardous, or absolute nuisance?" *Arizona State Law Journal*, 1978, p. 99.

[97] *The Law Reports, Court of Exchequer*, vol. I, 1866, 265, at pp. 279-280.

[98] *The Law Reports, English and Irish Appeal Cases before the House of Lords*, vol. III, 1868, p. 330, at 338.

[99] Prosser, p. 546, and footnotes 6, 7, 8 and 9.

[100] See Prosser, p. 548.

to another by a thing or activity which is unduly dangerous and inappropriate to the place where it is maintained, in the light of the character of that place and its surroundings.[101]

58. The House of Lords, in *Cambridge Water Co. v. Eastern Counties Leather PLC*,[102] has revisited the rule in *Rylands v. Fletcher* and has questioned whether indeed it sought to establish new law or was only a statement of the law existing at the time and whether it could be applied in the absence of foreseeability of the harm resulting from the actions of the defendant. Analysing the judgement of Justice Blackburn, Lord Goff observed concerning the former question that:

> "as is apparent from his judgement, he was concerned in particular with the situation where the defendant collects things upon the land which are likely to do mischief if they escape, in which event the defendant will be strictly liable for damage resulting from any such escape."[103]

59. And he concluded:

> "It follows that the essential basis of liability was the collection by the defendant of such things upon his land; and the consequence was a strict liability in the event of damage caused by their escape, even if the escape was an isolated event. Seen in its context, there is no reason to suppose that Blackburn J. intended to create a liability any more strict than that created by the law of nuisance; but even so he must have intended that, in the circumstances specified by him, there should be liability for damage resulting from an isolated escape."[104]

60. Further, Lord Goff observed that the *Rylands* rule applied: where there was a non-natural use, the defendant would be liable for harm caused to the plaintiff by the escape, notwithstanding that he had exercised all reasonable care and skill to prevent the escape from occurring.[105]

61. Concerning the relevance of foreseeability of damage in the *Rylands* rule, Lord Goff recalled that Justice Blackburn had spoken of "'anything *likely* to do mischief if it escapes'", "of something 'which he *knows* to be mischievous if it gets on to his neighbour's [property]', and the liability to 'answer for the natural *and anticipated*

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[101] W. T. S. Stallybrass, "Dangerous things and the non-natural use of land", *3 Cambridge Law Journal*, 1929, p. 387. See also The Law Commission, *Civil Liability for Dangerous Things and Activities*, London, 1970. In Rickards v. Lothian [1913] A.C. 263 at 280, Lord Moulton noted of the *Rylands* rule:

> "It is not every use to which land is put that brings into play that principle. It must be some special use bringing with it increased danger to others and must not merely be the ordinary use of the land or such a use as is proper for the general benefit of the community."

In *Cambridge Water Co. v. Eastern Counties Leather PLC*, 1994, 1 All E.R.53, Lord Goff felt that "community" referred to local community rather than the community at large.

However, in *Ellison v. Ministry of Defence* (1996) 81 B.L.R.108, Bowsher J. considered a use to be natural since it was for the benefit of the "national community as a whole".

See generally Elspeth Reid, "Liability for Dangerous Activities: A Comparative Analysis", *48 I.C.L.Q.* (1999) 731.

[102] 1994, 1 All E.R.53.

[103] Ibid., p. 70.

[104] Ibid.

[105] Ibid., p. 71.

consequences'",[106] as well as the stress placed on strict liability imposed on the defendant. Lord Goff concluded thus:

> "The general tenor of [Justice Blackburn's] statement of principle is therefore that knowledge, or at least foreseeability of the risk, is a prerequisite of the recovery of damages under the principle; but that the principle is one of strict liability in the sense that the defendant may be held liable notwithstanding that he has exercised all due care to prevent the escape from occurring."[107]

62. Further, it was noted that the "historical connection with the law of nuisance must now be regarded as pointing towards the conclusion that foreseeability of damage is a prerequisite of the recovery of damages under the rule".[108]

63. *Cambridge Water Co. v. Eastern Counties Leather PLC* also sought to establish whether instead of *Rylands v. Fletcher* being considered simply as an extension of the law of nuisance it could be treated as a "developing principle of strict liability from which can be derived a general rule of strict liability for damage caused by ultrahazardous operations, on the basis of which persons conducting such operations may properly be held strictly liable for the extraordinary risk to others involved in such operations".[109]

64. In that regard, Lord Goff noted that such a possibility would entail liability to all persons suffering injury as a result of hazardous operations. However, by relying on an earlier judgement in *Read v. J. Lyons and Co. Ltd*,[110] which decided that the *Rylands v. Fletcher* rule did not apply to personal injury, the House of Lords discounted such a possibility. Moreover, it was noted that it was not the role of the courts to proceed "down the path of developing general theory", but of Parliament.[111]

65. In Australia, the High Court has taken the matter a step further. In *Burnie Port Authority v. General Jones Pty. Ltd*,[112] the Court noted that the "rule in *Rylands v.*

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[106] Ibid. Emphasis in original.

[107] Ibid., at p. 73.

[108] Ibid., at p. 75.

[109] Ibid.

[110] [1945] AC156. The House of Lords halted the expansion of the doctrine of *Rylands v. Fletcher* in *Read v. J. Lyons and Co. Ltd*, in which the plaintiff, a government inspector, had been injured by an explosion in the defendant's munitions plant. The judges in this case limited the principle of strict liability to cases in which there had been an *escape* of a dangerous substance from land under the control of the defendant, and two other judges held that the principle was not applicable to *personal injury*. Fleming at 341 notes that "the most damaging effect of the decision in *Read v. Lyons* is that it prematurely stunted the development of a general theory of strict liability for ultra-hazardous activities".

[111] [1994], 1 All E.R.53 at 77. He referred to the report of the Law Commission on *Civil Liability for Dangerous Things and Activities* (Law Com. 32) 1970 in which serious misgivings were expressed about the adoption of any test for the application of strict liability involving a general concept of "especially dangerous" or "ultra-hazardous" activity having regard to the uncertainties and practical difficulties of its application, and said that the Courts should be even more reluctant.

[112] 1994, 120 A.L.R. 42 (Austl). It was noted at p. 54:

> "Obviously, the question whether there has been a non-natural use in a particular case is a mixed question of fact and law which involves both ascertainment and assessment of relevant facts and identification of the content of the legal concept of a 'non-natural' use. Indeed, it is one of those questions which may be misleadingly converted into a pure question of fact or a pure question of law by an unexpressed

Fletcher, with all its difficulties, uncertainties, qualifications and exceptions, should now be seen, for the purposes of the common law of this country, as absorbed by the principles of ordinary negligence".[113] In Scotland, the application of *Rylands v. Fletcher* has been described by the House of Lords in *RHM Bakeries v. Strathcylde Regional Council* as "a heresy which ought to be extirpated", preferring to determine liability for dangerous activities in the general framework of delictual liability on the basis of fault.[114] In South Africa, despite the earlier application of the *Rylands v. Fletcher* rule, liability is now based on fault.[115] In Kenya, strict liability has also been applied mainly in cases involving fires. In *Muhoroni v. Chemoros Ltd*, the Court relied on *Rylands v. Fletcher* to hold the defendant liable for a fire which spread into and destroyed the sugar plantation of the plaintiff.[116] In Canada, *Rylands v. Fletcher* "is not dead, but alive and well".[117] Courts in Canada are concerned with more than "non-natural use, mischief and escape as outlined in *Rylands v. Fletcher*".[118] The rule has been applied to cases involving personal injuries, without limitation to actions between adjoining landowners.[119] It has also been applied to situations of "increased danger and ultrahazardous activities".[120]

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assumption that either the precise content of applicable legal concepts or the relevant facts and factual conclusions are manifest and certain. Be that as it may, and regardless of whether one emphasizes the legal or factual aspect of the question of non-natural use, the introduction of the descriptions 'special' and 'not ordinary' as alternatives to 'non-natural', without any identification of a standard or norm, goes a long way towards depriving the requirement of 'non-natural use' of objective content [the footnote refers to *Webber v. Hazelwood* (1934) 34 SR (NSW) 155, 159 per Jordan CJ: 'the adjectives which have been used in this connection do not of themselves supply a solution']. In *Read v. J. Lyons & Co. Ltd*, Lord Porter referred [at p. 176; there is also a reference to a passage in *Cambridge Water* now reported at p. 308] to a possible future need 'to lay down principles' for determining whether the twin requirements of 'something which is dangerous' and 'non-natural use' have been satisfied. We are unable to extract any such principles from the decided cases. Indeed, if the rule in *Rylands v. Fletcher* is regarded as constituting a discrete area of the law of torts, it seems to us that the effect of past cases is that no such principles exist. In the absence of such principles, those twin requirements compound the other difficulties about the content of the 'rule' to such an extent that there is quite unacceptable uncertainty about the circumstances which give rise to its so-called 'strict liability'. The result is that the practical application of the rule in a case involving damage caused by the escape of a substance is likely to degenerate into an essentially unprincipled and ad hoc subjective determination of whether the particular facts of the case fall within undefined notions of what is 'special' or 'not ordinary'."

[113] Ibid., at pp. 67-68. The Court determined that "Blackburn J.'s 'which he knows to be mischievous' qualification has been refined into an objective test which is (at the least) a close equivalent of foreseeability of damage of the relevant kind"; ibid., at p. 58.

[114] 1985 S.C.(H.L)17, Lord Fraser, at p. 41.

[115] The Privy Council applied the rule in *Eastern and South Africa Telegraph Co. Ltd v. Cape Town Tramways Co. Ltd* [1902]A.C.381. See Elspeth Reid, op. cit, note 101.

[116] Laurence Juma, "Environmental Protection in Kenya: Will the Environmental Management and Coordination Act (1999) make a Difference?" *9 SC Envtl. L.J.* (2000-2002), 1903.

[117] Allen M. Linden, "Canada", in Sophie Stijns (ed.) and Roger Blanpain (General Ed.), *International Encyclopaedia of Laws, Tort Law*, Kluwer Law International, 2002, at p. 152, para. 395.

[118] Ibid., p. 161, para. 413.

[119] Ibid., pp. 157-158, paras. 408-409, quoting *Hale v. Jennings Brothers* [1938]1 All E.R.579 (C.A). See also *Aldrige and O'Brien v. Patter, Martin, and Western Fair Association*, [1952] O.R. 595, a judgement delivered after *Read v. Lyons*.

[120] Ibid., p. 161, para. 413.

66. In 2003, the House of Lords had the occasion to revisit *Rylands v. Fletcher* yet again in *Transco plc (formerly BG plc and BG Transco plc) v. Stockport Metropolitan Borough Council*.[121] The defendant in this case was the owner of a housing estate comprising a mixture of semi-detached houses and tower blocks of flats standing on a low escarpment from which the land sloped down to a country park. The estate and the park were separated by the bed of a disused branch railway with cuttings and embankments constructed across. Transco owned a 16-inch high-pressure steel gas main which lay beneath the surface of the old railway and had an easement to maintain its pipe in the soil of the railway bed. In the summer of 1992, a leak developed in a high-pressure pipe belonging to the Council which supplied water to a tower block on the estate. Although it was quickly repaired, some water escaped in considerable quantities, saturating the embankment and causing it to collapse, leaving Transco's gas main unsupported and depositing debris onto the nearby golf club. The possibility of a fracture in the unsupported gas pipe was obviously hazardous and Transco quickly took steps to repair the damage. The cost of the works required to restore support and cover the pipe was £93,681. Transco and the golf club sued the Council. The Court of Appeal overturned the ruling of the judge at first instance, which found that the Council's use was not an ordinary use of land and therefore strictly liable under the rule in *Rylands v. Fletcher*. Transco appealed to the House of Lords. Dismissing the appeal, the House of Lords held that the rule in *Rylands v. Fletcher* was applicable where the use of land was extraordinary. Applying contemporary standards of use, it found that the Council had not brought onto its land something likely to cause danger or mischief if it escaped. The piping of a water supply was an ordinary use of its land.

67. Their lordships acknowledged that the scope of operation of the rule had been restricted by the growth of statutory regulation of hazardous activities and the continuing development of the law of negligence. They considered the strength of the various arguments against retention of the rule but did not "think it would be consistent with the judicial function" of the House "to abolish the rule". Doing so was "too radical a step to take". It however considered it appropriate to "introduce greater certainty into the concept of natural user". Lord Bingham encapsulated the rule as follows:

> "I think it clear that ordinary user is a preferable test to natural user, making it clear that the rule in *Rylands v. Fletcher* is engaged only where the defendant's use is shown to be extraordinary and unusual. This is not a test to be inflexibly applied: a use may be extraordinary and unusual at one time or in one place but not so at another time or in another place (although I would question whether, even in wartime, the manufacture of explosives could ever be regarded as an ordinary user of land, as contemplated by Viscount Simon, Lord Macmillan, Lord Porter and Lord Uthwatt in *Read v. J. Lyons & Co. Ltd* [1947] AC 156, 169-170, 174, 176-177, 186-187). I also doubt whether a test of reasonable user is helpful, since a user may well be quite out of the ordinary but not unreasonable, as was that of *Rylands*, Rainham Chemical Works or the tannery in *Cambridge Water*. Again, as it seems to me, the question is whether the defendant has done something which he recognizes, or ought to recognize, as being quite out of the ordinary in the place and at the time when he does it. In answering that question, I respectfully think that little help is gained (and

[121] [2003] UKHL 61.

unnecessary confusion perhaps caused) by considering whether the use is proper for the general benefit of the community. In *Rickards v. Lothian* itself, the claim arose because the outflow from a wash-basin on the top floor of premises was maliciously blocked and the tap left running, with the result that damage was caused to stock on a floor below: not surprisingly, the provision of a domestic water supply to the premises was held to be a wholly ordinary use of the land. *An occupier of land who can show that another occupier of land has brought or kept on his land an exceptionally dangerous or mischievous thing in extraordinary or unusual circumstances is in my opinion entitled to recover compensation from that occupier for any damage caused to his property interest by the escape of that thing, subject to defences of Act of God or of a stranger, without the need to prove negligence.*"[122]

68. In the United States, the *Rylands v. Fletcher* precedent was followed by a number of courts, but rejected by others, among them the courts of New York, New Hampshire and New Jersey. Since the cases before the latter courts bore on customary, natural uses "to which the English courts would certainly never have applied the rule", it has been contended that the *Rylands v. Fletcher* rule had been "misstated" and, as such, must be "rejected in cases in which it had no proper application in the first place".[123]

(e) Codification in respect of hazardous activities

69. The *American Restatement of the Law of Torts*, established by the American Law Institute,[124] adopted the principle in *Rylands v. Fletcher*, but initially confined its application to ultra-hazardous activities of the defendant. Ultra-hazardous activities were defined as those that (a) necessarily involved a risk of serious harm to the person, land or chattels of others which could not be eliminated by the exercise of the utmost care and (b) were not a matter of common usage.[125] A revision of the *Restatement*, replaced "ultra-hazardous" activity with "abnormally dangerous activities". Section 520 enumerates factors to be considered in determining whether an activity is abnormally dangerous:[126]

"(a) Existence of a high degree of risk of some harm to the person, land or chattels of others;

(b) Likelihood that the harm that results from it will be great;

(c) Impossibility of eliminating the risk by the exercise of reasonable care;

(d) Extent to which the activity is not one of common usage;

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[122] Ibid., para. 11. Emphasis added.

[123] Prosser, *Selected Topics* ..., pp. 149-152.

[124] See American Law Institute, *American Restatement of the Law of Torts* (Washington, D.C., 1938), vol. III, chap. 21, sects. 524-529.

[125] Prosser, p. 551.

[126] "[A]bnormally dangerous" activities are described as dangers that "arise from activities that are in themselves unusual, or from unusual risks created by more usual activities under particular circumstances". *Bella v. Aurora Air*, 566 P.2d 489 (Or.1977), examined the concept of "abnormally dangerous", which could be found when "the harm threatened by the activity is very serious even [with] a low probability of its occurrence", or even where the risk is moderate if the activity could be carried on "only with a substantially uncontrollable likelihood that the damage will sometimes occur".

(e) Inappropriateness of the activity to the place where it is carried on;

(f) Extent to which its value to the community is outweighed by its dangerous attributes."

70. This definition has been criticized on the grounds that it is narrower than the ruling in the *Rylands v. Fletcher* case and for its emphasis on the nature of the activity — "extreme danger and impossibility of eliminating it with all possible care" — rather than on its relation to its surroundings.[127] Some commentators have suggested that the addition of the six factors, particularly "inappropriateness of the activity to the place where it is carried on", has brought the formulation closer to the original approach in *Rylands v. Fletcher* as enunciated by the House of Lords.[128] At the same time, the *Restatement* is broader than the ruling in the case, for it does not limit the concept to cases where the material "escapes" from the defendant's land or focus on "non-natural use" only.[129] Prosser notes that "when a court applies all the factors suggested in the *Second Restatement* it is doing virtually the same thing as is done with the negligence concept, except that it is the function of the Court to apply the abnormally dangerous concept to the facts as found by the jury."[130] Strict liability is now generally applied in relation to "abnormally dangerous"[131] activities.

71. The rule of strict liability for ultra-hazardous activities appears to be provided for in article 1384, sub. 1, of the French Civil Code,[132] which stipulates:

"A person [is] liable not only for the damage he causes by his own act, but also for that caused by the acts of persons for whom he is responsible or by things that he has under his charge."

72. Under the rules laid down by that article and first confirmed by the Cour de Cassation in June 1896, it suffices that the plaintiff show that he has suffered damage from an inanimate object in the defendant's keeping for liability to be established.[133] All physical things fall under the article except those that are

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[127] See Prosser, *Selected Topics* ..., p. 158.

[128] Jon G. Anderson, "Comment, The Rylands v. Fletcher Doctrine in America: Abnormally Dangerous, Ultrahazardous or Absolute Nuisance?", *Ariz. St. L. J.* (1978), 99.

[129] J. W. Looney, "Rylands v. Fletcher Revisited: A Comparison of English, Australian and American Approaches to Common Law Liability for Dangerous Agricultural Activities", *1 Drake Journal of Agricultural Law*, 1996, at p. 14.

[130] Prosser, p. 555.

[131] Those with inherent risks that cannot be eliminated by the exercise of reasonable care; Fleming, p. 330.

[132] See H. and L. Mazeaud, *Traité théorique et pratique de la responsabilité civile délictuelle et contractuelle*, vol. II, 5th ed., established by A. Tunc (Paris, Montchrestien, 1958), p. 342; A. von Mehren and J. R. Gordley, *The Civil Law System*, 2nd ed. (Boston, Mass., Brown Little, 1977), p. 555; F. H. Lawson, *Negligence in the Civil Law* (Oxford, Clarendon Press, 1950), pp. 46-50; Ro Dodière, "Responsabilité civile et risque atomique *Revue internationale de droit comparé*, Paris, 11th year, 1959, p. 505; B. Starck, "The foundation of delictual liability in contemporary French law: an evaluation and a proposal", *48 Tulane Law Review*, 1973-1974, pp. 1044-1049.

[133] Civ., 16 June 1896 (*Arrêt Teffaine*). [1897] *Dalloz* (D.) 1,433. In this case, the victim died in an explosion of a steamer engine, which occurred because of a latent defect in the machinery. The owner of the steamer was held liable, as "keeper" of the engine, notwithstanding the fact that he did not know and could not know of the existence of the defect. See also *Jand'heur v. Galeries beofortaises* (1930) (Dalloz, *Recueil périodique et critique,* 1930 (Paris), part 1, p. 57). The decision in this case also established a presumption of fault on the part of the person having in his charge the inanimate object that has caused the injury.

expressly covered by special rules, such as animals (article 1385 CC), buildings which are falling in ruins (article 1386 CC), motor vehicles (Law of 5 July 1985). It has been observed that:

> "... a literal interpretation of the article [1384] undoubtedly gives a result comparable to — or rather more far-reaching than — that in Rylands v. Fletcher, for there is nothing in the words of the article to restrict liability to cases where defendant can be proved to have been negligent in the custody of the things, or even to things which are inherently dangerous".[134]

73. Article 1364, sub.1, of the Belgian Civil Code has a similar import as the French equivalent.

74. Moreover, the Conseil d'Etat in France has introduced several forms of strict liability into French administrative law. Since 1944, the Conseil d'Etat has developed a general principle of liability without fault based on the theory of risk.[135] It has imposed risk theory in four categories of activities of the administration: (a) risks for assisting in the public service (similar to workmen's compensation); (b) risks arising from dangerous operations, where a public authority creates "an abnormal risk in the neighbourhood" (*risque anormal du voisinage*); (c) administrative refusal to execute a judicial decision;[136] and (d) State liability arising out of legislation.[137] Strict liability in administrative law has also been justified on the basis of the principle of "equality before public burdens" — (*egalité devant les charges publiques*).[138] The principle here is that what is done in the general interest, even if it is done lawfully, may give rise to compensation if it injures a particular person.[139] Thus, under this principle of "equality before public burdens", whoever suffers from a special and abnormal loss as a result of a lawful act or decision which benefits the community as a whole must be compensated for the loss. Public authorities are held liable for any abnormal inconveniences suffered by persons through public works or as a result of lawful administrative action.[140]

75. In Mauritius, the civil remedies for environmental damage revolve around the notions of *faute*, negligence and imprudence, which do not require proof of duty of

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[134] Lawson, op. cit., note 132, p. 44. For responsibility without fault in French law, see also M. Ancel, "La Responsabilité sans faute en droit français", in *Travaux de l'Association Henri Capitant II* (1947), p. 249.

[135] In ("*Arrêt Cammes*") (*Conseil d'Etat* (CE), 21 June 1895, [1897] Sirey (S) 3, 33, note Hauriou), the CE held that the State was strictly liable for the damage sustained by public agents in the cause of their employment. This was justified under the theory of the "*risque-profit*": whoever benefited from the activity of another must answer for the risks generated by that activity.

[136] In a landmark case (*Couiteas, CE 30 November 1923*), the Conseil d'Etat refused to decide whether the Government was at fault and instead invoked the principle of equality in bearing public burdens.

[137] See the case (*Affaires Etrangère c. Consorts Burgat, CE 29 October 1976*), where a landlord, because of the Government's enactment of diplomatic immunity which applied to her tenant, was deprived of exercising her normal rights as a landlord. See also, L. Naville Brown and John S. Bell, *French Administrative Law*, 4th ed., 1993, pp. 183-191, and F. H. Lawson, and B. S. Markesinis, *Tortious Liability for Unintentional Harm in the Common Law and the Civil Law*, vol. 1, 1982, pp. 146-176.

[138] This principle was expressed by Duguit in his *Traité de Droit Constitution mel* (3rd ed., p. 469), cited in, L. Naville Brown, J. F. Garner and Jean-Michel Galabert, *French Administrative Law*, 1983, p. 121.

[139] Ibid.

[140] Suzanne Galand-Carval, op. cit., note 85, pp. 134-135.

care per se and *garde* under articles 1382 to 1384 of the Civil Code, which bear the same numbers as the French Civil Code.[141]

76. Recognition of the principle of strict liability is also embodied in the 1964 Polish Civil Code, articles 435 to 437, which recognize strict liability for damage caused by ultra-hazardous activities. Article 1318 of the Austrian Civil Code, article 2050 of the Italian Civil Code and articles 1913 and 1932 of the 1928 Mexican Civil Code also recognize strict liability in respect of dangerous activities or things. Articles 345 and 346 of the Civil Code of Hungary pertain to activities of increased danger.

77. Article 1079 of the Russian Civil Code imposes strict liability for damage caused by hazardous activities ("sources of heightened danger"). Thus the conduct of oil and gas exploration and development is deemed a hazardous activity. A defendant charged with strict liability under this provision can escape liability only if it is proved that the damage was caused by the fault of the person who suffered the damage or was caused by an act of God. In Greece, article 29 of Law 1650/1986 provides that "any natural or legal person who causes pollution or other downgrading of the environment is liable in damages. There is no liability if it is proved that the loss was due to force majeure or that the loss was caused by a culpable act of a third party who acted intentionally".[142]

78. The General Principles of Civil law of China provide in article 106 that "civil liability shall still be borne even in the absence of fault if the law [so] stipulates", and in article 124, that "any person who pollutes the environment and causes damage to others in violation of State provisions for environmental protection and prevention of pollution shall bear civil liability in accordance with the law". On the other hand, article 123 provides that "if any person causes damage to other people by engaging in operations that are greatly hazardous to the surroundings, such as operations conducted high above ground or those involving high pressure, high voltage, combustibles, explosives, highly toxic or radioactive substances or high-speed means of transport, he shall bear civil liability; however, if it can be proved that the damage was deliberately caused by the victims, he shall not bear civil liability".

79. With increased attention to the need to protect the environment, the potential use of strict liability rules has become accentuated. In particular, the public was more sensitized to the environmental dangers of oil transportation following the *Torrey Canyon* disaster off the coast of England on 18 March 1967 and subsequently an oil spill in 1969 off the coast of Santa Barbara, California.[143] In the United States, there has been an evolution in policies and the direction of statutes about dealing with environmental problems. The main policy in the 1970s was formed on the expectation that the Government would enact regulatory statutes and would police and enforce such statutes. The activities of those not complying with the regulations would be banned. It was believed that this policy of setting standards and enforcing them would compel industry to correct itself. Subsequently, it was realized that, though threats of Government involvement were important incentives

[141] Etienne Sinatambou, op. cit., note 92, p. 272.

[142] See generally Maria Calliope Canellopoulou-Bottis, "Greece", in Stijns and Blanpain, op. cit., note 117.

[143] Browne Lewis, "It's been 4380 Days and Counting since *Exxon Valdez*: Is it time to change the Oil Pollution Act of 1990?", *Tulane Envtl. L. J.* (2001-2002), 97, at p. 98.

in forcing the industry to correct environmentally unsound activities, they were insufficient by themselves to change the industry's attitude.[144] For one thing, environmental regulations were not comprehensive enough. The Government could not identify all the environmental problems, develop regulations and provide technologically workable and politically viable solutions.[145] For another, even with the substantial size of enforcement agencies for environmental regulations, the United States Government could not effectively monitor and enforce environmental regulations.[146] Moreover, such a policy would not be economically most efficient or creative. Consequently attention was drawn towards enacting statutes which were "self-executing", creating incentives for private parties to play an important role in implementing environmental law.

80. This new policy led to the enactment of a number of important federal statutes, including the Federal Water Pollution Control Act (FWPCA) (Clean Water Act),[147] the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)[148] and the Oil Pollution Act of 1990 (OPA).[149] The effect "of these new, liability-based statutes is to assign much of the responsibility for planning for a dangerous and uncertain environmental future to that segment of

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[144] Many American scholars argued that the policy of regulatory mechanism as the main instrument in pollution control is misguided. See for example Ackerman and Stewart, "Reforming Environmental Law", *37 Stan. L. Rev*. (1985), p. 1333; Breyer, "Analyzing Regulatory Failure: Mismatches, Less Restrictive Alternatives, and Reform", *92 Harv. L. Rev*. (1979), p. 547; and Hahn and Hester, "Marketable Permits: Lessons for Theory and Practice", *16 Ecology L. Q*. (1989), p. 361.

[145] Babich, "Understanding the New Era in Environmental Law", *41S. Carol. L. R*. (1990), p. 736.

[146] Ibid., pp. 734 and 736.

[147] The original Water Pollution Control Act of 1948 (Ch.758; Pub.L.845) has been amended extensively, with major amendments in 1961 (Federal Water Pollution Control Act Amendments (Pub.L. No. 87-88; 75 Stat.204)); 1966 (Clean Water Restoration Act (Pub.L. No. 89-753; 80 Stat.1246)); 1970 (Water Quality Improvement Act (Pub.L. No. 91-224; 84 Stat.91)); 1972 (Federal Water Pollution Control Act Amendments (Pub.L. No. 92-500; 86 Stat.816)); 1977 (Clean Water Act (Pub.L. No. 95-217; 91 Stat.1566)); and 1987 (Water Quality Act (Pub. Law 100-4; 101 Stat.7)).

[148] Pub. L. No. 97-510, 96th Cong., 2nd Sess. (11 December 1980), 26 U.S.C. Section 4611-4682; Pub. L. 96-510; 94 Stat.2797). The "Superfund" Statute was enacted in 1980, with major amendments in 1983 (42 U.S.C. 9601-9657, Pub. L. 98-802; 97 Stat.485) and in 1986 (the Superfund Amendment and Reauthorization Act (SARA), Pub. L.99-499; 100 Stat.1613). SARA amended CERCLA and created the Emergency Planning and Community Right-to-Know Act (EPCRA or SARA Title III). For the history of the statute, see A.R. Light, *CERCLA Law and Procedure*, 1991; Grad, "A Legislative History of the Comprehensive Environmental Response, Compensation and Liability (Superfund) Act of 1980", *8 Colum. J. Envtl. Law* (1982), p. 1; and A. J. Topol and R. Snow, *Superfund Law and Procedure*, 1992. Congress subsequently amended CERCLA in 1996 (Asset Conservation, Lender, Liability, and Deposit Insurance Protection Act, Pub.L No. 104-208; Stat.3009-3462) and in 2000 (Section 127 to CERCLA pursuant to the Superfund Recycling Equity Act as a rider to H.R. 3194, the Consolidated Appropriation Act (Pub.L. No.106-113 Stat.1501A-598).

[149] Pub. L. No. 101-380, 104 Stat. 484 (Aug. 18, 1990), or 33 U.S.C.A. Sections 2701 et seq. For writings on that statute, see Randle, "The Oil Pollution Act of 1990: Its Provisions, Intent, and Effects", *ELR*, March (1991), p. 10119; Rodriguez and Jaffe, "The Oil Pollution Act of 1990", *Tul. Mar. L. J*., vol. 15, 1990, p. 1, and J. Strohmeyer, *Extreme Conditions: Big Oil and the Transformation of Alaska*, 1993.

society most capable of finding innovative and efficient solutions: the private sector".[150]

81. These federal statutes have the following common characteristics: They:

(a) Impose strict liability with only limited defence available on persons made legally responsible for pollution from oil and other hazardous substances[151] for:

(i) Removal and clean-up costs, and

(ii) Damages for injury to or destruction of natural resources, private property and other economic interests of governmental and private parties;

(b) Limit the maximum amount of liability of the responsible party and enumerate the circumstances where limitation of liability is not available;

(c) Impose a duty on those who may be held liable to prove financial responsibility such as insurance or other financial guarantees; and

(d) Establish various governmentally administered "funds" to pay removal costs and damages when the party liable is not making payments.[152]

82. The FWPCA (Clean Water Act) prohibits the discharge of oil or hazardous substances "(i) into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone", and any person who is the owner, operator or person in charge of any vessel, onshore facility, or offshore facility from which oil or a hazardous substance is discharged in violation of the provision is subject to a civil penalty.

83. Under the terms of section 311 (a) (6), "owner or operator" means, in the case of a vessel, any person owning, operating, or chartering by demise, such vessel; and in the case of an onshore facility, as well as an offshore facility, any person owning or operating such onshore facility or offshore facility; and in the case of any abandoned offshore facility, the person who owned or operated such facility immediately prior to such abandonment.

84. CERCLA applies to all hazardous substances other than oil. The liability regime established under CERCLA is strict, joint and several.[153] It applies to vessels and onshore and offshore facilities from which hazardous substances have been released.

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[150] Babich, op. cit., p. 735. Not all members of the United States Congress considered the new era of legislative trends a success. See "Domenici Declares Superfund 'Failure', Suggests Revamped Liability Scheme", *Inside E.P.A.*, vol. 10, Sept. 22, 1989, p. 4.

[151] For OPA, see section 2710 (b); for CERCLA, see section 9707 (e) (i) and for FWPCA, see section 1321 (f).

[152] See Robert Force, "Insurance and Liability for Pollution in the United States", in Ralph P. Kröner (ed.), *Transnational Environmental Liability and Insurance*, 1993, p. 22. See also William H. Rodgers, *Environmental Law*, 1994, 2nd ed. p. 685.

[153] 42 U.S.C. Section 9601(8). CERCLA does not expressly impose strict liability. It does so by cross reference. In its definition section, it provides that "liable" and "liability" shall be construed as the standard of liability under section 1321 of Title 33 (i.e., Section 311 of the Clean Air Act). Federal Courts have interpreted section 311 as imposing "strict liability" (e.g., *United States v. LeBeouf Bros. Towing Co.*, 621 F.2d 787, 789 (5th Cir.1980)) and that CERCLA also imposes "strict liability" (e.g., *United States v. Alcan Aluminium Corp.*, 964 F.2d 252, 259-63 (3d Cir.1992)). See generally MacAyeal, op. cit., note 14.

85. Section 9607 of CERCLA provides:

> "Notwithstanding any other provision or rule of law, and subject only to the defences set forth in subsection (b) of this section:
>
> (1) The owner and operator of a vessel or a facility,
>
> (2) Any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
>
> (3) Any person who by contract, agreement or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility or incineration vessel owned or operated by another party or entity and containing such hazardous substances, and
>
> (4) Any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, incineration vessels or sites selected by such person, from which there is a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance,
>
> shall be liable for:
>
> (A) All costs of removal or remedial action incurred by the United States Government or a state or an Indian tribe not inconsistent with the national contingency plan;
>
> (B) Any other necessary costs of response incurred by any other person consistent with the national contingency plan;
>
> (C) Damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction or loss resulting from such a release; and
>
> (D) The costs of any health assessment or health effects study carried out under section 9604 (i) of this title".

86. The scheme of liability is outlined in section 107 of the Superfund Act and financial responsibility for clean-up is outlined in section 108. It provides compelling incentives for quick response to directives for removal or remedial action in section 107 (c) (3) by imposing punitive damages. The section reads:

> "If any person who is liable for a release or threat of release of a hazardous substance fails without sufficient cause to properly provide removal or remedial action upon order of the President pursuant to section 104 or 106 of this Act, such person may be liable to the United States for punitive damages in an amount at least equal to, and not more than three times, the amount of any costs incurred by the Fund as a result of such failure to take proper action. The President is authorized to commence a civil action against any such person to recover the punitive damages, which shall be in addition to any costs recovered from such person pursuant to section 112 (c) of the Act. Any money

received by the United States pursuant to this subsection shall be deposited in the Fund."[154]

87. Recognizing the conflicts and deficiencies in the laws existing, the United States Congress had already been working on legislation on oil pollution since 1980. The *Exxon Valdez* oil spill[155] in 1989, however, substantially affected the substance of the Oil Pollution Act of 1990. A significant portion of the Oil Pollution Act of 1990 is devoted to a liability regime roughly comparable to the one imposed on responsible parties who release hazardous substances under CERCLA. Section 2702 (a) introduces the general theory of liability of the Act:

> "Notwithstanding any other provision or rule of law, ... each responsible party for a vessel or a facility from which oil is discharged, or which poses the substantial threat of a discharge of oil, into or upon the navigable waters or adjoining shorelines or the exclusive economic zone is liable for the removal costs and damages as specified in subsection (b) that result from that incident."[156]

88. The Act defines "incident" as "any occurrence or series of occurrences having the same origin, involving one or more vessels, facilities, or any combination thereof, resulting in the discharge or substantial threat of discharge of oil".[157] The term "discharge" is defined as "any emission ... and includes, but is not limited to, spilling, leaking, pumping, pouring, emitting, emptying, or dumping". The term "facilities" is defined as any "structure or group of structures of equipment, or device which is used for one or more of the following purposes: transferring, processing, or transporting oil". The term "vessel" is defined broadly to include "every description of watercraft or other artificial contrivance used or capable of being used, as a means of transportation on water, other than a public vessel". And a "public vessel" is defined as a vessel owned or bareboat chartered and operated by the United States or by a foreign nation, except when the vessel is engaged in commerce.

89. Also of relevance is the Solid Waste Disposal Act first enacted in 1965. It has since gone through a number of changes and amendments, so much so that it is now commonly known as the Resource Conservation and Recovery Act of 1976 (RCRA).[158] It provides the United States Environmental Protection Agency (EPA) with the authority to control hazardous waste from "cradle to grave" (generation, transportation, treatment, storage and disposal), focusing on active and future facilities, but does not address abandoned or historical sites. The Amendments of

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[154] Superfund Act, pp. 2782-2783.

[155] The *Exxon Valdez* has been referred to as the "Pearl Harbour" of United States environmental disasters. See Randle, "The Oil Pollution Act of 1990: Its Provisions, Intent, and Effects", *E.L.R.* vol. 21, p. 10119, March 1991; Rodriguez and Jaffe, "The Oil Pollution Act of 1990", *15 Tul. Mar. L. J.* (1990), p. 1.

[156] 33 U.S.C.

[157] Section 2701 (14) of the Act.

[158] See also Resource Recovery Act of 1970 (Pub.L. 91-512); Used Oil Recycling Act of 1980 (Pub. L. 96-463); Solid Waste Disposal Act Amendments of 1980 (Pub.L. 96-482); Hazardous and Solid Waste Amendments of 984 (HSWA) (Pub. L. 98-616); Medical Waste Tracking Act of 1988 (Pub. L.100-582); Federal Facility Compliance Act of 1992 (Pub.L. 102-386); Land Disposal Program Flexibility Act of 1996 (Pub. L. 104-119). See also Rodgers, op. cit., p.534.

1986 enable EPA to deal with environmental problems resulting from underground tanks storing petroleum and other hazardous substances.[159]

90. The earlier amendments of 1984 (Hazardous and Solid Waste Amendment (HSWA)) required the phasing out of land disposal of hazardous waste. The criterion in the Act is not "unreasonable risk" used in earlier environmental legislation, but "[protection of] human health and the environment", a standard which appears "on 50 occasions throughout the Act".[160] It is recognized that the disposal of solid waste and hazardous waste in or on the land without careful planning and management can present a danger to human health and the environment. The 1984 amendments also expanded the definition of solid waste, identified administrative standards as the minimum that could only be improved upon and provided administrative reform within EPA by establishing an ombudsman.[161] Section 6917 of the Amendment established an Office of Ombudsman to receive individual complaints, grievances and requests for information submitted by any person with respect to any programme required under the relevant provisions of the Act.[162]

91. The amendments of 1992 (Federal Facility Compliance Act) resolved the question whether federal facilities were subject to enforcement measures under RCRA. They removed the Government's sovereign immunity from prosecution. Thus, federal facilities, federal departments and agencies may suffer penalties for non-compliance.

92. Other countries have also taken measures to address environmental concerns. In Germany, the Environmental Liability Act (ELA), adopted in 1990, provides a civil damages remedy for wrongful death, personal injury or property damage caused by an environmental impact.[163] Under ELA, operators of certain facilities identified in the Act are strictly liable for causing such injuries. ELA increases the risk of liability for all enterprises capable of causing environmental injuries and has extraterritorial reach.[164]

93. ELA is a synthesis of pre-existing civil damage remedies with a broader scope. Section 1 of ELA defines the nature and scope:

> "If anyone suffers death, personal injury or property damage due to an environmental impact emitted from one of the facilities named in appendix 1, then the owner of the facility shall be liable to the injured person for the damages caused thereby."[165]

94. Liability is strict under ELA and the proof of causation suffices to establish liability. A claim under ELA must establish: (a) that the defendant operates a facility named under the Act; (b) that events having an environmental impact were emitted

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[159] Amending Subtitle I of the RCRA through SARA (section 205 of PL. 99-499).

[160] See Rodgers, op. cit., note 152, p. 536.

[161] Ibid., p. 535.

[162] See 42 U.S.C.A. Section 6917, added in 1984.

[163] *Gesetz über die Umwelthaftung* (Environmental Liability Act) enacted on 7 November 1990 and effective as of 1 January 1991. Cited in W. Hoffman, "Germany's New Environmental liability Act: Strict Liability for Facilities Causing Pollution", *Netherlands International Law Review*, vol. 38, 1991, p. 27. The information regarding the German Act is based on this article.

[164] See M. Kloepfer, *Umweltschutz: Textsammlung des Umweltrechts der Bundesrepublik Deutschland*, 1989, cited in Hoffman, op. cit., p. 28, note 2.

[165] Quoted in Hoffman, p. 32.

from that facility; and (c) that environmental impact caused the injury for which a remedy is sought. If there are multiple defendants, their liability is joint and several.[166] The amount of liability under the Act is limited to a maximum of DM 320 million.[167] Liability for personal injury and property damage are fixed at a maximum of DM 160 million each.[168]

95. To remedy the difficulty of proof of causation in respect of damage caused by long-distance pollution, ELA provides for presumption of causation. Section 6 (1) provides that the element of causation will be presumed upon a prima facie showing that the particular facility is "inherently suited" (*geeignet*) to cause the damage.[169] The Act provides defences to the presumption of causation in subsections 2, 3 and 4 of section 6. The defences include a showing by the operator that its facility was "properly operated", meaning that all applicable administrative regulatory instructions aiming at preventing pollution were complied with. Such defences do not absolve the operator of liability if the claimant proves causation.

96. ELA amended the German Civil Procedure to allow actions to be brought in the court district where the facility causing alleged injury is located unless the facility is located beyond the German territorial border. In the latter situation, the claimant can sue in any German court and have ELA apply to the substance of the complaint.[170]

97. In Switzerland, the Federal Law relating to the Protection of the Environment was amended with the addition of articles 59 *a* and *b* on 21 December 1995; the articles entered into force on 1 July 1997. Article 59 *a* concerning liability stipulates:

> "1. The owner of an enterprise or installation which represents a special threat to the environment shall be liable for damage arising from effects occurring when such a threat becomes reality. The actual damage to the environment shall be excluded.
>
> "2. As a rule, the following enterprises and installations shall be regarded as representing a special threat to the environment:
>
> (a) Those which the Federal Council makes subject to article 10[171] on the basis of the substances or organisms used or the wastes produced;
>
> (b) Those which are used for waste disposal;

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[166] Ibid., p. 33.

[167] See section 15 of the Act, quoted in ibid.

[168] Ibid.

[169] Ibid. Section 6 (1) of ELA reads:

> "If a facility is inherently suited under the circumstances to cause the resulting damage, then it shall be presumed that this facility caused the damage. Inherently suitedness in a particular case is determined on the basis of the course of business, the structures used, the nature and concentration of the materials used and released, the weather conditions, the time and place of the commencement of the damage, as well as all other conditions which speak for or against a finding of causation."

Quoted in ibid., p. 35, note 43.

[170] See section 2 of ELA, quoted in ibid., p. 38.

[171] Article 10, para.1, provides in part: "Any person who operates or intends to operate installations which, in exceptional circumstances, could seriously damage persons or the environment shall take steps to protect the populations and the environment …".

(c) Those in which liquids harmful to water are handled;

(d) Those containing substances or organisms for which the Federal Council introduces a licensing requirement or enacts other special regulations.

"3. Anyone who can show that the damage was caused by force majeure or by gross negligence on the part of the injured party or of a third party shall be relieved of liability.

"4. Articles 42 to 47, 49 to 51, 53 and 60 of the Swiss Code of Obligations shall apply.

"5. The reservation in article 3[172] shall apply as regards the provisions on liability in other federal laws.

"6. The Confederation, cantons and communes shall also be liable in accordance with paragraphs 1 to 5."

98. Article 59 *b* concerning guarantee provides:

"For the protection of injured parties, the Federal Council may:

(a) Require owners of certain enterprises or installations to provide a guarantee for their liability by taking out insurance or in some other way;

(b) Set the scope and duration of this guarantee or leave this to the authority to decide on a case-by-case basis;

(c) Require those providing a guarantee for the liability to notify the enforcement authority of the existence, suspension and cessation of the guarantee;

(d) Prescribe that the guarantee shall not be suspended or cease until 60 days after receipt of the notification;

(e) Make provision for the land on which waste disposal sites are situated to become the property of the canton when the site is closed, and enact regulations concerning any compensation."

99. In Hungary, Act LIII of 1995 relating to General Rules of Environmental Protection regulates the general basis of legal liability for the environment. Article 101 provides:

"1. Those posing a hazard to, or polluting or damaging the environment with their activities or omissions, or those performing their activities by violating regulations regarding environmental protection (hereinafter collectively, 'unlawful activity') shall be liable (under criminal law, civil law, administrative law, etc.) in accordance with the contents of this Act and the provisions of separate legal rules.

"2. Those pursuing unlawful activities shall:

(a) Stop posing a hazard to or polluting the environment and shall cease damaging the environment;

[172] Article 3 provides:

"1. Stricter provisions of the Federal law shall not be prejudiced.

"2. Radioactive substances and ionizing rays shall be covered by the legislation on protection against radiation and atomic energy."

(b) Accept responsibility for the damage caused;

(c) Restore the state of the environment existing before the activity.

"3. In case the measure in subsection (2), clause (c), is not taken or is unsuccessful, the authority or court entitled thereto may restrict the activity or may suspend or ban it until the conditions it established are ensured."

100. The Environmental Protection Act 1991 of Mauritius,[173] which establishes a liability and compensatory regime for environmental damage, is primarily intended to cover dangerous activities and oil spills. Spills are defined as the discharge of a pollutant into the environment from or out of a structure, vehicle, vessel, craft or other carrier or container, which (a) is abnormal having regard to all the circumstances of the discharge and (b) poses a serious threat to the environment. The owner of a pollutant which is spilled shall immediately notify the Director of Environment of such a spill, the circumstances thereof and any measures or proposed to be taken as well as practical measures taken to prevent, eliminate and ameliorate the adverse effects of the spill and restore the environment.[174]

101. The Director may recover from the owner of a pollutant which is spilled all costs and expenses incurred as a result of (a) any clean-up or removal operation, (b) any measure taken to prevent, eliminate and ameliorate adverse effects of a spill on the environment and (c) any measure taken to dispose of or to deal with the pollutant.[175]

102. Under section 27, paragraph 1 of the Act, any person affected in any way by a spill has a right to damages. There is a presumption of liability against the owner of the pollutant for any damage caused by a spill. There is also a shift in the burden of proving that the damage was not caused by the pollutant.[176]

103. The Environment Act of 1983 of Turkey[177] provides in article 28:

"Those who pollute and degrade the environment are liable without fault for the damages occurred as a result of pollution and degradation they caused."

104. Article 28 was introduced in an amendment in Act No. 3416 of 3 March 1988. Despite the broad definition of article 28, the plaintiff is required to prove an unlawful act, causality and damage in order to hold the pollutant liable.[178] It does not provide a defence of "due care". This strict liability regime is an exception to the general rule of fault liability in tort law accepted in other areas of Turkish Civil Law.

105. Environmental pollution includes the destruction of the ecological balance, adverse developments produced in the air, water or soil as a result of all kinds of

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[173] Act No. 34 of 1991, as amended by the Environment Protection (Amendment) Act of 1993. See generally Sinatambou, in Bowman and Boyle, pp. 275-279. The information regarding the Mauritian Act is based on this article.

[174] Section 24 (2).

[175] Section 28 (1).

[176] Sinatambou, op. cit., note 92, p. 278.

[177] Cevre Kanunu, No. 2872, *Resmi Gazete* 11 August 1983 (amended in 1984, 1986, 1988, 1990 and 1991). See generally Nukhet Turgut, "Definition and Valuation of Environmental Damage in Turkey", in Bowman and Boyle, pp. 281-296, at pp. 281 and 283). The information regarding the Turkish Act is based on this article.

[178] Ibid., p. 284.

human activities and undesirable consequences occurring in the environment from odours, noise and discharges resulting from such activities.[179]

106. The Environmental Damage Compensation Act of Finland,[180] the Basic Act on the Environment of Portugal,[181] the Compensation for Environmental Damage Act of Denmark,[182] the Act for the Protection of the Environment of Greece,[183] the Environmental Code (Miljöbalken)[184] and the Environmental Damage Act 1986[185] of Sweden are pieces of environmental legislation that are based on strict liability for dangerous activities or installations.[186]

107. Some countries also have in place legislation concerning remediation of soil based on strict liability. These include the Contaminated Soil Act 1999 of Denmark,[187] chapter 12 of the 2000 Environmental Protection Act of Finland,[188] the Federal Soil Protection Act (BSG) of Germany[189] as further implemented by the Soil Protection and Contaminated Land Ordinance (BSV) of 13 July 1999, the Ronchi Decree or Waste Management Act of Italy,[190] the Wastes Law of Spain,[191] and the Soil Contamination Countermeasures Law of Japan.

108. Part IIA of the Environmental Protection Act 1990 of the United Kingdom, concerning contaminated land and abandoned mines,[192] establishes a new contaminated land and liability regime. It seeks to allow the enforcing authorities to establish the "appropriate person" who should bear the responsibility for remediation of contaminated land,[193] and to decide, after consultation, the

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[179] Ibid., p. 283.

[180] Act No. 737/94.

[181] *Lei de Bases do Ambiente* of 7 April 1987.

[182] Act No. 225/94 of 6 April 1994.

[183] Act No. 1650/1986, in *Official Gazette* 160/a of 16 October 1986.

[184] Adopted in June 1998 and entered into force on 1 January 1999.

[185] No. 1650/1986.

[186] For a general description, see generally Chris Clarke, *Updated Comparative Legal Study*, Study Contract No. 201919/Mar/B3.

[187] Act No. 370/99. This is a public and administrative law regime replacing earlier provisions under the Contaminated Sites Act (Act No. 420 of 13 June 1990) (also known as the Waste Deposits Act or the Contaminated Land Act) and the Environmental Protection Act (Act No. 358 of 6 June 1991).

[188] Act No. 86/2000. The Act entered into force on 1 March 2000. It introduces a new public and administrative law regime, replacing and supplementing separate provisions under waste (1993 Waste Act) and water legislation.

[189] The Act was adopted in March 1998. The majority of its provisions became effective on 1 March 1999.

[190] Legislative Decree 22/97 of 5 February 1997. The regime came into force on 16 December 1999 (Ministerial Decree 471/99).

[191] Act No. 10/1998 of April 1998.

[192] In force in England on 1 April 2000 and on 14 July 2000 in Scotland. See generally Chris Clarke, Update Comparative Legal Study, Study Contract No. 201919/Mar/B3. The information regarding the British Act is based on this article. See also Department of Environment Transport and the Regions (DETR) Circular 2/2000, "Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990".

[193] Section 78 A (2) defines contaminated land for the purposes of Part IIA as:

> "Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that:
>
> (a) Significant harm is being caused or there is a significant possibility of such harm being caused; or
>
> (b) Pollution of controlled waters is being, or is likely to be, caused ..."

The Secretary of State may issue a guidance circular for that purpose.

remediation measures to be taken. This is done through agreement with the appropriate person, through the service of a remediation notice or through clean-up by the authorities themselves. The enforcing authorities also determine the proportion and by whom the costs should be borne. A public register on the regulatory actions is also established.

109. The Act imposes strict, retroactive liability on persons who cause or knowingly permit contamination[194] or on current owners or occupiers of sites.[195] It has few defences and a detailed apportionment system which combines elements of joint and several, and proportionate, liability,[196] together with multiple exclusion tests.[197] "Harm" is defined as meaning harm to the health of living organisms or other interference with ecological systems of which they form part and, in the case of man, includes harm to the property.[198]

110. One may not comply with a remediation notice if one of the other recipients has failed to comply with it. The regime includes 19 grounds for appeal[199] and a complex system of exclusions and apportionment rules for the remaining liability parties. Some of the exclusions contain recognizable elements of defences at civil law, such as third-party intervention and foreseeability. Such exclusions are however couched in more restrictive terms. The Act does not specifically mention the defence of force majeure. Permit compliance is not a defence, and any breaches of permits are likely to be subject to criminal prosecution, involving both penalties and more onerous remediation requirements.[200]

111. The Act establishes a general principle that apportionment should reflect the relative responsibility of each liable party for creating or continuing the risk caused by the pollution.

112. The above review of domestic law indicates that strict liability, as a legal concept, now appears to have been accepted by most legal systems. The extent of activities subject to strict liability may differ; in some countries it is more limited

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[194] Section 78 F (2): "… any person, or any of the persons, who caused or knowingly permitted the substances, or any of the substances, by reason of which the contaminated land in question is such land to be in, on or under that land is an appropriate person."

[195] Section 78 F (4) and (5), which provide that:

> "(4) If no person has, after reasonable inquiry, been found who is by virtue of subsection (2) above an appropriate person to bear responsibility for the things which are to be done by way of remediation, the owner or occupier for the time being of the land in question is an appropriate person.
>
> "(5) If, in consequence of subsection (3) above, there are things which are to be done by way of remediation in relation to which no person has, after reasonable inquiry, been found who is an appropriate person by virtue of subsection (2) above, the OWNER or occupier for the time being of the contaminated land in question is an appropriate person in relation to those things."

[196] Section 78 F (6) and (7).

[197] A few details of the regimes, including implementation dates, will vary between the constituent parts of the United Kingdom (England, Scotland, Wales and Northern Ireland), but in most respects they will be very similar.

[198] Section 78 A (4).

[199] These mainly concern failures on the part of the enforcement authorities to act in accordance with the Act or the guidance and regulations, such that the wrong person has been served with a notice, the harm is not sufficient to merit remediation or either the remedial action required or the liability imposed is excessive.

[200] Section 78 M.

than in others. The legal basis for strict liability also varies from "presumed fault" to the notion of "risk", or "dangerous activity involved", etc. However, it is evident that strict liability is a principle common to a sizeable number of countries with different legal systems which have had the common experience of having to regulate activities to which this principle is relevant. While States may differ as to the particular application of this principle, their understanding and formulation of it are substantially similar. Strict liability is also increasingly employed in legislation concerning protection of the environment.

2. International law

113. The introduction and application of the concept of liability in international law, on the other hand, is relatively new and less developed than at domestic law. One reason for this late start may have been that the types of activities leading to transboundary harm are relatively new. Moreover, not many activities conducted within a State have had significant transboundary injurious effects. Of course, the difficulties in accommodating the concept of liability with other well-established concepts of international law, such as domestic jurisdiction and territorial sovereignty, should also not be ignored. In fact, the development of strict liability in domestic law, as explained above, faced similar difficulties. But socio-economic and political necessity in many States led to accommodating this new legal concept with others in ways deemed to serve social policies and public order.

114. The need to develop liability regimes in an international context has been recognized and has found expression in a number of instruments. In principle 22 of the Stockholm Declaration of 1972, a common conviction was expressed that:[201]

> "States shall cooperate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction."

115. Principle 13 of the Rio Declaration of 1992,[202] addresses the national and international contexts by broadly proclaiming:

> "States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction."[203]

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[201] *Report of the United Nations Conference on the Human Environment*, Stockholm, 5-16 June 1972 (United Nations publication, Sales No. E.73.II.A.14).

[202] *Report of the United Nations Conference on Environment and Development*, Rio de Janeiro, 3-14 June 1992 (United Nations publication, Sales No. E.93.I.8 and corrigenda), vol. I: *Resolutions adopted by the Conference*, resolution 1, annex I.

[203] At a meeting convened pursuant to United Nations General Assembly resolution 53/242 of 28 July 1999 to enable the world's environment ministers to review important and emerging environmental issues and to chart the course for the future, it was noted "that the evolving framework of international environmental law and the development of national law provide a sound basis for addressing the major environmental threats of the day. It must be underpinned by a more coherent and coordinated approach among international environmental instruments. We must also recognize the central importance of environmental compliance, enforcement and liability …" *Official Records of the General Assembly, Fifty-fifth Session, Supplement No. 25*

116. These principles, while lacking legally binding force, express the aspirations and preferences of the international community.[204]

(a) Treaty practice

117. Multilateral treaty practice touching on the issue of liability may be divided into three broad categories: first, civil liability conventions addressing the question of liability of operators and in some circumstances of States, in terms of both substantive and procedural rules; secondly, treaties which hold the State directly liable; and thirdly, treaties which make a general reference to liability without specifying any further the substantive or procedural rules related thereto.

118. The first category of multilateral treaties on liability addressing the question of civil liability are primarily concerned with navigation, oil and nuclear material as well as other sectors, including hazardous wastes. One of the very first conventions addressing the liability issue in the area of navigation was the International Convention for the Unification of Certain Rules Relating to the Limitation of the Liability of Owners of Seagoing Vessels of 25 August 1924.[205] This Convention and

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(A/55/25), annex I, decision SS.VI/1, para. 3. See also the 2001 Montevideo Programme III approved and adopted by the Governing Council of the United Nations Environment Programme in its decision 21/23 at its twenty-first session (see ibid., *Fifty-sixth Session, Supplement No. 25*, annex), as well as the Plan of Implementation of the World Summit on Sustainable Development, *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex.

[204] Patricia W. Birnie and E. Boyle, *International Law and the Environment*, 2001, 2nd ed. (hereafter Birnie and Boyle), who note at p. 105 that "[t]hese principles all reflect more recent developments in international law and State practice; their present status as principles of general international law is more questionable; but the evidence of consensus support provided by the Rio Declaration is an important indication of their emerging legal significance".

[205] League of Nations, *Treaty Series*, No. 2763, *vol. CXX*, p. 125. Historically, the statutory right to limit liability in selected circumstances is traced to the seventeenth century. Provisions which allowed shipowners to limit their liability by reference to the value of the ship and freight can be found in the Statutes of Hamburg 1603, the Hanseatic Ordinances 1614 and 1644 and the Marine Ordinance of Louis XIV 1681. In the United Kingdom, following the passing of the Responsibility of Shipowners Act 1733, the right was extended in 1786 to cover the consequences of "any act, matter, or thing, or damage or forfeiture, done or occasioned, or incurred by the said master or mariners, or any of them, without the privity and knowledge of such owner or owners".

In accordance with article 1 of the 1924 Convention, the liability of the *owner* of the vessel is limited to an amount equal to the value of the vessel, the freight, and the accessories of the vessel, in respect of:

"1. Compensation due to third parties by reason of damage caused, whether on land or on water, *by the acts or faults* of the master, crew, pilot, or any other person in the service of the vessel;

"…

"3. Compensation due by reason of a fault of navigation committed in the execution of a contract;"

In accordance with article 2 of the Convention, the limitation of liability in article 1 does not apply:

"1. To obligations arising out of *acts of the owner* of the vessel;"

This Convention was followed later by the International Convention Relating to the Limitation of the Liability of Owners of Seagoing Ships of 10 October 1957 (United Kingdom *Treaty Series*, Treaty No. 52 (1968); Cmnd.353). Under article 1 of the 1957 Convention, the owner of a seagoing ship may limit his liability in respect of:

the subsequent International Convention Relating to the Limitation of the Liability of Owners of Seagoing Ships of 10 October 1957 allowed the shipowner to limit liability.[206]

119. Gradually, oil pollution, either as the result of general navigation or transportation of oil by ships, became a major concern. However, until 1969, there was no multilateral treaty establishing a liability regime for oil pollution damage. In general, the rules of compensation were governed by various rules of tort law in each State[207] or by the 1924 and 1957 Conventions. The *Torrey Canyon* incident of 1967, in which a Liberian-registered oil tanker ran aground off the south-west coast of England and spilled thousands of tonnes of crude oil into the sea, provided the necessary background and political pressure for States to agree on a liability regime for oil pollution damage. The limits of liability under the 1924 and 1957 Conventions "would have been much too low to cover the damage resulting from"[208] *Torrey Canyon*. The International Convention on Civil Liability for Oil Pollution Damage (1969 CLC), adopted on 29 November 1969,[209] addressed four important issues; namely, the need to: (a) harmonize liability by placing it on the shipowner and not on the operator or cargo owner; (b) ensure that the polluter would

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"(a) Loss of life of, or personal injury to, any person being carried in the ship, and loss of, or damage to, any property on board the ship;

"(b) Loss of life of, or personal injury to, any other person, whether on land or on water, loss of or damage to any other property or infringement of any rights caused by the act, neglect or default of any person on board the ship for whose act, neglect or default the owner is responsible or any person not on board the ship for whose act, neglect or default the owner is responsible."

[206] The two Conventions were based on "actual fault or privity of the owner". The 1976 Convention on Limitation of Liability for Maritime Claims changed the test of "actual fault or privity" to one whether "the loss resulted from [the shipowner's] personal act or omission, committed with the intent to cause such loss or recklessly and with knowledge that such loss would probably result". The Convention was amended in London by a Protocol of 1996 to amend the 1976 Convention on Limitation of Liability for Maritime Claims. For the civil aviation liability regime established under the "Warsaw system", see: 1929 Warsaw Convention for the Unification of Certain Rules Relating to International Carriage by Air; 1955 Hague Protocol to amend the 1929 Convention for the Unification of Certain Rules relating to International Carriage by Air; 1961 Guadalajara Convention, Supplementary to the Warsaw Convention, for the Unification of Certain Rules relating to International Carriage by Air Performed by a Person other than the Contracting Carrier; 1971 Guatemala City Protocol to amend the 1929 Convention for the Unification of Certain Rules relating to International Carriage by Air, as amended by the 1955 Protocol; 1975 Montreal Additional Protocols Nos. 1 to 3 and Montreal Protocol No. 4 to amend the 1929 Warsaw Convention as amended by the Hague Protocol or the Warsaw Convention as amended by both the Hague Protocol and the Guatemala City Protocol; 1999 Montreal Convention for the Unification of Certain Rules for International Carriage by Air.

[207] See David W. Abecassis and Richard L. Jarashow, *Oil Pollution from Ships* (hereafter Abecassis and Jarashow), 2nd ed., 1985, p. 181.

[208] Robin R. Churchill, "Facilitating (Transnational) Civil Liability Litigation for Environmental Damage by means of Treaties: Progress, Problems and Prospects", *Yearbook of International Environmental Law*, vol. 12 (2001), pp. 3-41, at p. 14.

[209] Inter-governmental Maritime Consultative Organization (IMCO), *Official Records of the International Legal Conference on Marine Pollution Damage*, London, 1969. See also United Nations, *Treaty Series*, vol. 973, p. 3. The Conference also adopted the International Convention relating to Intervention on High Seas in cases of Oil Pollution Casualties, 9 ILM (1970), p. 25. See generally Wu Chao, *Pollution from the Carriage of Oil by Sea: Liability and Compensation,* 1996, pp. 37-101.

pay; (c) allocate loss and distribute costs; and (d) remove jurisdictional obstacles for coastal States in securing adequate compensation.[210]

120. The 1969 CLC established a strict liability regime channelled through the shipowner. Owners were held jointly and severally liable for all such damage which was not reasonably separable. It also contained provisions on compulsory insurance. Its definition of "pollution damage" in article 1 (6) was unclear. It defined "pollution damage" as "loss or damage caused outside the ship carrying oil by contamination resulting from the escape or discharge of oil from the ship, wherever such escape or discharge may occur, and includes the costs of preventive measures and further loss or damage caused by preventive measures". The interpretation of this definition was left to domestic courts, some of which considered that restoration of the environment was included in the notion of damage.[211]

121. The 1969 CLC was complemented by the International Convention on the Establishment of an International Fund for Oil Pollution Damage 1971 (1971 Fund Convention).[212] The establishment of the complementary funding mechanism financed by oil companies was part of the compromise leading to an agreement to attach liability to the shipowner instead of the shipper or cargo owner or operator.[213] It created a second-tier regime of compensation in that it enabled the availability of adequate compensation to persons who suffered damage caused by oil pollution discharged from ships in situations where the CLC was inadequate or liability could not be obtained.[214] The 1971 Fund Convention also established a fund (International Oil Pollution Compensation Fund) (IOPC).[215]

122. Liability under the 1969 CLC and the 1971 Fund Convention is strict, subject to limited defences. Both private claimant and shipowner can institute claims under the 1971 IOPC Fund. The IOPC Fund is financed by levying contributions from those who have received crude oil and fuel oil in the territory of contracting States. The Fund is governed by an Assembly of all Contracting States to the 1971 Fund Convention. Once a claimant exhausts the procedure for collecting liability under the 1969 Convention, he may then follow the procedure for liability under the IOPC Fund. In essence, "the combined effect" of the two Conventions "is thus that in the more serious cases, the owners of the ship and the owners of the cargo are jointly treated as 'the polluter' and share equitably the cost of accidental pollution damage arising during transport".[216] Shipowners of States not party to the 1969 Convention or the 1971 Fund Convention also devised other schemes to provide additional

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[210] See generally Birnie and Boyle, p. 385, and Abecassis and Jarashow, pp. 181-182.

[211] See Abecassis and Jarashow, pp. 209-210. In *Commonwealth of Puerto Rico v. S.S. Zoe Colocotroni*, 456 F. Supp. 1327 (1978); 628 F2d 652 (1980), a value was put on the estimated loss of marine organisms and the cost of replacing a mangrove swamp. On appeal, compensation was reduced to "reasonable" measures of restoration. This case was however not governed by the 1969 Convention. In *Antonio Gramsci* and in *Patmos,* claims for notional costs of damage to the environment were allowed. See Andrea Bianchi, "Harm to the Environment in Italian Practice: The Interaction of International Law and Domestic Law", in Peter Wetterstein, *Harm to the Environment: The Right to Compensation and the* Assessment *of Damages,* 1997, p. 103.

[212] *11 ILM* (1972), 284, and Marie-Louise Larsson, *On the Law of Environmental Damage: Liability and Reparation* (1997), pp. 185-196.

[213] Wu Chao, op. cit., p. 54.

[214] Article 4.

[215] Article 2.

[216] Birnie and Boyle, p. 386.

compensation. However, such schemes have been consolidated in view of the success of the CLC and Fund Convention regime.[217]

123. The *Amoco Cadiz* incident in 1978, which caused massive pollution off the French coast, led to a review of the 1969 CLC and the 1971 Fund Convention. The 1984 Protocol to the CLC clarified the meaning of pollution damage. Under the new definition, pollution damage was defined as:

> "1.(a) Loss or damage caused outside the ship by contamination resulting from escape or discharge of oil from the ship, wherever such escape or discharge may occur, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited *to costs of reasonable measures of reinstatement actually undertaken or to be undertaken*;
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> "1.(b) The costs of preventive measures and further loss or damage caused by preventive measures."[218]

124. Although the 1984 Protocol never entered into force,[219] the definition was incorporated in the subsequent 1992 Protocol amending the 1969 CLC (1992 CLC).[220] The definition also allows recovery for loss of profit arising out of impairment of the environment. It also extends to pollution damage to the exclusive economic zone of the coastal State or in an area up to 200 miles from its territorial sea baselines. While the environmental perspectives of the Protocols (1992 CLC and 1992 Fund Convention) are preferable to the earlier 1969 CLC and the Fund Convention, the definition is still limited and has been characterized as follows:

> "[I]t stops short of using liability to penalize those whose harm to the environment cannot be reinstated, or quantified in terms of property loss or loss of profits, or which the Government concerned does not wish to reinstate, or which occurs on the high seas. To this extent the true environmental costs of oil transportation by sea continue to be borne by the community as whole, and not by the polluter".[221]

125. The liability of the owner under the 1992 CLC is strict, joint and several. However, it allows exemptions.[222] The 1992 CLC imposed maximum limits payable at 59.7 million SDRs.

126. The 1992 Fund Convention, like the 1971 Fund Convention, establishes a fund which is financed by a levy on oil imports. The 1992 Fund Convention imposes

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[217] See Abecassis and Jarashow, chap. 12. The Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP) of 7 January 1969 applied to tanker owners and the Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL) of 14 January 1971 provided a fund comparable to the 1971 Fund. For the texts of these agreements, see *8 ILM* (1969) 497 and *10 ILM* (1971) 137, respectively.

[218] Article 2(6). Emphasis added.

[219] The corresponding 1984 Protocol to the Fund Convention also never entered into force.

[220] The CLC as amended by the 1992 Protocol is generally known as the International Convention on Civil Liability for Oil Pollution Damage (1992 CLC) and the Fund Convention as amended by the 1992 Fund Protocol is known as the International Convention on the Establishment of an International Fund for Oil Pollution Damage (1992 Fund Convention).

[221] Birnie and Boyle, p. 388.

[222] Articles III and IV.

maximum limits payable at 135m (including the amount payable by the shipowner under the 1992 CLC).

127. The overall limits have been gradually increased in the 1992 CLC and the 1992 Fund Convention. Following the *Nakhodka* incident off the coast of Japan in 1997 and the sinking of the *Erika* off the west coast of France in 1999, in the 2000 Amendments to the 1992 CLC, the maximum limit was raised to 89.77 million SDRs, effective 1 November 2003. In the 2000 Amendments to the 1992 Fund Convention, the maximum limit was also raised to 203 million SDRs, and if three States contributing to the fund receive more than 600 million tons of oil per annum, the maximum is raised to 300.74 million SDRs, up from 200 million SDRs.

128. The 2003 Protocol establishing an International Oil Pollution Compensation Supplementary Fund establishes a third tier supplementary compensation regime to apply to damage in the territory, including the territorial sea, of a Contracting State as well as the exclusive economic zone or its equivalent.[223]

129. The total amount of compensation payable, including the amount of compensation paid under the existing 1992 CLC and 1992 Fund Convention, will be 750 million SDRs.

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[223] Under article 4 of the Protocol:

"The Supplementary Fund shall pay compensation to any person suffering pollution damage if such person has been unable to obtain full and adequate compensation for an established claim for such damage under the terms of the 1992 Fund Convention, because the total damage exceeds, or there is a risk that it will exceed, the applicable limit of compensation laid down in article 4, paragraph 4, of the 1992 Fund Convention in respect of any one incident.

(a) The aggregate amount of compensation payable by the Supplementary Fund under this article shall in respect of any one incident be limited, so that the total sum of that amount together with the amount of compensation actually paid under the 1992 Liability Convention and the 1992 Fund Convention within the scope of application of this Protocol shall not exceed 750 million units of account.

(b) The amount of 750 million units of account mentioned in paragraph 2 (a) shall be converted into national currency on the basis of the value of that currency by reference to the Special Drawing Right on the date determined by the Assembly of the 1992 Fund for conversion of the maximum amount payable under the 1992 Liability and 1992 Fund Conventions.

"When the amount of established claims against the Supplementary Fund exceeds the aggregate amount of compensation payable under paragraph 2, the amount available shall be distributed in such a manner that the proportion between any established claim and the amount of compensation actually recovered by the claimant under this Protocol shall be the same for all claimants.

"The Supplementary Fund shall pay compensation in respect of established claims as defined in article 1, paragraph 8, and only in respect of such claims.

"In accordance with article 5, the Supplementary Fund shall pay compensation when the Assembly of the 1992 Fund has considered that the total amount of the established claims exceeds, or there is a risk that the total amount of established claims will exceed the aggregate amount of compensation available under article 4, paragraph 4, of the 1992 Fund Convention and that as a consequence the Assembly of the 1992 Fund has decided provisionally or finally that payments will only be made for a proportion of any established claim. The Assembly of the Supplementary Fund shall then decide whether and to what extent the Supplementary Fund shall pay the proportion of any established claim not paid under the 1992 Liability Convention and the 1992 Fund Convention."

130. The CLC and Fund Convention regime does not encompass all types of cargo; it only covers oil from oil tankers or ships carrying oil as cargo. This lacuna is filled by other conventions. For example, the 2001 International Convention on Civil Liability for Bunker Oil Pollution Damage (Bunker Oil Convention) is concerned with bunker oil.[224] It establishes a joint and several strict liability regime, with exemptions, for the shipowner and applies to damage caused on the territory, including the territorial sea, and in exclusive economic zones of States parties. Pollution damage is defined as:

> "(a) Loss or damage caused outside the ship by contamination resulting from the escape or discharge of bunker oil from the ship, wherever such escape or discharge may occur, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken; and
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> (b) The costs of preventive measures and further loss or damage caused by preventive measures."[225]

131. The Bunker Oil Convention does not contain its own limits of liability. Instead, pursuant to article 6, the shipowner may limit liability "under any applicable national or international regime, such as the Convention on Limitation of Liability for Maritime Claims, 1976, as amended".[226] The Bunker Oil Convention also does not contain a secondary-tier compensation scheme.

132. In a similar context, the 1996 International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS),[227] modelled on the 1992 CLC and the 1992 Fund Convention, covers substances based on lists of substances included in various instruments and codes adopted by the International Maritime Organization (IMO). It includes oils,[228] other liquid substances defined as noxious or dangerous; liquefied gases; liquid substances with a flashpoint not exceeding 60°C; dangerous, hazardous and harmful materials and substances carried in packaged form; and solid bulk materials defined as possessing chemical hazards, as well as residues left by the previous carriage of hazardous noxious substances, other than those carried in packaged form.[229]

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[224] For the text, see IMO document LEG/CONF.12/DC/1.

[225] Article 1, para. 9.

[226] The 1976 Convention, to be found in *16 ILM* (1977) 606, was amended by the 1996 Protocol to Amend the Convention on the Limitation of Liability for Maritime Claims, *35 ILM* (1996) 1433. Limits are specified for claims for loss of life or personal injury, and for property. The limits under this Convention are set at 330,000 SDR for personal claims for ships not exceeding 500 tons plus an additional amount based, on a sliding scale, on tonnage. For property claims, the limit is 167,000 SDRs for ships not exceeding 500 tons, with additional amounts for larger ships depending on the size of the ship. The 1996 Protocol raised the limit in respect of the former for ships not exceeding 2,000 gross tonnage to 2 million SDRs. The additional amounts for larger ships were also raised. The liability limits for the latter, for ships not exceeding 2,000 gross tonnage, is 1 million SDRs. The additional amounts for larger ships were also raised.

[227] For the text, see IMO document LEG/CONF.10/8/2. See also *35 ILM* (1996) 1415.

[228] See generally annexes I and II, International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL).

[229] Article 1 (5).

133. It also establishes a joint and several strict liability regime of the shipowner for damage in the territory, including the territorial sea, of a Contracting State, the exclusive economic zone or its equivalent as well as for damage, other than damage by contamination of the environment, caused outside the territory, including the territorial sea, of any State. It furthermore contains exemptions.[230] In addition, it covers pollution damage and risks of fire and explosion, including loss of life or personal injury as well as loss of or damage to property.[231]

134. The HNS establishes a two-tier system of compensation. The maximum limit of shipowner liability is set at 100 million SDRs. Insurance is compulsory. The HNS establishes an HNS Fund,[232] with contributions levied on persons in the Contracting Parties who receive a certain minimum quantity of HNS cargo during a calendar year. In addition to a general account, separate accounts for oil, liquefied natural gas (LNG) and liquefied petroleum gas (LPG) are set up to avoid cross-subsidization. The maximum limit of liability is a maximum of 250 million SDRs (including compensation paid by the shipowner).

135. The HNS excludes pollution damage covered under the CLC and Fund Convention regime. It also excludes radioactive matter as well as bunker fuel.

136. In respect of road, rail and inland navigation vessels, an earlier Convention on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (CRTD) of 10 October 1989,[233] adopted in the context of the United Nations Economic Commission for Europe (ECE), pursues similar approaches. It provides for joint and several strict liability of the carrier with some exemptions. [234] Article 5 of the Convention provides that "the carrier at the time of an incident shall be liable for damage caused by any dangerous goods during their carriage by road, rail or inland navigation vessel". The definition of damage covers loss of life or personal injury; loss or damage to property; loss or damage by contamination of the environment and costs of preventive measures. It does not cover nuclear substances under the Paris Convention and the Vienna Convention.[235]

137. CRTD applies to damage sustained in the territory of a State party and caused by an incident occurring in a State party and to preventive measures, wherever taken, to prevent or minimize such damage.

138. CRTD provides for a compulsory insurance scheme. Moreover, the carrier may protect his assets from claims by constituting a limitation fund either by a deposit or bank or insurance guarantee.[236] The maximum liability limit of the carrier in the case of road and rail carriage is set at 18 million SDRs for loss of life and personal injury, and 12 million SDRs is the limit for other claims. Lower limits apply in respect of carriage by inland navigation, namely 8 million SDRs and 7 million SDRs for loss of life and personal injury and other claims respectively.[237]

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[230] Articles 7 and 8.
[231] Article 1 (6).
[232] Article 13.
[233] ECE/TRANS/79; see also *Revue de droit uniforme* (UNIDROIT), 1989 (I), p. 280.
[234] Articles 5 and 8.
[235] Article 1, para. 10, defines damage. For the Vienna and Paris Convention regimes, see below.
[236] Articles 13 and 11.
[237] Article 9.

139. The Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources (Seabed Mineral Resources Convention)[238] has a more limited territorial scope of application to States with frontiers on the North Sea, the Baltic Sea and 36° latitude of the North Atlantic Ocean, and addresses offshore operations. Like the CLC, it establishes a strict and limited liability regime.[239] It imposes liability on the operator of a continental shelf installation for damage.[240] Damage is defined as "loss or damage outside the installation caused by contamination resulting from the escape or discharge of oil from the installation".

140. Liability is limited to 40 million SDRs. However, a State party may opt for a higher or unlimited liability in respect of damage caused in its territory.[241] Insurance is compulsory and, as with the CRTD, the operator may protect his assets from claims by constituting a limitation fund either by a deposit or a bank or insurance guarantee.[242] The liability of the operator is also unlimited if the pollution damage "occurred as a result of an act or omission by the operator himself, done deliberately with actual knowledge that pollution damage would result".[243]

141. With regard to nuclear damage, the Convention on Third Party Liability in the Field of Nuclear Energy (1960 Paris Convention)[244] was the first civil liability Convention on nuclear material adopted in 1960 in the context of the Nuclear Energy Agency of the Organization for Economic Cooperation and Development (OECD). It seeks to ensure "adequate and equitable compensation for persons who suffer damage caused by nuclear incidents while taking the necessary steps to ensure that the development of the production and uses of nuclear energy for peaceable purposes is not thereby hindered".[245] It establishes a strict and limited liability regime.[246] The operator of a nuclear installation is liable for loss of life, personal injury, or damage to, or loss of, property caused by a nuclear incident (a) within the installation or (b) during the carriage of nuclear substances to or from the installation.

142. Liability of the operator in respect of a nuclear incident is limited to 15 million SDRs, with a minimum liability of 5 million SDRs for incidents involving low-risk installations and transportation of nuclear substances. However, a State may establish a greater or lower limit in accordance with national law (the variation should not fall below 5 million SDRs).[247]

143. The 1963 Agreement Supplementary to the Paris Convention of 1960[248] (1963 Brussels Convention) provides additional compensation up to a limit of 300 million SDRs. Of this supplementary compensation, at least 5 million SDRs is provided by insurance or other financial security; and as a second tier, 170 million SDRs is to be paid out of public funds of the State party in which the nuclear installation is

[238] *16 ILM* (1977) 1451.
[239] Article 3.
[240] Article 9.
[241] Article 15.
[242] Articles 6 and 8.
[243] Article 6 (4).
[244] United Nations, *Treaty Series*, vol. 956, p. 251.
[245] Preamble.
[246] Article 3.
[247] Article 7.
[248] *2 ILM* (1963) 685. As amended by the Additional Protocols of 1964 and 1982.

located. As a third tier, parties to the Convention pay any additional compensation over and above the limit (i.e. up to 125 million SDRs) on a proportional basis.[249]

144. While the 1960 Paris Convention has a limited regional scope, the 1963 Vienna Convention on Civil Liability for Nuclear Damage (1963 Vienna Convention)[250] has a more universal orientation. The 1960 Paris Convention and the 1963 Vienna Convention are linked by the Joint Protocol relating to the Application of the Vienna Convention and the Paris Convention (Joint Protocol),[251] which seeks to mutually extend the benefit of civil liability set forth in each Convention and to avoid any conflict that may arise as a result of the simultaneous application of the two conventions in a nuclear incident. The 1963 Vienna Convention, adopted under the auspices of the International Atomic Energy Agency (IAEA), is substantially the same as the 1960 Paris Convention. It provides that the liability of the operator shall be "absolute". However, it provides exceptions.[252]

145. The liability of the operator may be limited by the installation State to not less than US$ 5 million per incident. It also does not provide for additional compensation from public funds.

146. By the terms of article I of the 1963 Vienna Convention, nuclear damage includes loss of life and personal injury as well as any loss of, or damage to, property which arises out of or results from the radioactive properties or a combination of radioactive properties with toxic, explosive or other hazardous properties of nuclear fuel or radioactive products or waste in, or of nuclear material coming from, originating in, or sent to, a nuclear installation. It also includes: (a) any other loss or damage that may arise or result if so provided by the law of the competent court, as well as (b) loss of life, any personal injury or any loss of, or damage to, property which arises out of or results from other ionizing radiation emitted by any other source of radiation inside a nuclear installation if the law of the installation State so provides.

147. Following the *Chernobyl* nuclear disaster in 1986, there was an increased demand within IAEA to revise the definition of damage and enhance the amount of compensation under the 1963 Vienna Convention. These efforts culminated in the adoption of the 1997 Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage (1997 Vienna Convention)[253] and the 1997 Convention on Supplementary Compensation for Nuclear Damage (1997 Supplementary Compensation Convention).[254]

148. The definition of nuclear damage under the 1997 Vienna Convention, in addition to loss of life or personal injury and loss of and damage to property, now includes, to the extent determined by the law of the competent court, (a) economic loss, (b) the costs of measures of reinstatement of impaired environment, unless such impairment is insignificant, (c) loss of income deriving from an economic

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[249] Article 3; i.e., on the basis of the ratio between the GNP of each Contracting Party and the total GNP of all Contracting Parties and the ratio between the thermal power of the reactors situated in the territory of each Contracting Party and the total thermal power of the reactors situated in the territories of all the Contracting Parties.

[250] *2 ILM* (1963) 727.

[251] United Kingdom *Treaty Series,* Misc.12 1989, Cmd.774.

[252] Article IV(3) (a) and (b).

[253] *36 ILM* (1997) 1462.

[254] *36 ILM* (1997) 1473.

interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of that environment, (d) the costs of preventive measures, and further loss or damage caused by such measures, and (e) any other economic loss, other than any caused by the impairment of the environment, if permitted by the general law on civil liability of the competent court.[255]

149. The 1997 Vienna Convention also increased the limit of liability to 300 million SDRs per incident. There are several possibilities: (a) the limit of the operator in the State of installation may be no less than 300 million SDRs; (b) the liability of the operator may be limited to not less than 150 million SDRs, in which case, public funds shall be made available for the excess and up to at least 300 million SDRs by that State; (c) the State may also limit, for a maximum of 15 years following entry into force, the liability to a transitional amount of not less than 100 million SDRs or some lower amount provided that public funds shall be made available by that State to compensate nuclear damage between that lesser amount and 100 million SDRs; or (d) the installation State may still establish a lower amount of liability to be no less than 5 million SDRs, it being understood that public funds would be available for the difference.[256]

150. The 1997 Vienna Convention also simplifies the procedure for revising the limits and extends the geographical scope of the Convention to apply to nuclear damage wherever suffered.

151. The 1997 Supplementary Compensation Convention is a stand-alone instrument. Its definition of damage is similar to the 1997 Vienna Convention definition. It also seeks to ensure (a) availability of 300 million SDRs or a greater amount in respect of nuclear damage per incident or (b) a transitional amount of at least 150 million SDRs for 10 years following the date of opening for signature of the Convention. The Contracting States shall make available additional amounts from public funds.[257] The amount of contribution is based on their nuclear capacity and their contribution to the United Nations regular budget. States on the minimum United Nations rate of assessment with no nuclear reactors shall not be required to make contributions.[258]

152. The changes to the "Vienna regime" have partly influenced changes to the "Paris regime", necessitated by the need to ensure compatibility between the two regimes. Thus, the 1960 Paris Convention and 1963 Brussels Convention have recently been a subject of revision culminating in the adoption on 12 February 2004 of Protocols to amend the two Conventions (2004 Paris Convention and 2004 Brussels Supplementary Convention).[259] The 2004 Paris Convention has an expanded scope of application. It contains a broad definition of nuclear damage[260]

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[255] Article 2.

[256] Article 7.

[257] Article III.

[258] Article IV.

[259] Protocol to amend the Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982 (2004 Paris Convention) and the Protocol to amend the Convention of 31 January 1963 Supplementary to the Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy, as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982 (2004 Brussels Convention).

[260] Article 1, paragraph (a), reads:

"(vii) Nuclear damage means,

"1. Loss of life or personal injury;

and a broader geographical scope.[261] The liability of the operator has been enhanced to 700 million euros per incident and the minimum liability for low risk installations

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"2. Loss of or damage to property; and each of the following to the extent determined by the law of the competent court;

"3. Economic loss arising from loss or damage referred to in subparagraph 1 or 2 above insofar as not included in those subparagraphs, if incurred by a person entitled to claim in respect of such loss or damage;

"4. The costs of measures of reinstatement of impaired environment, unless such impairment is insignificant, if such measures are actually taken or to be taken, and insofar as not included in subparagraph 2 above;

"5. Loss of income deriving from a direct economic interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of that environment, and insofar as not included in subparagraph 2 above;

"6. The costs of preventive measures, and further loss or damage caused by such measures, in the case of subparagraphs 1 to 5 above, to the extent that the loss or damage arises out of or results from ionizing radiation emitted by any source of radiation inside a nuclear installation, or emitted from nuclear fuel or radioactive products or waste in, or of nuclear substances coming from, originating in, or sent to, a nuclear installation, whether so arising from the radioactive properties of such matter, or from a combination of radioactive properties with toxic, explosive or other hazardous properties of such matter.

"(viii) Measures of reinstatement means any reasonable measures which have been approved by the competent authorities of the State where the measures were taken, and which aim to reinstate or restore damaged or destroyed components of the environment, or to introduce, where reasonable, the equivalent of these components into the environment. The legislation of the State where the nuclear damage is suffered shall determine who is entitled to take such measures.

"(ix) Preventive measures means any reasonable measures taken by any person after a nuclear incident or an event creating a grave and imminent threat of nuclear damage has occurred, to prevent or minimize nuclear damage referred to in subparagraphs (a) (vii) 1 to 5, subject to any approval of the competent authorities required by the law of the State where the measures were taken.

"(x) Reasonable measures means measures which are found under the law of the competent court to be appropriate and proportionate, having regard to all the circumstances, for example:

"1. The nature and extent of the nuclear damage incurred or, in the case of preventive measures, the nature and extent of the risk of such damage;

"2. The extent to which, at the time they are taken, such measures are likely to be effective; and

"3. Relevant scientific and technical expertise."

[261] Article 2 reads:

"(a) This Convention shall apply to nuclear damage suffered in the territory of, or in any maritime zones established in accordance with international law of, or, except in the territory of a non-Contracting State not mentioned under (ii) to (iv) of this paragraph, on board a ship or aircraft registered by:

(i) A Contracting Party;

(ii) A non-Contracting State which, at the time of the nuclear incident, is a Contracting Party to the Vienna Convention on Civil Liability for Nuclear Damage of 21 May 1963 and any amendment thereto which is in force for that Party, and to the Joint Protocol relating to the Application of the Vienna Convention and the Paris Convention of 21 September 1988, provided, however, that the Contracting Party to the Paris Convention in whose territory the installation of the operator liable is situated is a Contracting Party to that Joint Protocol;

(iii) A non-Contracting State which, at the time of the nuclear incident, has no nuclear installation in its territory or in any maritime zones established by it in accordance with international law; or

(iv) Any other non-Contracting State which, at the time of the nuclear incident, has in force nuclear liability legislation which affords equivalent reciprocal benefits, and which is based on principles identical to those of this Convention,

and transport activities, enhanced to 70 million euros and 80 million euros, respectively.[262]

153. The 2004 Brussels Supplementary Convention in turn increases the amounts in its three-tier compensation regime. In the first tier the minimum liability to be sourced from the operator's financial security is 700 million euros. If the operator fails, the State of installation will provide from public funds. The second tier of 500 million euros is secured from public funds made available by the State of installation. The third tier of 300 million euros will be secured from public funds provided by the Contracting Parties. The total liability has thus increased almost fourfold to 1.5 billion euros under the combined regime.[263]

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including, inter alia, liability without fault of the operator liable, exclusive liability of the operator or a provision to the same effect, exclusive jurisdiction of the competent court, equal treatment of all victims of a nuclear incident, recognition and enforcement of judgements, free transfer of compensation, interests and costs.

"(b) Nothing in this article shall prevent a Contracting Party in whose territory the nuclear installation of the operator liable is situated from providing for a broader scope of application of this Convention under its legislation."

[262] Article 7 reads:

"(a) Each Contracting Party shall provide under its legislation that the liability of the operator in respect of nuclear damage caused by any one nuclear incident shall not be less than 700 million euros.

"(b) Notwithstanding paragraph (a) of this article and article 21 (c), any Contracting Party may,

(i) Having regard to the nature of the nuclear installation involved and to the likely consequences of a nuclear incident originating therefrom, establish a lower amount of liability for that installation, provided that in no event shall any amount so established be less than 70 million euros; and

(ii) Having regard to the nature of the nuclear substances involved and to the likely consequences of a nuclear incident originating therefrom, establish a lower amount of liability for the carriage of nuclear substances, provided that in no event shall any amount so established be less than 80 million euros.

"(c) Compensation for nuclear damage caused to the means of transport on which the nuclear substances involved were at the time of the nuclear incident shall not have the effect of reducing the liability of the operator in respect of other nuclear damage to an amount less than either 80 million euros, or any higher amount established by the legislation of a Contracting Party."

[263] Article 3 reads:

"(a) Under the conditions established by this Convention, the Contracting Parties undertake that compensation in respect of nuclear damage referred to in article 2 shall be provided up to the amount of 1,500 million euros per nuclear incident, subject to the applications of article 12 bis.

"(b) Such compensation shall be provided as follows:

(i) Up to an amount of at least 700 million euros, out of funds provided by insurance or other financial security or out of public funds provided pursuant to article 10 (c) of the Paris Convention, such amount to be established under the legislation of the Contracting Party in whose territory the nuclear installation of the operator liable is situated, and to be distributed, up to 700 million euros, in accordance with the Paris Convention;

(ii) Between the amount referred to in paragraph (b) (i) of this article and 1,200 million euros, out of public funds to be made available by the Contracting Party in whose territory the nuclear installation of the operator liable is situated;

(iii) Between 1,200 million euros and 1,500 million euros, out of public funds to be made available by the Contracting Parties according to the formula for contributions referred to in article 12, subject to such amount being increased in accordance with the mechanism referred to in article 12 bis.

154. While the Paris and Vienna regimes revolve around imposing liability on the operator in respect of an installation to or from which the material is being transported, the question of maritime carriage of nuclear material is a matter that could also be governed by maritime law conventions. To avoid such potential conflict, the 1971 Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material makes it clear that the Paris and the Vienna Conventions or no less favourable national law would have primacy.[264]

"(c) For this purpose, each Contracting Party shall either:

(i) Establish under its legislation that the liability of the operator shall not be less than the amount referred to in paragraph (a) of this article, and provide that such liability shall be covered by all the funds referred to in paragraph (b) of this article; or

(ii) Establish under its legislation the liability of the operator at an amount at least equal to that established pursuant to paragraph (b) (i) of this article or article 7 (b) of the Paris Convention, and provide that, in excess of such amount and up to the amount referred to in paragraph (a) of this article, the public funds referred to in paragraph (b) (i), (ii) and (iii) of this article shall be made available by some means other than as cover for the liability of the operator, provided that the rules of substance and procedure laid down in this Convention are not thereby affected.

"(d) The obligation of the operator to pay compensation, interest or costs out of public funds made available pursuant to paragraphs (b) (ii) and (iii) and (g) of this article shall only be enforceable against the operator as and when such funds are in fact made available.

"(e) Where a State makes use of the option provided for under article 21 (c) of the Paris Convention, it may only become a Contracting Party to this Convention if it ensures that funds will be available to cover the difference between the amount for which the operator is liable and 700 million euros.

"(f) The Contracting Parties, in carrying out this Convention, undertake not to make use of the right provided for in article 15 (b) of the Paris Convention to apply special conditions, other than those laid down in this Convention, in respect of compensation for nuclear damage provided out of the funds referred to in paragraph (a) of this article.

"(g) The interest and costs referred to in article 7 (h) of the Paris Convention are payable in addition to the amounts referred to in paragraph (b) of this article, and shall be borne insofar as they are awarded in respect of compensation payable out of the funds referred to in:

(i) Paragraph (b) (i) of this article, by the operator liable;

(ii) Paragraph (b) (ii) of this article, by the Contracting Party in whose territory the installation of the operator liable is situated to the extent of the funds made available by that Contracting Party;

(iii) Paragraph (b) (iii) of this article, by the Contracting Parties together.

"(h) The amounts mentioned in this Convention shall be converted into the national currency of the Contracting Party whose courts have jurisdiction in accordance with the value of that currency at the date of the incident, unless another date is fixed for a given incident by agreement between the Contracting Parties."

[264] *11 ILM* (1972) 277. Article 1 provides:

"Any person who by virtue of an international convention or national law applicable in the field of maritime transport might be held liable for damage caused by a nuclear incident shall be exonerated from such liability:

(a) If the operator of a nuclear installation is liable for such damage under either the Paris or the Vienna convention, or

(b) If the operator of a nuclear installation is liable for such damage by virtue of a national law governing the liability for such damage, provided that such law is in all respects as favourable to persons who may suffer damage as either the Paris or the Vienna Convention."

155. In addition to the Paris and Vienna regimes, the 1962 Convention on the Liability of Operators of Nuclear Ships (Nuclear Ships Convention),[265] negotiated within the context of the Comité Maritime International in collaboration with IAEA, establishes that the operator of a nuclear ship shall be "absolutely liable" for any nuclear damage upon proof that such damage has been caused by a nuclear incident involving nuclear fuel of such a ship or radioactive products or waste produced in it.[266] However, it provides some exemptions in respect of a nuclear incident directly due to an act of war, hostilities, civil war or insurrection.[267] Nuclear damage is defined as: loss of life or personal injury and loss or damage to property which arises out of or results from the radioactive properties or a combination of radioactive properties with toxic, explosive or other hazardous properties of nuclear fuel or of radioactive products or waste.

156. The liability of the operator is limited to 1,500 million gold francs per incident notwithstanding that the nuclear incident may have resulted from any fault or privity of that operator. The operator is required to maintain insurance or other financial security. If the amount of liability exceeds the amount of insurance of the operator but not of the liability of 1,500 million gold francs, the licensing State is required to pay the balance.[268]

157. The regimes of liability for nuclear damage have been more diverse than in the case of oil pollution. These regimes seem to allow for greater accountability for States, a variation that may be explained by the ultra-hazardous nature of nuclear activity and its possible widespread and long-lasting damage.[269] In this connection, Birnie and Boyle note succinctly:

> "[A]lthough all the nuclear conventions focus liability on the operator as the source of damage or pollution, the … Supplementary Conventions clearly recognize that this approach is insufficient, and involve States in meeting substantial losses in excess of the operator's capacity to pay or cover through insurance. It cannot be said that any of the nuclear conventions fully implements the 'polluter pays' principle, or recognizes the unlimited and unconditional responsibility of States within whose border nuclear accidents occur: what they recognize, if imperfectly, is that the scale of possible damage has to be widely and equitably borne if nuclear power is to be internationally accepted."[270]

158. Under the nuclear civil liability conventions, States are also given discretion to adopt in their domestic law different ceilings on the amount of liability, insurance arrangements and definitions for nuclear damage or to continue to hold operators liable in cases of grave natural disasters.[271] Some countries have reserved the right

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[265] *57 AJIL* (1963) 268.

[266] Article II (1).

[267] Article VIII.

[268] Article II (2).

[269] See Jenks, in *Recueil des cours*, vol. 117, 1966, p. 105; Smith, State Responsibility and the Marine Environment, 1987, pp. 112-115; G. Handl, "Liability as an obligation established by a primary rule of international law", *Netherlands Yearbook of International Law*, vol. XVI, 1985, pp. 49-79, and L. F. E. Goldie, "Concepts of strict and absolute liability and the ranking of liability in terms of relative exposure to risk", in *Netherlands YBIL*, pp. 175-248.

[270] Birnie and Boyle, p. 481.

[271] See article 4 (3) (b) of the Vienna Convention on Civil Liability for Nuclear Damage and article 9 of the 1960 Convention on Third Party Liability in the Field of Nuclear Damage.

to exclude article 9 on defences against liability under the 1960 Paris Convention, thus making liability absolute.[272]

159. Strict liability has also been followed in other instruments concerning other activities. The 1999 Basel Protocol on Liability and Compensation for Damage Resulting from the Transboundary Movements of Hazardous Wastes and their Disposal (1999 Basel Protocol) provides "a comprehensive regime for liability and for adequate and prompt compensation for damage"[273] resulting from the transboundary movement of hazardous wastes, based on both strict and fault liability. The essential features of the 1999 Basel Protocol are similar to those of other liability conventions. It imposes joint and several strict liability with exemptions. It covers damage relating to loss of life or personal injury; loss or damage to property (other than property held by the person liable); loss of income; measures of reinstatement of the impaired environment; and costs of preventive measures.[274]

160. However, the Protocol only applies to damage due to an incident occurring during a transboundary movement and disposal of waste.[275] Moreover, instead of assigning liability to a single operator, there is the potential to hold generators, exporters, importers and disposers liable at different stages of the movement of the transboundary waste.[276] Fault-based liability also lies for lack of compliance with the provisions implementing the Convention or for wrongful intentional, reckless or negligent acts or omissions.

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[272] See annex I to the 1961 Paris Convention, containing reservations. See also Birnie and Boyle, chap. 9.

[273] UNEP-CHW.5/29.

[274] Under article 2, para. 2 (c).

[275] Article 3.

[276] "1. The person who notifies in accordance with article 6 of the Convention shall be liable for damage until the disposer has taken possession of the hazardous wastes and other wastes. Thereafter the disposer shall be liable for damage. If the State of export is the notifier or if no notification has taken place, the exporter shall be liable for damage until the disposer has taken possession of the hazardous wastes and other wastes. With respect to article 3, subparagraph 6 (b), of the Protocol, article 6, paragraph 5, of the Convention shall apply mutatis mutandis. Thereafter the disposer shall be liable for damage.

"2. Without prejudice to paragraph 1, with respect to wastes under article 1, subparagraph 1 (b), of the Convention that have been notified as hazardous by the State of import in accordance with article 3 of the Convention but not the State of export, the importer shall be liable until the disposer has taken possession of the wastes, if the State of import is the notifier or if no notification has taken place. Thereafter the disposer shall be liable for damage.

"…

"5. No liability in accordance with this article shall attach to the person referred to in paragraphs 1 and 2 of this article if that person proves that the damage was:

(a) The result of an act of armed conflict, hostilities, civil war, insurrection;

(b) The result of a natural phenomenon of exceptional, inevitable, unforeseeable and irresistible character;

(c) Wholly the result of compliance with a compulsory measure of a public authority of the State where the damage occurred; or

(d) Wholly the result of wrongful intentional conduct of a third party, including the person who suffered damage."

161. Insurance and other financial guarantees are compulsory. The liability limit of the notifier, exporter or importer or disposer is to be determined by domestic law. However, the Protocol sets minimum limits.[277] This scheme imposing limits does not apply to fault-based liability.

162. The Protocol also anticipates that additional and supplementary measures aimed at ensuring adequate and prompt compensation could be taken using existing mechanisms.[278] Article 14 of the Basel Convention provides that the parties shall consider the establishment of a revolving fund to assist on an interim basis in case of emergency situations to minimize damage from accidents.[279]

163. Another instrument that has been elaborated rather recently, within a regional context, is the 2003 Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters,[280] adopted by the United Nations Economic Commission for Europe (2003 Kiev Protocol). The need for the Protocol arose in the wake of the *Baia Mare* dam accident in Romania in 2000, when 100,000 tons of highly toxic wastewater were released into the watercourse, resulting in massive pollution of the Danube and Tisza rivers. The involvement of States, industry, the insurance sector and intergovernmental and non-governmental organizations in the negotiating process was unique.[281]

164. The Kiev Protocol seeks to provide for a comprehensive regime for civil liability and for adequate and prompt compensation for damage caused by the transboundary effects of industrial accidents on transboundary waters. It establishes a joint and several liability regime that is based on strict and fault liability. It places liability on the operator for damage caused by an industrial accident. It also attaches liability on any person for damage caused or contributed to by his or her wrongful intentional, reckless or negligent acts or omissions in accordance with the relevant rules of applicable domestic law, including laws on the liability of servants and agents.

165. The liability of the operator for damage for industrial accident is strict, joint and several, with exemptions.[282] An industrial accident occurs as a result of an uncontrolled development in the course of a hazardous activity at an installation, or during on-site or off-site transportation of the hazardous activity. The definition of damage includes: (a) loss of life or personal injury; (b) loss of, or damage to, property other than property held by the person liable; (c) loss of income directly deriving from an impairment of a legally protected interest in any use of the transboundary waters for economic purposes, incurred as a result of impairment of the transboundary waters; (d) the cost of measures of reinstatement of the impaired

[277] Article 12 and annex B.

[278] Article 15.

[279] Article 14 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, *28 ILM* (1989) 657.

[280] ECE document MP/WAT/2003/1-CP.TEIA/2003/3 of 11 March 2003. The Protocol, adopted on 21 May 2003, is a Protocol to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes and to the 1992 Convention on the Transboundary Effects of Industrial Accidents.

[281] See generally Phani Dascalopoulou-Livada, "The Protocol on Civil Liability and Compensation for Damage caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters", *4 Envtl. Liability* (2003) 131-140.

[282] Article 4.

transboundary waters, limited to the costs of measures actually taken or to be undertaken; and (e) the cost of response measures.

166. Insurance and other financial guarantees are compulsory. The Protocol sets minimum limits for financial securities, grouped in three different categories according to the hazard potential of the hazardous activities.[283] The liability of the operator under the Protocol is limited. Limits are based on three categories of hazardous activities grouped according to their hazard potential.[284] Financial limits are not applicable to fault-based liability.[285]

167. The Lugano Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment[286] (1993 Lugano Convention), adopted on 9 March 1993 by the Council of Europe, establishes a strict liability regime for "dangerous activities", because such activities constitute or pose "a significant risk to man, the environment or property".

168. Article 1 of the Convention sets forth the object and purpose of the Convention as follows:

> "This Convention aims at ensuring adequate compensation for damage resulting from activities dangerous to the environment and also provides for means of prevention and reinstatement."

169. The Lugano Convention is thus the only horizontal instrument that addresses environmentally harmful activities generally. The Convention establishes joint and several strict liability of an operator in respect of a dangerous activity or an operator of a site for the permanent deposit of waste in respect of the damage caused by such activity or waste. Liability is thus on the operator for incidents occurring when he is exercising control of the dangerous activity or on the operator of a site for permanent deposit of waste.[287]

170. In article 2, "dangerous activities" and "dangerous substances" are defined broadly. Dangerous activities include dangerous substances; genetically modified organisms and micro-organisms; operation of an installation or site for the incineration, treatment, handling or recycling of waste as well as the operation of a site for the permanent deposit of waste.[288] As regards the *causal link* between the damage and the activity, article 10 of the Convention provides that "the court shall take due account of the increased danger of causing such damage inherent in the dangerous activity".

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[283] Article 11 and annex II , part two.

[284] Article 9 and annex II, part one.

[285] Article 9.

[286] *32 ILM* (1993) 128. Article 4 of the Convention specifies exceptions where the Convention is not applicable. The Convention therefore does not apply to damage caused by a nuclear substance arising from a nuclear incident regulated by the Paris Convention of 1960 and its Additional Protocol or by the Vienna Convention of 1963; nor to damage caused by a nuclear substance if liability for such damage is regulated by internal law and such liability is as favourable with regard to compensation as the Convention. The Convention does not apply to the extent that it is incompatible with the rules of the applicable law relating to workmen's compensation or social security schemes.

[287] Articles 6 and 7.

[288] Article 2.

171. The strict liability of the operator under the Convention is subject to exemptions.[289] Liability under the Convention is unlimited. Article 12 envisages that each State party would ensure that "where appropriate, taking due account of the risks of the activity, operators conducting a dangerous activity on its territory" would have insurance or other financial security in order to cover liability under the Convention. Limits, types and terms of such insurance or other financial security would be specified by national law. The Convention does not establish a supplementary compensation fund.[290]

172. The efforts of the European Union to establish an environmental liability regime are also worth mentioning. On 9 February 2000, the European Commission adopted a White Paper[291] which sets out the parameters for a Union-wide uniform environmental liability regime. The development of the White Paper was preceded by a Green Paper[292] of the Commission in 1993, a joint hearing of the Commission and of the European Parliament and a subsequent parliamentary resolution requesting a directive and an opinion of the Economic and Social Committee. In January 1997, the Commission took a decision to produce a White Paper. Following its publication in February 2000, the White Paper was a subject of comments, including opinions of the Economic and Social Committee and of the Environment Committee of the European Parliament. It was also submitted to public consultation. This process culminated in a legislative proposal which was adopted by the Commission on 23 January 2002 and forwarded to the European Council and the European Parliament in February 2002. The European Parliament rendered its opinion on first reading on 14 May 2003, while the Council adopted a common position with a view to the adoption of a directive on environmental liability on 18 September 2003. On 19 September 2003, the Commission adopted a communication expressing its opinion on the common position. On 17 December 2003, the European Parliament, on second reading, amended four points of the Council's common position. On 26 January 2004, the Commission adopted its opinion, on the amendments of the European Parliament.[293]

173. In view of the inability of the Council to accept the proposals of the European Parliament, further discussions were held between the Council and the European Parliament. The conciliation process culminated in a joint text approved by the

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[289] Article 8 provides:

"The operator shall not be liable under this Convention for damage which he proves:

(a) Was caused by an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character;

(b) Was caused by an act done with the intent to cause damage by a third party, despite safety measures appropriate to the type of dangerous activity in question;

(c) Resulted necessarily from compliance with a specific order or compulsory measure of a public authority;

(d) Was caused by pollution at tolerable levels under local relevant circumstances; or

(e) Was caused by a dangerous activity taken lawfully in the interests of the person who suffered the damage, whereby it was reasonable towards this person to expose him to the risks of the dangerous activity."

[290] Churchill, op. cit., notes that a plan to do so was frozen in view of the failure of the Lugano Convention to enter into force.

[291] European Commission, White Paper on Environmental Liability [COM (2000) 66 Final].

[292] [COM (93) 47 Final].

[293] [COM (2004) 55 Final].

Conciliation Committee on 27 February 2004. The joint text was adopted on 21 April 2004 by the European Parliament and the Council as Directive 2004/35/CE on environmental liability with regard to prevention and remedying of environmental damage.[294] Member States have until 30 April 2007 to ensure compliance of their laws, regulations and administrative provisions with the Directive.[295]

174. The policy of the European Union on the environment is based on the precautionary and polluter-pays principles, in particular that where environmental damage occurs it should as a priority be rectified at source and that the polluter should pay. Under the joint text approved by the Conciliation Committee, the Directive will seek to ensure that polluters are held responsible for environmental damage. Under article 1, the purpose of the Directive is:

> "… to establish a framework of environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage".

175. The Directive covers environmental damage, namely site contamination and biodiversity damage and traditional damage to health and property. Paragraph 1 of article 2 defines environmental damage, which covers land, water and biodiversity, as:

> "(a) Damage to protected species and natural habitats, which is any damage that has significant adverse effects on reaching or maintaining the favourable conservation status of such habitats or species. The significance of such effects is to be assessed with reference to the baseline condition, taking account of the criteria set out in annex I;
>
> Damage to protected species and natural habitats does not include previously identified adverse effects which result from an act by an operator which was expressly authorized by the relevant authorities in accordance with provisions implementing article 6(3) and (4) or article 16 of Directive 92/43/EEC or article 9 of Directive 79/409/EEC or, in the case of habitats and species not covered by Community law, in accordance with equivalent provisions of national law on nature conservation.
>
> (b) Water damage, which is any damage that significantly adversely affects the ecological, chemical and/or quantitative status and/or ecological potential, as defined in Directive 2000/60/EC, of the waters concerned, with the exception of adverse effects where article 4(7) of that directive applies;
>
> (c) Land damage, which is any land contamination that creates a significant risk of human health being adversely affected as a result of the direct or indirect introduction, in, on or under land, of substances, preparations, organisms or micro-organisms."

176. It thus applies to environmental damage caused by occupational activities such as waste and water management and to any imminent threat of such damage occurring by reason of any of those activities. Such activities are listed in an annex III. A strict liability regime for the operator attaches to such activities. It also

[294] *Official Journal* L 143/56, 30 April 2004, vol. 47.
[295] Article 19.

applies to damage to protected species and natural habitats caused by such occupational activities other than those listed in annex III, and to any imminent threat of such damage occurring by reason of any of those activities, whenever the operator has been at fault or negligent.[296] Thus fault-based liability attaches to biodiversity damage. It only applies to damage caused by pollution of a diffuse character, where it is possible to establish a link between the damage and the activities of the individual operator.[297] The Directive does not apply to cases of personal injury, to damage to private property or to any economic loss and does not affect any rights regarding such types of damages.

177. The Directive also contains exclusions and exemptions.[298] It does not apply to damage arising from an incident in respect of which liability or compensation falls within the scope of the 1992 CLC, the 1992 Fund Convention, the HNS, the Bunker Oil Convention and CRTD. It also does not apply to nuclear risks or to liability falling within the scope of the Paris Convention, the Vienna Convention, the Brussels Supplementary Convention, the Joint Convention, and the 1971 Maritime Carriage of Nuclear Material Convention. Moreover, the Directive does not prejudice the right of the operator to limit his liability in accordance with national legislation implementing the Convention on Limitation of Liability for Maritime Claims (LLMC) 1976, including any future amendment to the Convention, or the Strasbourg Convention on Limitation of Liability in Inland Navigation (CLNI), 1988. These exclusions apply to future amendments to these instruments.

178. The Directive does not establish liability limits. It also does not contain a system of compulsory insurance. Its article 12 confers standing on the natural or legal persons affected or likely to be affected by environmental damage or having a sufficient interest in environmental decision-making relating to the damage or, alternatively, alleging the impairment of a right, where administrative procedural law of a member State requires this as a precondition. While sufficient interest is determined by national law, the interest of any non-governmental organization promoting environmental protection and meeting any requirements under national law is deemed sufficient for the purposes of establishing standing.

179. Efforts have also been made to provide a regime of liability in respect of the Antarctic. Under the terms of article 8 of the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA),[299] adopted on 2 June 1988, an operator would be held strictly liable for: (a) damage to the Antarctic environment or dependent or associated ecosystems; (b) loss of or impairment to an established use, or dependent or associated ecosystems; (c) loss of or damage to property of a third party or loss of life or personal injury of a third party arising directly out of damage to the Antarctic environment; and (d) reimbursement of reasonable costs by whomsoever incurred relating to necessary response action, including prevention, containment, clean-up and removal measures, and action taken to restore the status quo ante.[300]

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[296] Article 3.

[297] Article 4, para. 4.

[298] Articles 4 and 6, annex IV.

[299] *27 ILM* (1988) 859.

[300] Under article 8, para. 4:

> "An Operator shall not be liable if it proves that the damage has been caused directly by, and to the extent that it has been caused directly by:

180. In addition, if the damage caused by the operator would not have occurred but for the failure of a sponsoring State to carry out its obligations in respect of its operator, CRAMRA also established liability of the sponsoring State for such failure. Such liability would have been limited to that portion of liability not satisfied by the operator.[301]

181. The Protocol on Environmental Protection to the Antarctic Treaty,[302] concluded at Madrid in 1991, which develops a comprehensive regime for the protection of the Antarctic environment and dependent and associated ecosystems in the interest of mankind as a whole, now prohibits any activities relating to mineral resources other than scientific research. This Protocol effectively supersedes CRAMRA. Rules relating to liability for damage arising from activities taking place in the Antarctic which are consistent with the environmentally friendly objectives of the Protocol are being elaborated.[303]

182. The *second category* of treaties addressing the question of liability relates to treaties which hold States directly liable. Currently, there is one treaty which falls completely within this category, namely, the Convention on International Liability for Damage Caused by Space Objects of 1972.[304] Article II of the Convention provides that the launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the earth or to aircraft in flight.[305] On the other hand, proof of fault is required in the event of damage caused elsewhere other than on the surface of the earth or to persons or property on board a space object.[306]

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an event constituting in the circumstances of Antarctica a natural disaster of an exceptional character which could not reasonably have been foreseen; or
armed conflict, should it occur notwithstanding the Antarctic Treaty, or an act of terrorism directed against the activities of the Operator, against which no reasonable precautionary measures could have been effective."

[301] Article 8.

[302] *30 ILM* (1991) 1461.

[303] Article 16. The Working Group on Liability of the Antarctic Treaty Consultative Meeting has been convened to elaborate a liability regime.

[304] United Nations, *Treaty Series*, vol. 961, p. 187. See also Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, United Nations, *Treaty Series*, vol. 610, p. 205, as well as Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, contained in General Assembly resolution 1962 (XVIII) of 13 December 1963; and General Assembly resolution 47/68 of 14 December 1992 on Principles Relevant to the Use of Nuclear Power Sources in Outer Space.

[305] Article VI provides for exoneration:

"1. Subject to the provisions of paragraph 2 of this article, exoneration from absolute liability shall be granted to the extent that a launching State establishes that the damage has resulted either wholly or partially from gross negligence or from an act or omission done with intent to cause damage on the part of a claimant State or of natural or juridical persons it represents.

"2. No exoneration whatever shall be granted in cases where the damage has resulted from activities conducted by a launching State which are not in conformity with international law including, in particular, the Charter of the United Nations and the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies."

[306] Article III.

183. In the event of an accident involving two space objects and causing injury to a third State or its nationals, both launching States are liable to the third State, as provided in article IV.[307]

184. Furthermore, article V provides that, when two or more States jointly launch a space object, they are both jointly and severally liable for any damage the space object may cause.[308]

185. A launching State is a State which launches or procures the launching of a space object or a State from whose territory or facility a space object is launched.[309] Damage includes loss of life, personal injury or other impairment of health; or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organizations.[310]

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[307] Article IV reads:

"1. In the event of damage being caused elsewhere than on the surface of the earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, and of damage thereby being caused to a third State or to its natural or juridical persons, the first two States shall be jointly and severally liable to the third State, to the extent indicated by the following:

(a) If the damage has been caused to the third State on the surface of the earth or to aircraft in flight, their liability to the third State shall be absolute;

(b) If the damage has been caused to a space object of the third State or to persons or property on board that space object elsewhere than on the surface of the earth, their liability to the third State shall be based on the fault of either of the first two States or on the fault of persons for whom either is responsible.

"2. In all cases of joint and several liability referred to in paragraph 1 of this article, the burden of compensation for the damage shall be apportioned between the first two States in accordance with the extent to which they were at fault: if the extent of the fault of each of these States cannot be established, the burden of compensation shall be apportioned equally between them. Such apportionment shall be without prejudice to the right of the third State to seek the entire compensation due under this Convention from any or all of the launching States which are jointly and severally liable."

[308] Relevant paragraphs of article V read:

"1. Whenever two or more States jointly launch a space object, they shall be jointly and severally liable for any damage caused.

"2. A launching State which has paid compensation for damage shall have the right to present a claim for indemnification to other participants in the joint launching. The participants in a joint launching may conclude an agreement regarding the apportioning among themselves of the financial obligation in respect of which they are jointly and severally liable. Such agreements shall be without prejudice to the right of a State sustaining damage to seek the entire compensation due under this Convention from any or all of the launching States which are jointly and severally liable.

"3. A State from whose territory or facility a space object is launched shall be regarded as a participant in a joint launching."

[309] Article I. See also article IV for absolute liability for damage to a third State.

[310] Ibid. See also principle 9 of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space adopted by the General Assembly in its resolution 47/68 of 14 December 1992:

"1. In accordance with article VII of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and the provisions of the Convention on International Liability for Damage Caused by Space Objects, each State which launches or procures the launching of a space object and each State from whose territory or facility a space object is launched shall be internationally liable for damage caused by such space objects or their component parts. This fully applies to the case of such a space object carrying a nuclear power source on board. Whenever two or more States jointly launch such a space object, they shall be

186. The launching State is liable to pay compensation for damage, which is determined in accordance with international law and the principles of justice and equity. Such compensation will seek to "restore the person, natural or juridical, State or international organization on whose behalf the claim is presented to the condition which would have existed if the damage had not occurred".[311]

187. One other Convention which seems to envisage the application of State liability is the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses.[312] Article 7 provides:

> "1. Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States.
>
> 2. Where significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation."

188. The *third category* of treaties includes those in which a reference to liability has been made in the text without further clarification as to the substantive or procedural rules of liability. These treaties, while recognizing the relevance of the liability principle to the operation of the treaties, do not resolve the issue. They seem to rely on the existence in international law of liability rules, or expect that such rules will be developed. A number of treaties belong to this category. For example, the 1978 Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution provides that the Contracting States shall cooperate in formulating rules and procedures for civil liability and compensation for damage resulting from pollution of the marine environment, but it does not stipulate those rules and procedures.[313] The same is true of the other regional seas conventions: the 1976 Convention for the Protection of the Mediterranean Sea against Pollution;[314] the 1981 Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region;[315] the 1981 Convention for the Protection of the Marine

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jointly and severally liable for any damage caused, in accordance with article V of the above-mentioned Convention.

"2. The compensation that such States shall be liable to pay under the aforesaid Convention for damage shall be determined in accordance with international law and the principles of justice and equity, in order to provide such reparation in respect of the damage as will restore the person, natural or juridical, State or international organization on whose behalf a claim is presented to the condition which would have existed if the damage had not occurred.

"3. For the purposes of this principle, compensation shall include reimbursement of the duly substantiated expenses for search, recovery and clean-up operations, including expenses for assistance received from third parties."

[311] Article XII.

[312] General Assembly resolution 51/229 of 21 May 1997, annex, article 15. See also *36 ILM* (1997) 700.

[313] See article XIII of the Convention. United Nations, *Treaty Series*, vol. 1140, p. 133.

[314] UNEP, *Selected Multilateral Treaties ...*, p. 448.

[315] See *20 ILM* (1981) 746.

Environment and Coastal Area of the South-East Pacific;[316] the 1982 Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment (Jeddah Convention);[317] the 1983 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention);[318] the 1985 Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region;[319] the 1986 Convention for the Protection of the Natural Resources and the Environment of the South Pacific Region;[320] the 1990 Protocol for the Protection of the Marine Environment against Pollution from Land-based Sources;[321] the 1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area;[322] the 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention);[323] and the 1992 Convention on the Protection of the Black Sea against Pollution.[324]

189. Similar requirements are established in the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter;[325] the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;[326] the 1991 Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa;[327] the 1992 Convention on the Transboundary Effects of Industrial Accidents;[328] the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes;[329] the 1992 Convention on Biological Diversity;[330] the 2000 Cartagena Protocol on Biosafety to the Convention on Biological Diversity;[331] the Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region;[332] and the 2003 World Health Organization (WHO) Framework Convention on Tobacco Control.[333]

190. CRAMRA makes the development of liability rules a precondition for the exploration and exploitation of mineral resources of Antarctica.[334] This is also

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[316] Article 11.
[317] Article XIII.
[318] *22 ILM* (1983) 221, article 14.
[319] Article 15.
[320] *26 ILM* (1987) 38, article 20.
[321] Article XIII.
[322] United Nations, *Law of the Sea Bulletin*, No. 22 (1993), p. 54. See also the earlier 1974 Convention on the Protection of the Marine Environment of the Baltic Sea Area, *13 ILM* (1974) 546, article 17.
[323] *32 ILM* (1993) 1072.
[324] *32 ILM* (1993) 1110, article XVI.
[325] United Nations, *Treaty Series*, vol. 1046, p. 120.
[326] Article 12.
[327] *30 ILM* (1991) 773.
[328] *31 ILM* (1992) 1330.
[329] Ibid., p. 1312.
[330] *31 ILM* (1992) 818.
[331] *39 ILM* (2000) 1027.
[332] Adopted at Waigani on 16 September 1995. See www.sprep.org.ws/acrobat/pub/waigani/PDF.pdf.
[333] A/FCTC/INB6/5.
[334] Article 8, para. 7.

envisaged in the subsequent 1991 Protocol on the Environmental Protection to the Antarctic Treaty.

191. In some cases, progress has been made towards this end. One example of this is the 2003 Kiev Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters, which is a Protocol to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes and the 1992 Convention on the Transboundary Effects of Industrial Accidents as well as the 1999 Basel Protocol, which is a Protocol to the Basel Convention.

192. The African Convention on the Conservation of Nature and Natural Resources, adopted in Maputo on 11 July 2003, provides in article XXIV that the parties shall as soon as possible adopt rules and procedures concerning liability and compensation of damage related to matters covered by the Convention. The Convention seeks, inter alia, to enhance environmental protection, foster the conservation and sustainable use of natural resources and harmonize policies in such areas with a view to achieving ecologically rational, economically sound and socially acceptable development policies and programmes. Its provisions encompass questions of land and soil, water, vegetation cover, species and genetic diversity, protected species, trade in specimen and products thereof, conservation areas, processes and activities affecting the environment and natural resources, and sustainable development and natural resources. Considering the wide range of activities covered by the Convention, it remains to be seen what type of liability regime will be established.

193. The apparent success in concluding civil liability conventions or instruments that envisage the elaboration of such regimes is attenuated largely by the inability of the liability instruments, except in few cases, to command the wider acceptance of States. Many of the instruments have attracted fewer ratifications while others are yet to enter into force, with some having little or no prospect of ever entering into force. Only the CLC/Fund Convention regime appears to have had practical success. The decision to become party to an instrument remains a sovereign decision and derives from a State's capacity to conclude treaties. In doing so, a State must take into account its own constitutional and legislative procedures as well as the interests of its various stakeholders. In some cases, wider consultations are required, while in others limited contacts suffice. Short of conducting a comprehensive survey of States concerned to determine their positions, it cannot be said with certainty why States, while continuing to perceive civil liability as a viable option for compensation, have not taken the required extra step to signify their acceptance of the various civil liability regimes. With this caveat, and proceeding with some degree of generality, the reasons could range from the substantive to a sheer lack of expertise to make the relevant recommendation let alone study a particular instrument as relevant. The occurrence of an incident sometimes has spurred action, and interest has probably waned thereafter. In some instances, it may well be that the initial expectations are not fully realized, as compromises lead eventually to an instrument that is so watered down or so stringent as not to fully satisfy the various interests internally.

194. In noting the politics of law-making, Henkin observed:

> "Negotiated at a particular time, with virtually all States participating, any emerging treaty will reflect what the participants perceived as their interests as

regards the matter at issue, in the context of the system at large. But with ever more Governments participating, with their interests often varied and complex, the process is confused and the result often not only impossible to predict but even difficult to explain when it appears. It may help to perceive both process and result with mathematical analogy or metaphor: when vectors of different magnitude and direction are brought to bear at one point, a vector of particular force and direction results. To be sure, political influence cannot be measured, and neither its magnitude nor direction is firm; both respond to other forces, to the bargaining situation, to conference procedures, strategy, personalities, to other issues in negotiation, to political interests and forces beyond the conference and the subject."[335]

195. The dynamics involved equally pervade negotiations of civil liability regimes. Different interests are involved in deciding subsequently whether to become party to a particular instrument. There are competing political, military, economic, environmental, industry and other public interests. Inasmuch as interests, efficiency and norms[336] are factors that inform the propensity of States to comply with their treaty obligations, such considerations should apply equally to the processes leading to the decision to effectuate the wish to be bound by a particular instrument. Thus, the negotiating history of, and other antecedents concerning, an instrument may be revealing of concerns that negotiating States may have expressed and would shed light upon the subsequent disposition of a State towards a particular treaty. Among other issues, questions have been raised at various stages of the negotiations about the scope of application of civil liability regimes, including the definition of damage. Aspects concerning channelling of liability, the standard of liability, limitation of liability as well as financial security have also been featured. So too has the relationship between the particular regime and other regimes as well as other obligations under international law. The following discussion presents a sampling of some of the issues that have been raised during the negotiations, and would probably have a bearing upon positions taken on whether to become party to a particular instrument.

196. Several aspects could be elaborated upon in respect of the scope of application. In the first place, the scope of the instrument concerned has sometimes been considered too broad. Thus, the scope *ratione materiae* of the 1993 Lugano Convention has been criticized as being too general and going beyond the situation obtaining in some States in respect of environmental damage as such.[337] In particular, the concept of hazardous activities was perceived as excessively broad and the relevant definitions vague, especially with regard to biodiversity damage.[338] Denmark, Ireland, Germany and the United Kingdom made it clear that the approach of the 1993 Lugano Convention to liability differed from their own national law.[339]

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[335] Louis Henkin, "The Politics of Law-Making", Charlotte Ku and Paul F. Diehl, *International Law: Classic and Contemporary Readings*, 1998, p. 17 at pp. 21-22.

[336] On a theory of compliance, see generally Abram Chayes and Antonia Handler Chayes, *The New Sovereignty: Compliance with International Regulatory Agreements*, 1998, pp. 1-28.

[337] White Paper, para. 5.1.

[338] René Lefeber, "General Developments: International/Civil Liability Compensation", *11 Yearbook of International Environmental Law* (2000) 151.

[339] Churchill, op. cit., p. 28.

197. Secondly, the scope of the instruments has conversely been perceived as narrow in some respects. The Lugano Convention does not require the adoption of measures of restoration or the equivalent. It also does not contain criteria for the restoration or economic valuation of biodiversity damage. Among other reasons, in preferring to pursue the option of elaborating a separate environmental liability regime within the European Union rather than acceding to the Lugano Convention, it was observed that such accession would require an EU act to supplement the Lugano Convention in order to "bring more clarity and precision to this new area [of environmental damage] where liability is concerned".[340] The concept of damage has also been a matter of intense debate in relation to other instruments. For example, the 1969 CLC applies to damage as a result of "contamination", a term that was omitted in the draft submitted to the 1969 Diplomatic Conference but revived during the Conference, against some opposition, which considered it "immoral ... not to compensate victims in cases of explosion or fire causing loss of life and resulting from an escape or discharge of oil".[341] The language linking pollution damage to contamination was retained in the adopted Convention. Increasingly, revisions of the nuclear and oil pollution regimes have led to broader definitions of "nuclear damage" and "pollution damage". Concerns remain however as to whether the definitions are precise enough to be fully appreciated and understood by victims and to be applied effectively in practice. Even the newer conventions such as the 2001 Bunker Oil Convention have not escaped such criticism.[342] While pleasing one side, those States that would prefer a more traditional, restrictive definition of damage would in turn have difficulties in taking steps to ratify such instruments.

198. Thirdly, the spatial scope, jurisdiction *ratione loci*, of the instrument concerned and its exclusionary clauses have been a source of differing viewpoints. In the work of the Standing Committee on a protocol to revise the 1963 Vienna Convention, the reluctance of non-nuclear-power-generating States to contribute to the "international tier" was linked to the geographical scope of the Convention. Insofar as the Convention was perceived to apply to damage suffered in the territory of States parties, those States that did not have nuclear power capacity had no additional incentive to join a regime which seemed to bring some additional financial burden for an eventuality that they perceived as fortuitous.[343] The exclusion of military nuclear installations was also a point of discussion in respect of the Vienna Convention regime.[344] Similarly, with respect to the 1962 Nuclear Ships Convention, the former Soviet Union and the United States had concerns because it applied to warships.

199. Fourthly, the scope of application of the various regimes has been considered to be less favourable than domestic law. It has been suggested that some nuclear States have deliberately chosen not to ratify the Vienna Convention or the Paris Convention because it may be possible for victims to obtain better relief under national law. Thus, some of the non-parties to the Vienna Convention include a

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[340] White Paper, para. 5.1.

[341] Wu Chao, op. cit, p. 47, quoting the French delegation.

[342] Louise de la Fayette, "Reports of International Organizations and Bodies", *10 Yearbook of International Environmental Law* (1999) 701.

[343] See René Lefeber, "General Developments: International/Civil Liability Compensation", *6 Yearbook of International Environmental Law* (1995) 204-205.

[344] René Lefeber, "General Developments: International/Civil Liability Compensation", *8 Yearbook of International Environmental Law* (1997) 164.

number of significant nuclear States such as Canada, Japan, the Russian Federation and the United States.[345] Moreover, the 1984 Amendments to the Fund/CLC Conventions never entered into force partly because the United States decided not to join that regime. The 1990 OPA, which imposes higher limits of liability and provides unlimited liability in a wider range of situations than the CLC/Fund regime, was considered to provide better relief. Indeed, following the *Amoco Cadiz* accident, victims preferred to bring action in the United States rather than be constricted by the narrower compensation regime of the CLC. With respect to the 1962 Nuclear Ships Convention, the United States was concerned with the constitutional and administrative problems relating to submission to foreign courts. The inability of key States to become party could have cascade effects, with impact on the entry into force of a convention. Churchill asserts that "the unwillingness of such States to ratify the treaty seems to deter other States, presumably for reasons concerned with solidarity and possible unequal burden-sharing, from ratifying and becoming bound by the treaty without most of the major players".[346]

200. Concerning channelling of liability, it is one of the hallmarks of the civil liability regimes to attach liability to a single entity. To whom such liability should be channelled has not always been easy to agree upon. In the Diplomatic Conference concerning the 1969 CLC, whether the shipper, the cargo owner, the operator or the shipowner should be liable was a major source of intensive debate. Compromise on the shipowner was only reached after it was agreed that there would be a supplementary compensation regime.[347] While an approach that attaches liability on a single entity brings uniformity and certainty, it has been impugned for denying victims a wider net of potential defendants. The various stakeholders have argued that it would be unfair to impose on them any additional liability. In defining shipowner to include the registered owner, the bareboat charterer, the manager and the operator, the 2001 Bunker Oil Convention goes some way in meeting these concerns. On the other hand, it does not assuage the concerns of those who place a premium on certainty and predictability in an industry where economic considerations might have an impact leading to unnecessary distortions in the market. The 1999 Basel Protocol also channels liability to more than one entity. Some countries, such as Australia and Canada, expressed the concern that channelling liability to the exporter/notifier as opposed to the person in operator control, namely the waste generator, did not reflect the polluter-pays principle. Waste generators might pass on the burden of liability to exporters and would have no incentive to monitor disposal standards.[348]

201. The removal of immunity in the 2001 Bunker Oil Convention for responders who take measures to prevent and mitigate pollution was on the one hand perceived as a positive step in protecting victims while on the other hand was criticized since it was seen as a substitute for a second tier of compensation. Environmental groups

[345] Churchill, op. cit., p. 10.

[346] Ibid., p. 28. Finland noted in answer to a questionnaire on CRTD that it had not signed or ratified the CRTD in the early 1990s not because of substantive concerns but rather because the instrument failed to attract support from other States. Note by the Secretariat, Working Party on the Transport of Dangerous Goods, TRANS/WP.15/2001/17/Add.4.

[347] Wu Chao, op. cit., pp. 50-54.

[348] Birnie and Boyle, p. 436.

also viewed it as prejudicial to the protection of the environment since the removal might lead to greater environmental damage.[349]

202. In regard to the standard of liability, strict liability, as noted above, is the preferred choice as the basis of liability for the civil liability regimes. This does not mean that the matter has been fully settled. The drafters of the 1969 CLC presented two draft texts to the Diplomatic Conference, leaving the final choice to the negotiations. It was not until the final days of the Conference that agreement was reached after some delegations had withdrawn their opposition to strict liability, on the understanding that maximum insurable limits would be imposed and that there would be a supplementary funding mechanism.[350] Indeed, in some subsequent negotiations, fault-based liability has not been excluded. Motivated by concerns of affording the victim greater legal remedies, the Basel Convention provides for both a strict liability and a fault-based liability regime. This approach "upsets the traditional balance between, on the one hand channelling of liability to one or a few easily identifiable persons who have established financial security to cover the risk and, on the other, the imposition of strict and limited liability".[351] Concerns were expressed that such an approach diluted channelling of liability and created legal uncertainty. On the other hand, recourse to fault-based liability has also been justified as necessary for a State to make a claim under customary international law:

> "There is only one way to understand why fault-based liability has been combined with strict liability. If the strict liability system has already produced all its effects, including the exhaustion of all possible remedies within the competent domestic courts of the Contracting Parties, there remains the possibility for a State to have recourse to the procedures of customary international law against another State."[352]

203. There still may be some States that have concerns about the propriety of strict liability as the standard for attaching liability in an international context. Attendant questions have also been raised regarding causation and burden of proof. As has been noted above, different jurisdictions apply different rules to establish causation even in situations where strict liability is the preferred option. Providing pointers towards a causal link, as is the case with article 10 of the Lugano Convention, seeks to alleviate problems of causation without necessarily establishing "a true presumption of causal link".[353]

204. As to limitation of liability, it has been justified as necessary to offset the harsh impact of imposing a strict liability regime. The question of the financial limits to be imposed or lack thereof has tended to be a point of contention in the negotiations. It has been speculated that some States have been put off by the fact that liability is unlimited under the Lugano Convention.[354] In respect of CRTD, it

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[349] Louise de la Fayette, "Reports of International Organizations and Bodies", *10 Yearbook of International Environmental Law* (1999) 701.

[350] Wu Chao, op. cit., pp. 50-59.

[351] See René Lefeber, "General Developments: International/Civil Liability Compensation", *10 Yearbook of International Environmental Law* (1999) 184.

[352] Guido Fernando Silva Soares and Everton Vieira Vargas, "The Basel Liability Protocol on Liability and Compensation for Damage resulting from the transboundary movements of hazardous wastes and their disposal", *12 Yearbook of International Environmental Law* (2001) 69, at p. 95.

[353] See Explanatory Report concerning the Lugano Convention, article 10.

[354] Churchill, op. cit., p. 28.

has been noted that the main obstacle to its entry into force is the high and new levels of liability in combination with the obligation to establish financial securities corresponding to the levels of liability.[355] This is coupled with the problem posed by the insurability of the risk, particularly in respect of the inland navigation industry.[356] On the other hand, the limits of the Mineral Resources Convention were for example considered low.[357] Similar concerns have been expressed with regard to the oil and nuclear industry regimes. Thus, the financial limits have been progressively increased to respond to a particular incident or to anticipate the effects of a potential accident.

205. The low liability limits protecting the nuclear industry and the imposition of financial obligations on non-nuclear-power-generating States parties have been highlighted in respect with the Vienna Convention regime.[358] The amounts in both the Paris and the Vienna regimes have progressively been increased.

206. In some cases, the absence of a fund has been a point of negotiation differences. In the negotiations of the Basel Protocol, financial limits remained one of the difficult issues to be resolved.[359] Several delegations, particularly those from African States, voiced concerns against the Basel Protocol for its failure to provide an adequate and permanent compensation fund.[360] OECD countries, on the other hand, preferred a more watered-down enabling provision that would allow additional and supplementary measures aimed at ensuring adequate and prompt compensation using existing mechanisms in cases where the costs of damage were not covered by the Protocol.[361] Concerns were also expressed regarding the role of domestic law in determining financial limits. The fact that the Basel Protocol did not have uniform maximum limits of liability was also considered problematic.

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[355] René Lefeber, "General Developments: International/Civil Liability Compensation", *12 Yearbook of International Environmental Law* (2001) 189. The Netherlands considered the limits of liability, coupled with the compulsion involved, too high, and the insurance market was not amenable to providing a service, particularly in regard to inland navigation vessels and road transport. Lithuania also considered the limits high. It also viewed the additional certification in article 14 as likely to increase expenses for hauliers. On the other hand, Switzerland noted in answer to a questionnaire on CRTD that the majority of insurance contracts concluded by Swiss road hauliers provided for unlimited liability. It was therefore suggested that should CRTD be revised consideration should be given to the possibility of establishing guaranteed minimum amounts for claims for damage. Contracting Parties should nevertheless have the option to establish higher or unlimited levels of compensation in their national law. Austria suggested that any provision for limitation of liability should take account of the general principle that victims should receive full compensation, Note by the Secretariat, Working Party on the Transport of Dangerous Goods, TRANS/WP.15/2001/17/Add.1 and Add.4 and Add.7, respectively. Austria also noted that there were economic concerns on the side of transport operators and that there was no urgent need for such a specific regulatory framework on the part of bodies acting in the interest of potential victims; TRANS/WP.15/2001/17/Add.7.

[356] Robert Cleton, "The CRTD Convention on Civil Liability and Compensation", Ralph P. Knoner (ed.), op. cit., p. 205 at p. 218. Switzerland noted that the CRTD had received a mixed reception from the transport sector. While the railway sector was in favour, the inland navigation sector preferred a stand-alone instrument. Note by the Secretariat, Working Party on the Transport of Dangerous Goods, TRANS/WP.15/2001/17/Add.1.

[357] Ibid., p. 23.

[358] René Lefeber, "General Developments: International/Civil Liability Compensation", *8 Yearbook of International Environmental Law* (1997) 164.

[359] Fernando Silva Soares and Vieira Vargas, op. cit., p. 69, at 102.

[360] Birnie and Boyle, p. 436.

[361] Article 15 (1) of the Basel Protocol.

Some countries objected to a system that provided minimum limits based on the tonnage of shipment of wastes.

207. In other instances, the time limits within which claims may be brought have been a subject of contention. The three-year period within which claims may be brought may not be sufficient for claims relating to personal injury, where it may take many years for injury to materialize after exposure. Increasingly, such periods are being changed. On the other hand, longer periods may make it even harder to establish causation and satisfy other evidentiary requirements.

208. The question of insurance and financial security is always difficult to negotiate. Although protection is paramount, it is also essential that the costs of insurance are not prohibitive so as not to unduly impact the insurance industry and the industries in question. While insurance functions to spread the economic consequences of individual events across a multitude of parties, thus maximizing the utility, its potential is affected by other factors, such as concerns surrounding the risks being insured, the need to alleviate problems of uncertainty in insurance calculations, the availability of financial resources as well as the type of damage to be insured.[362] Whether insurance should be compulsory or voluntary is always a consideration in the light of the uncertainty of environmental damage costs, the diversity in national legislation and disparities in economies let alone between developing and industrialized countries. It has also been suggested that a mandatory regime depends on improved qualitative and reliable quantitative criteria for the recognition and measurement of environmental damage.[363] While insurance in the various regimes is usually compulsory, that requirement may act as a disincentive to jurisdictions without elaborate insurance schemes.[364] While recognizing that it would erode effective application of the polluter-pays principle, it has been asserted that capping liability for natural resources damages is likely to improve the chances of early development of the insurance market in this area.[365]

209. The question of the relationship between a particular regime and other regimes and obligations under international law has been raised mainly to ensure compatibility and to avoid overlap.[366] The adoption of the HNS in 1996 impacted

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[362] See generally Benjamin J. Richardson, "Mandating Environmental Liability Insurance", *12 Duke Envtl. L. & Pol (2001-2002)*, p. 293.

[363] European Commission, White Paper on Environmental Liability, 19 (2000), para. 4.9.

[364] Kyrgyzstan noted that it could not accede to the CRTD until such time as it was able to adopt a law on mandatory civil liability insurance scheme for vehicle owners. Note by the Secretariat, Working Party on the Transport of Dangerous Goods, TRANS/WP.15/2001/17/Add.1.

[365] Ibid., para. 4.9. The Czech Republic in responding to a questionnaire on CRTD noted that some damage to which CRTD applied could not be insured within the EU. This was the case with damage to the environment. Until reinsurance companies expressed willingness to participate in this insurance in the EU, they would not be willing to accept such insurance from Czech companies. TRANS/WP.15/2001/17/Add.2.

[366] On a more general level, a State may have other priorities. The Czech Republic and Slovakia in responding to a questionnaire on the CRTD observed that they were striving to be admitted into the EU and its priority was harmonization of its legal regulations with the laws of the EU. Since the EU was preparing new regulations concerning transport of dangerous goods, the possibility of becoming a party to the Convention would have to await consideration until the Czech Republic was able to adopt the new regulations in the context of the harmonization process. Slovakia noted also that the CRTD would also bring additional economic pressure. Note by the Secretariat, Working Party on the Transport of Dangerous Goods, TRANS/WP.15/2001/17/Add.2 and Add.6, respectively. On the question of insurance certification, Austria noted that the

the negotiations of the 1999 Basel Protocol insofar as their scope of application seemed to overlap.[367] Article 12 of the Basel Protocol gives precedence to the bilateral, multilateral or regional instrument. Doubts have also been raised at the outset of particular negotiations as to whether such an instrument was necessary in the light of existing instruments covering similar ground. In the initial discussions concerning the 2003 Kiev Protocol doubts were expressed concerning the desirability of such an instrument in the light of existing instruments such as CRTD and the Lugano Convention.[368] Such overlap may also relate to future regimes. It has been noted with respect to the Kiev Protocol that while the European Commission appeared in the beginning to be:

> "convinced that there was no danger of any overlap between the new instrument and the draft EU directive on environmental liability with regard to the prevention and restoration of environmental damage, since their respective approaches seemed to be different, they then found that such danger was real and that, perhaps, a full disconnection clause, that is, one comprising the whole of the Protocol [unlike the one found in article 20 of the 2003 Kiev Protocol], would be needed to satisfy their concerns".[369]

210. Due to constraints of time and limitations in the mandate, the disconnection clause in article 20 of the Kiev Protocol only applies to articles 13, 15 and 18 of the Protocol.[370]

211. Furthermore, it has been suggested in respect of the 1993 Lugano Convention that those members of the Council of Europe that are also members of the European Union have probably been dissuaded from ratifying the Convention (at least for the time being) because of the European Community's attempts to harmonize rules of civil liability for environmental damage and are waiting to see what the outcome of these attempts will be before taking a decision to ratify the Convention.[371]

212. In some situations, what is left out from the final text may also have a bearing on the acceptability of an instrument. States have debated the application of State liability during some of the negotiations. Major nuclear-power States such as France, the United Kingdom and the United States opposed amendments concerning State liability in discussions of the Standing Committee on Nuclear Liability to revise to the 1963 Vienna Convention. Moreover, in the initial discussions concerning the possibility of establishing the Kiev Protocol regime, some countries favoured a State liability regime or at least a regime that combined civil liability and State liability.[372] Furthermore, in the negotiations of the Basel Protocol, there was a preference among the developing States for the Protocol to provide redress for damage arising from illegal movements of hazardous wastes. For the developed

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question should not be discussed only from the viewpoint of insurance institutions but also in the light of the role of monitoring compliance, and the need to make the system less bureaucratic. TRANS/WP.15/2001/17/Add.7.

[367] Fernando Silva Soares and Vieira Vargas, op. cit., p. 69, at p. 98.

[368] René Lefeber, "General Developments: International/Civil Liability Compensation", *11 Yearbook of International Environmental Law* (2000) 143-144.

[369] Dascalopoulou-Livada, op. cit., p. 135.

[370] Ibid.

[371] Churchill, op. cit., pp. 28-29.

[372] René Lefeber, "General Developments: International/Civil Liability Compensation", *11 Yearbook of International Environmental Law* (2001) 191.

countries, the main preoccupation was to preserve their trade interests notwithstanding their environmental discourse.[373]

213. In other cases, the impact of other existing schemes or subsequent developments may have a bearing on whether ratification of a particular regime would proceed. Thus, with respect to the Mineral Resources Convention, the Offshore Pollution Liability Agreement (OPOL),[374] a scheme provided by the industry, has provided an alternative scheme.[375] On the other hand, CRISTAL and TOVALOP were consolidated partly to encourage ratification of the 1992 CLC and the 1992 Fund Convention. Moreover, the entry into force of the 1962 Nuclear Ships Convention may have little practical significance inasmuch as civilian nuclear-powered ships no longer operate. When such ships were operational, bilateral arrangements governed their operations.[376]

214. Some instruments simply have demanding requirements. The 1984 Amendments to the CLC never entered into force partly because of their demanding entry into force requirements.[377] The onerous responsibility on non-nuclear-power-generating States parties to enact complex legislation to give effect to the conventions was an issue during discussions concerning revisions of the Vienna Convention regime.[378] In the negotiations on the HNS, some delegations also highlighted the administrative burden that would be imposed by negotiating a special regime leading to the adoption of that Convention.[379]

(b) Judicial decisions and State practice outside treaties

215. The concept of liability for damage caused by an activity beyond the territorial jurisdiction or control of the acting State appears to have been developed through State practice to a limited extent for some potentially harmful activities. Some sources refer to the concept in general terms, leaving its content and procedure for implementation to future developments. Other sources deal with the concept of liability only in a specific case.

216. In the past, liability has been considered as an outgrowth of the failure to exercise “due care” or “due diligence”. In determining whether there has been a failure to exercise due diligence, the test has been that of “balancing of interests”. This criterion is similar to that used in determining harm and the permissibility of harmful activities, given the assessment of their impact. Liability for failure to exercise due care was established as early as 1872, in the Alabama case. In that dispute between the United States and the United Kingdom over the alleged failure of the United Kingdom to fulfil its duty of neutrality during the American Civil War, both sides attempted to articulate what “due diligence” entailed. The United States

[373] Fernando Silva Soares and Vieira Vargas, op. cit., p. 69, at p. 100.
[374] See www.opol.org.uk/agreement.pdf.
[375] Ibid., p. 23-24.
[376] Churchill, op. cit. p. 15.
[377] See article 13.
[378] René Lefeber, “General Developments: International/Civil Liability Compensation”, *8 Yearbook of International Environmental Law* (1997) 164.
[379] Idem, *9 Yearbook of International Environmental Law* (1999) 163.

argued that due diligence was proportioned to the magnitude of the subject and to the dignity and strength of the Power which was to exercise it.[380]

217. In contrast, the British Government argued that, in order to show lack of due diligence and invoke the liability of a State, it must be proved that there had been a failure to use, for the prevention of a harmful act, such care as Governments ordinarily employed in their domestic concerns.[381]

218. The tribunal referred to "due diligence" as a duty arising "in exact proportion to the risks to which either of the belligerents may be exposed from a failure to fulfil the obligations of neutrality on their part".[382] Thus, due diligence is a function of the circumstances of the activity.

219. Subsequent State practice appears to have dealt to a lesser extent with State liability arising out of failure to exercise due care, except in the area of the protection of aliens. These categories of claims include nationalization and confiscation of foreign properties, police protection and safety of foreigners, etc., which have been excluded from the present study.

220. In the claim against the former USSR for damage caused by the crash of the Soviet satellite Cosmos 954 on Canadian territory in January 1978, Canada referred to the general principle of the law of "absolute liability" for injury resulting from activities with a high degree of risk.[383]

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[380] The United States argument went as follows:

> "The rules of the treaty, said the Case of the United States, imposed upon neutrals the obligation to use due diligence to prevent certain acts. These words were not regarded by the United States as changing in any respect the obligations imposed by international law. The United States, said the Case, understands that the diligence which is called for by the rules of the treaty of Washington is a due diligence, that is, a diligence proportioned to the magnitude of the subject and to the dignity and strength of the power which is to exercise it; a diligence which shall, by the use of active vigilance, and of all the other means in the power of neutral, through all stages of the transaction, prevent its soil from being violated; a diligence that shall in like manner deter designing men from committing acts of war upon the soil of the neutral against its will, and thus possibly dragging it into war which it would avoid; a diligence which prompts the neutral to the most energetic measures to discover any purpose of doing the acts forbidden by its good faith as a neutral, and imposes upon it the obligation, when it receives the knowledge of an intention to commit such acts, to use all the means in its power to prevent it. No diligence short of this would be 'due', that is, commensurate with the emergency or with the magnitude of the results of negligence."

J. B. Moore, *International Arbitrations to which the United States has been a Party*, Washington, D.C., 1898, vol. 1, pp. 572-573.

[381] Ibid. The Tribunal noted:

> "... it was necessary to show that there had been a 'failure to use, for the prevention of an act which the Government was bound to endeavour to prevent, such care as Governments ordinarily employ in their domestic concerns, and may reasonably be expected to exert in matters of international interest and obligation'." (p. 610)

[382] Ibid., p. 654.

[383] *18 ILM* (1979) 907. Canada argued that:

> "The standard of absolute liability for space activities, in particular activities involving the use of nuclear energy, is considered to have become a general principle of international law. A large number of States, including Canada and the Union of Soviet Socialist Republics, have adhered to this principle as contained in the 1972 Convention on International Liability for Damage Caused by Space Objects. The principle of absolute liability applies to fields of activities having in common a high degree of risk. It is

221. Similarly, in the *Trail Smelter* awards, the tribunal established that:

> "So long as the present conditions in the Columbia River Valley prevail, the Trail Smelter shall be required to refrain from causing any damage through fumes in the State of Washington; the damage herein referred to and its extent being such as would be recoverable under the decisions of the courts of the United States in suits between private individuals."[384]

222. The smelter company was nevertheless permitted to continue its activities. The tribunal did not prohibit the activities of the smelter; it merely reduced them to a level at which the fumes which the smelter emitted were no longer, in the opinion of the tribunal, injurious to the interests of the United States.[385]

223. The tribunal established a permanent regime which called for compensation for injury to United States interests arising from fume emissions even if the smelting activities conformed fully to the permanent regime as defined in the decision:

> "The Tribunal is of the opinion that the prescribed regime will probably remove the causes of the present controversy and, as said before, will probably result in preventing any damage of a material nature occurring in the State of Washington in the future.
>
> "But since the desirable and expected result of the regime or measure of control hereby required to be adopted and maintained by the Smelter may not occur, and since in its answer to Question No. 2, the Tribunal has required the Smelter to refrain from causing damage in the State of Washington in the future, as set forth therein, the Tribunal answers Question No. 4 and decides that on account of decisions rendered by the Tribunal in its answers to Question No. 2 and Question No. 3 there shall be paid as follows: (a) if any damage as defined under Question No. 2 shall have occurred since October 1, 1940, or shall occur in the future, whether through failure on the part of the Smelter to comply with the regulations herein prescribed or notwithstanding the maintenance of the regime, an indemnity shall be paid for such damage but only when and if the two Governments shall make arrangements for the disposition of claims for indemnity under the provisions of article XI of the Convention (b) if as a consequence of the decision of the Tribunal in its answers to Question No. 2 and Question No. 3, the United States shall find it necessary to maintain in the future an agent or agents in the area in order to

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repeated in numerous international agreements and is one of 'the general principles of law recognized by civilized nations' (Article 38 of the Statute of the International Court of Justice). Accordingly, this principle has been accepted as a general principle of international law." (para. 22)

[384] United Nations, *Reports of International Arbitral Awards*, vol. III, p. 1966. The tribunal had earlier reached the oft-quoted conclusion that:

> "[U]nder the principles of international law, as well as of the law 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 or the properties or persons therein, when the case is of serious consequences and the injury is established by clear and convincing evidence." (p. 1965)

[385] Ibid. The tribunal noted:

> "… Since the Tribunal is of the opinion that damage may occur in future unless the operations of the Smelter shall be subject to some control, in order to avoid damage occurring, the Tribunal now decides that a regime or measure of control shall be applied to the operations of the Smelter." (p. 1960)

ascertain whether damage shall have occurred in spite of the regime prescribed herein, the reasonable cost of such investigations not in excess of US$ 7,500 in any one year shall be paid to the United States as compensation but only if and when the two Governments determine under article XI of the Convention that damage has occurred in the year in question, due to the operation of the Smelter, and 'disposition of claims for indemnity for damage' has been made by the two Governments; but in no case shall the aforesaid compensation be payable in excess of the indemnity for damage; and further it is understood that such payment is hereby directed by the Tribunal only as a compensation to be paid on account of the answers of the Tribunal to Question No. 2 and Question No. 3 (as provided for in Question No. 4) and not as any part of indemnity for the damage to be ascertained and to be determined upon by the two Governments under article XI of the Convention."[386]

224. In the decision of 9 April 1949 in the *Corfu Channel* case (merits), the International Court of Justice, after analysing the facts, reached the conclusion that the laying of the minefield which caused explosions in Albanian waters could not have been accomplished without the knowledge of the Albanian Government. It found that Albania had known or should have known of the mines lying within its territorial waters in sufficient time to notify and give warning to other States and their nationals of the imminent danger. The Court found that:

"In fact nothing was attempted by the Albanian authorities to prevent the disaster. These grave omissions involve the international responsibility of Albania.

"The Court, therefore, reaches the conclusion that Albania is responsible under international law for the explosions which occurred on 22 October 1946, in Albanian waters, and for the damage and loss of human life which resulted from them, and that there is a duty upon Albania to pay compensation to the United Kingdom."[387]

225. Owing to the difficult and circumstantial nature of the proof of Albania's knowledge of the injurious condition, it is unclear whether liability was based on a breach of the duty of due care in warning other international actors or on a standard of "strict liability" without regard to the concept of due care.

226. In the same judgment, the Court made some general statements regarding obligations of States which are of considerable importance and of pertinence to liability. In one passage, the Court stated that it was "every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States".[388] It should be noted that in this passage the Court was making a general statement of law and policy, not limited or narrowed to any specific case. When the Court renders a decision in a case in accordance with Article 38 of its Statute, it may also declare general statements of law. The aforementioned passage is among such statements. It may therefore be concluded that, while the Court's decision addressed the point debated by the parties in connection with the *Corfu Channel* case, it also stressed a more general issue. It made a declaratory general statement regarding the conduct of any State which might cause extraterritorial injuries. In the advisory

[386] Ibid., pp. 1980-1981.
[387] *I.C.J. Reports 1949*, p. 4, at p. 23.
[388] Ibid., p. 22.

opinion on the *Legality of the Threat or Use of Nuclear Weapons*, the Court, in asserting that the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn, affirmed this proposition of law:

> "[t]he existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other states or of areas beyond national control is now the corpus of international law relating to the environment".[389]

227. It has been argued that the *Trail Smelter* arbitrations or the *Corfu Channel* judgment do not necessarily support the existence of strict liability in international law.[390] According to this view, as regards *Trail Smelter*, "it was not necessary for the Tribunal to decide, in an either/or sense, between strict liability and negligence as the requisite standard of care at international law."[391] It has also been suggested that since the *compromis* already anticipated the liability of Canada and required the application of both international law and the law of the United States, consequently making it difficult to determine the legal basis of the tribunal's determination, *Trail Smelter* "could only be considered of limited relevance as an international legal precedent".[392] Moreover, the "whole decision does not allow any unambiguous inferences with regard to the theory of liability for extraterritorial injuries in general; nor does it support the view of an incipient reception into international law of strict liability as a general category of international responsibility".[393]

228. With respect to the decision in *Corfu Channel*, it has been argued that it does not subscribe "to a theory of objective risk, if by that is meant that a State is automatically liable at international law for all the consequences of its act, whatever the circumstances may be."[394] It has also been suggested that on the basis of that judgment "the possibility, if no more, remains ... that the defence of reasonable care might be raised by the defendant State".[395] Moreover, the question of fault on the part of the Albanian coast guard officials was never in issue.[396]

229. In opposition to these viewpoints, it has been contended that in both of these cases, liability was imposed without proof of negligence.[397] As regards the view

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[389] *I.C.J. Reports 1996*, p. 226, at pp. 241-242. See also dissenting opinion of Judge Weeramantry, ibid., pp. 429-555, and the dissenting opinion of Judge Weeramantry in the *Legality of the Use by a State of Nuclear Weapons in Armed Conflict*, advisory opinion, *I.C.J. Reports 1996*, p. 66, at pp. 139-143.

[390] See also Gunther Handl, "Balancing of Interests and International Liability for the Pollution of International Watercourses: Customary Principles of Law Revisited", *Canadian Yearbook of International Law*, vol. XIII (1975) 156 (hereafter Handl, "Balancing of Interests ..."), at pp. 162-165, who cautions against the use of "strict liability in international law" and suggests the use of the term "responsibility for risk".

[391] M. J. L. Hardy, "International Protection against Nuclear Risks", *10 ICLQ* (1961) 751 (hereafter Hardy, "Nuclear Risks ..."). See also Hardy, "Nuclear Liability: the General Principles of Law and Further Proposals" (hereafter Hardy, "Nuclear Liability ..."), *B Yb I.L.*, vol. 36, p. 229, 1960.

[392] Handl, "Balancing of Interests ...", pp.167-168.

[393] Ibid., p. 168.

[394] Hardy, "Nuclear Risks ...", p. 751, and in "Nuclear Liability ...", p. 229.

[395] Hardy, "Nuclear Liability ...", p. 229.

[396] Handl, "Balancing of Interests ...", p. 167.

[397] L. F. E. Goldie, "Liability for Damage and the Progressive Development of International Law", *14 ICLQ* (1965) 1189, at pp. 1230-1231.

expressed in paragraph 226 above regarding *Corfu Channel*, attention has been drawn to the dissents by Judges Winiarski[398] and Badawi Pasha[399] in which they argued that Albania had not breached any duty of care, that it had complied with existing international law standards and that the Court was imposing novel and higher standards. It has been observed that in this case and in *Trail Smelter* the plaintiff State did not "affirmatively prove the defendant's negligence or wilful default".[400]

230. In the *Lake Lanoux* arbitration, the tribunal, responding to the allegation of Spain that the French projects would entail an abnormal risk to Spanish interests, stated that only failure to take all necessary safety precautions would have entailed France's responsibility if Spanish rights had in fact been infringed.[401] While States were required to cooperate with one another in mitigating transboundary environmental risks, "the risk of an evil use has so far not led to subjecting the possession of these means of action to the authorization of States which may possibly be threatened".[402]

231. In other words, responsibility would not arise as long as all possible precautions against the occurrence of the injurious event had been taken. Although the authority of the tribunal was limited by the parties to the examination of the compatibility of French activities on the Carol River with a treaty, the tribunal also touched on the question of dangerous activities. The tribunal stated:

> "It has not been clearly affirmed that the proposed works [by France] would entail an abnormal risk in neighbourly relations or in the utilization of the waters. As we have seen above, the technical guarantees for the restitution of waters are as satisfactory as possible. If despite the precautions that have been taken, the restitution of the waters were to suffer from an accident, such an accident would be only occasional and, according to the two parties, would not constitute a violation of article 9."

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398 *I.C.J. Reports 1949*, pp. 49-51, 52 and 55-56.

399 Ibid., pp. 64-66. It is noted however that Judge Badawi Pasha stressed that:

> "… international law does not recognize objective responsibility based upon the notion of risk, adopted by certain national legislations. Indeed, the evolution of international law and the degree of development attained by the notion of international cooperation do not allow us to consider that this stage has been reached, or is about to be reached." (p. 65)

400 Goldie, op. cit., note 397, p. 1231.

401 In the *Lake Lanoux* arbitration (France v. Spain), *24 ILR* (1957), p. 101, at pp. 123-124, para. 6, the tribunal stated:

> "The question was lightly touched upon in the Spanish counter-memorial, which underlined the 'extraordinary complexity' of procedures for control, their 'very onerous' character, and the 'risk of damage or of negligence in the handling of the watergates, and of obstruction in the tunnel'. But it has never been alleged that the works envisaged present any other character or would entail any other risks than other works of the same kind which today are found all over the world. It has not been clearly affirmed that the proposed works would entail an abnormal risk in neighbourly relations or in the utilization of the waters. As we have seen above, the technical guarantees for the restitution of the waters are as satisfactory as possible. If, despite the precautions that have been taken, the restitution of the waters were to suffer from an accident, such an accident would be only occasional and, according to the two Parties, would not constitute a violation of article 9."

402 Ibid., p. 126.

232. The above passage may be interpreted as meaning that the tribunal was of the opinion that abnormally dangerous activities could constitute a special problem, which was not occasional, and that, if Spain had established that the proposed French project would entail an abnormal risk of injury to Spain, the decision of the tribunal might have been different.

233. On the other hand, it has been observed that France would only have incurred liability for the diminution both of the volume of waters due to Spain and of the quality of those waters as a consequence of an internationally wrongful act. The tribunal's view of liability for the reduction of the volume of waters was that it did not arise so long as all possible precautions against the occurrence of the event had been taken.[403]

234. During oral hearings in the *Nuclear Tests* case, in response to a question by the President of the Court, Sir Humphrey Waldock, whether it took the view that "every transmission by natural causes of chemical or other matter from one State into another State's territory, airspace or territorial sea automatically created a legal cause of action in international law without the need to establish anything more", Australia asserted that:

> "where, as a result of normal and natural use by one State of its territory, a deposit occurs in the territory of another, the latter has no cause of complaint unless it suffers more than nominal harm or damage. The use by a State of its territory for the conduct of atmospheric nuclear tests is not a normal or natural use of its territory. The Australian Government also contends that the radioactive deposit from the French tests gives rise to more than nominal harm or damage to Australia … [T]he basic principle is that intrusion of any sort into foreign territory is an infringement of sovereignty. Needless to say, the Government of Australia does not deny that the practice of States has modified the application of this principle in respect of the interdependence of territories. It has already referred to the instance of smoke drifting across national territories. It concedes that there may be no illegality in respect of certain types of chemical fumes in the absence of special types of harm. What it does emphasize is that the legality thus sanctioned by the practice of States is the outcome of the toleration extended to certain activities which produce these emissions, which activities are generally regarded as natural uses of territory in modern society and are tolerated because, while perhaps producing some inconvenience, they have a community benefit."[404]

235. In making the interim protection order of 22 June 1973 in the *Nuclear Tests* case, the Court took note of Australia's concerns that:

> "the atmospheric nuclear explosions carried out by France in the Pacific have caused widespread radioactive fall-out on Australian territory and elsewhere in the southern hemisphere, have given rise to measurable concentrations of radio-nuclide in foodstuffs and in man, and have resulted in additional radiation doses to persons living in that hemisphere and in Australia in particular; that any radio-active material deposited on Australian territory will be potentially dangerous to Australia and its people and any injury caused

[403] Handl, "Balancing of Interests …", pp.169-170.

[404] *Nuclear Tests Case* (*Australia v. France*), *Interim Protection, Order of 22 June 1973*, *I.C.J. Reports 1973*, p. 99.

thereby would be irreparable; that the conduct of French nuclear tests in the atmosphere creates anxiety and concern among the Australian people; that any effects of the French nuclear tests upon the resources of the sea or the conditions of the environment can never be undone and would be irremediable by any payment of damages; and any infringement by France of the rights of Australia and its people to freedom of movement over the high seas and superjacent airspace cannot be undone;".[405]

236. In indicating interim measures of protection, the Court was satisfied that such information did not preclude the possibility that damage to Australia might be shown to be caused by the deposit on Australian territory of radioactive fallout resulting from such tests and to be irreparable. In his dissenting opinion, Judge Ignacio-Pinto, while expressing the view that the Court lacked jurisdiction to deal with the case, stated that:

"if the Court were to adopt the contention of the Australian request, it would be near to enforcing a novel conception in international law whereby States would be forbidden to engage in any risk-producing activity within the area of their own territorial sovereignty; but that would amount to granting any State the right to intervene preventively in the national affairs of other States".[406]

237. He further stated that "[i]n the present state of international law, the 'apprehension' of a State, or 'anxiety', 'the risk of atomic radiation', do not in my view suffice to substantiate some higher law imposed on all States and limiting their sovereignty as regards atmospheric nuclear tests".[407] In his view, "[t]hose who hold the opposite view may perhaps represent the figureheads or vanguard of a system of gradual development of international law, but it is not admissible to take their wishes into account in order to modify the present state of law".[408]

238. In the interim protection order of 22 June 1973, the Court made a similar order in respect of concerns by New Zealand that:

"[E]ach of the series of French nuclear tests has added to the radioactive fallout in the New Zealand territory; that the basic principles applied in this field by international authorities are that any exposure to radiation may have irreparable, and harmful, somatic and genetic effects and that any additional exposure to artificial radiation can be justified only by the benefit which results; that, as the New Zealand Government has repeatedly pointed out in its correspondence with the French Government, the radioactive fallout which reaches New Zealand as a result of the nuclear tests is inherently harmful, and that there is no compensating benefit to justify New Zealand's exposure to such harm; that the uncertain physical and genetic effects to which contamination exposes the people of New Zealand causes them acute apprehension, anxiety and concern; and that there could be no possibility that the rights eroded by the holding of further tests could be fully restored in the event of a judgment in New Zealand's favour in these proceedings."[409]

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[405] Ibid., at p. 104. The Court did not rule on merits of the case.

[406] Ibid., p. 132.

[407] Ibid.

[408] Ibid.

[409] *Nuclear Tests Case* (*New Zealand v. France*), *Interim Protection Order of 22 June 1973*, *I.C.J. Reports 1973*, p. 135, at pp. 140-41. The Court did not rule on merits of the case. See also the dissenting opinion of Judge Ignacio-Pinto, at pp. 163-164.

239. In the subsequent *Request for an Examination of the Situation in accordance with Paragraph 63 of the Court's Judgment of 20 December 1974 in the* Nuclear Tests (New Zealand v. France) case, Judge Koroma, in his dissenting opinion, observed:

> "Under contemporary international law, there is probably a duty not to cause gross or serious damage which can reasonably be avoided, together with a duty not to permit the escape of dangerous substances."[410]

240. The International Court of Justice, however, did not rule on the merits of the case on "technical legal reasons".

241. The *Case concerning the Gabčíkovo-Nagymaros Project* (*Hungary/Slovakia*)[411] also bears on questions concerning liability and the protection of the environment. While initially the application by Hungary was partly couched in the language of "liability", it was later refined and contextualized within the confines of the law of treaties and the law of State responsibility. The dispute in the case related to the 1977 Treaty providing for the Construction and Joint Operation of the Gabčíkovo-Nagymaros Barrage System, by the terms of which Hungary and Czechoslovakia had agreed to erect, as a "joint investment", a reservoir upstream of Dunakiliti in Hungary and Czechoslovakia, a dam at Dunakiliti on the Hungarian side, a bypass canal on the Czech side diverting in part the course of the Danube river on which was to be constructed a system of locks, two hydroelectric power stations, one at Gabčíkovo on the Czech side and other at Nagymaros on the Hungarian side, as well as the deepening of the riverbed. The power generators were supposed to begin between 1986 and 1990.

242. However, the deadline was extended to 1994 and in the meanwhile one of the parties, Hungary, commissioned a re-evaluation of the project giving priority to ecological considerations over and above economic ones. It subsequently, in 1989, suspended construction on its side of the Gabčíkovo and on Nagymaros. Failure of diplomatic exchanges and negotiations between the two sides led the Government of Czechoslovakia to continue with a "provisional solution", which essentially entailed limiting construction works and diverting the Danube to Slovak territory.[412] The diversion was unilateral. Despite the efforts of the Commission of the European Community, on 19 May 1992, Hungary gave notice of its unilateral termination of the 1977 Agreement effective 25 May 1992.

243. In October 1992, as a result of a failure to settle the dispute, Hungary submitted an application against the Czech and Slovak Federal Republic to the International Court of Justice claiming that it had been prompted to terminate the agreement because it could not accept, inter alia, "that the population of the region suffers from the consequences of the functioning of a barrage system planned

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[410] *I.C.J. Reports 1995*, p. 288, at pp. 378. See also the dissenting opinions of Judges Weeramantry and Parmer in the request for an examination of the situation in accordance with paragraph 63 of the Court's judgment of 20 December 1974 in the *Nuclear Tests* (*New Zealand v. France*) case, *I.C.J. Reports 1995*, p. 288, at pp. 345-347 and 406-421.

[411] *Case concerning the Gabčíkovo-Nagymaros Project* (*Hungary/Slovakia*), *I.C.J. Reports 1997*, p. 7.

[412] The alternative known as "Variant C" entailed a unilateral diversion of the Danube by Czechoslovakia in its territory some 10 km upstream of Dunakiliti. In its final stage, Variant C included the construction at Cunovo of an overflow dam and a levee linking the dam to the South Bank of the bypass canal.

without professional and public control, that the irreversible damage afflicts the ecological and environmental resources of the region, first of all the presently available and potential drinking water and reserves of millions of people, that degradation and, in certain cases, extinction threaten the vegetation and fauna of the region, that serious damage afflicts unique landscapes, that imminent catastrophe threatens the population due to barrages and dykes of sufficient stability as a consequence of shortcomings of research and planning".[413]

244. Hungary further contended that the construction of the provisional solution would cause "practically as serious a danger as" would happen "by the realization of the original plans of the Gabčíkovo power station" and that the provisional solution, by diverting the natural course of the Danube, violated the territorial integrity of Hungary,[414] rules and principles of customary international law regulating the utilization of international environmental resources,[415] as well as the "principle of transboundary harm affecting the neighbouring State" as reflected, inter alia, in the *Trail Smelter* arbitration, the *Corfu Channel* case and principle 21 of the Stockholm Declaration.[416]

245. On 1 January 1993, Slovakia became an independent State. On 2 July 1993, the parties requested the Court, by Special Agreement which entered into force on 28 June 1993, "on the basis of the 1977 Treaty and rules and principles of international law, as well as such other treaties as the Court may find applicable", to make determinations on a number of legal questions, including whether Hungary was entitled to suspend and subsequently abandon as it had in 1989 the works on the Nagymaros project and on the Gabčíkovo project which was under its responsibility and whether the Czech and Slovak Federal Republic was entitled, in November 1991, to the "provisional solution" and to put it into operation as from October 1992.

246. At the proceedings, Hungary changed focus and placed reliance on grounds embedded, albeit not exclusively, in the law of treaties and in the law of State responsibility, justifying its conduct on the ground of "state of ecological necessity", alleging that there would be stagnation of water, siltation, serious impairment of water, extinction of fluvial fauna and flora, erosion of the riverbed, and that aquatic habitats would be threatened.[417] On its part, Slovakia denied that the basis for suspending or abandoning the performance of a treaty obligation could be found outside the law of treaties.[418] It also argued that the state of necessity as contended by Hungary did not constitute a reason for the suspension of a treaty obligation recognized by the law of treaties. It also doubted whether "ecological necessity" or "ecological risk", in relation to the law of State responsibility, constituted a circumstance for precluding wrongfulness. At any rate, it denied that there had been any state of necessity in the case either in 1989 or subsequently.[419]

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[413] *32 ILM* (1993) 1260, at p. 1261.
[414] Ibid.
[415] Ibid., p. 1286.
[416] Ibid., p. 1287. However, Hungary acknowledged that there was no basis on which the Court could found its jurisdiction to consider the application.
[417] *I.C.J. Reports 1997*, p. 7, at para. 40. See also paras. 41-42.
[418] Ibid., para. 43.
[419] Ibid., para. 44. See also para. 45.

247. In rejecting part of Hungary's argument that, by suspending and subsequently abandoning the works it had not suspended or rejected the 1977 Treaty, the Court noted that by invoking the state of necessity Hungary had placed itself from the outset within the ambit of the law of State responsibility. This implied that, in the absence of such a circumstance, its conduct would have been unlawful.[420]

248. The Court went on to consider whether on the facts a State of necessity existed. It evaluated the matter in the light of the criteria laid down by the International Law Commission in its draft articles on international responsibility of States for internationally wrongful acts. It determined that the state of necessity could only be invoked under certain strictly defined and cumulatively considered conditions, noting that the following conditions reflected customary international law:

> "It must have been occasioned by an 'essential interest' of the State which is the author of the act conflicting with one of its international obligations; that interest must have been threatened by 'grave and imminent peril'; the act being challenged must have been the 'the only means' of safeguarding that interest; that act must not have 'seriously impair[ed] an essential interest' of the State towards which the obligation existed; and the State which is the author of that act must not have 'contributed to the occurrence of the state of necessity'."[421]

249. In ascertaining whether Hungary met those conditions at the time of suspension and abandonment, the Court had "no difficulty in acknowledging that the concerns expressed by Hungary for its natural environment in the region affected by the Gabčíkovo-Nagymaros project related to an 'essential interest of that State' within the meaning of the Commission's draft articles".[422] It stressed the great significance that it attached to respect for the environment, not only for States but also for the whole of mankind.

250. While acknowledging the gravity of the situation, namely the possible existence of facts on which the principle of "ecological necessity" could be grounded, the Court nevertheless had difficulties in accepting that the alleged peril (i.e. the "uncertainties" as to the ecological impact of the barrage system) was sufficiently certain and therefore imminent in 1989 when notice of suspension and abandonment was given. In adumbrating the definition of what was perilous, the Court did not preclude the possibility that "a 'peril' appearing in the long term might be imminent as soon as it is established, at the relevant point in time, that the realization of that peril, however far off it might be, is not thereby any less certain and inevitable".[423]

251. Concerning first the situation at Nagymaros, the Court noted that the dangers ascribed to the upstream reservoir were of a mostly long-term nature and remained uncertain. In regard to the lowering of the riverbed downstream, it noted that while the danger appeared more serious and more pressing since it would affect the supply of drinking water, the riverbed had been deepened prior to 1980. Consequently, it

[420] Ibid., para. 48.
[421] Ibid., para. 52.
[422] Ibid., para. 53.
[423] Ibid., para. 54.

could not represent a peril arising entirely out of the project. Moreover, in its view, Hungary had other means of responding to the situation.[424]

252. Secondly, concerning the Gabčíkovo sector, the Court noted that the peril (i.e. the quality of the surface water in the Dunakiliti reservoir, with its effects on the quality of the groundwater in the region as well as effects on the fauna and flora in the alluvial plain of the Danube), was long term and remained uncertain. Moreover, the quality of the water had improved and Hungary had other means to respond to the dangers that it apprehended.[425]

253. In the final analysis, the Court found that the perils involved, without prejudging their possible gravity, were not sufficiently established in 1989 nor were they "imminent". Moreover, Hungary had available to it at that time other means of responding to such perceived perils.[426] As a consequence, the Court did not consider it necessary to address the question whether Hungary, by proceeding as it did in 1989, had "seriously impair[ed] an essential interest of" Czechoslovakia within the meaning of the Commission's draft articles.[427] It thus found that Hungary was not entitled to suspend and subsequently abandon, in 1989, the works on the Nagymaros project and on the part of the Gabčíkovo project for which the 1977 Treaty and related instruments attributed responsibility to it.

254. Concerning the question whether the Czech and Slovak Federal Republic was entitled to proceed in 1991 to the "provisional solution", Czechoslovakia, and subsequently Slovakia, had maintained that proceeding to such solution and putting it into operation did not constitute internationally wrongful acts. In addition, Slovakia invoked the "principle of approximate application", namely a solution which was as close to the original project as possible. In the alternative, it was maintained that the putting into operation could be justified as a countermeasure. Hungary, in turn, contended that the provisional solution was a material breach of the 1977 Treaty and a violation of obligations under other treaties and under general international law.

255. The Court determined that the provisional solution differed sharply from the legal characteristics provided for in the 1977 Treaty for the construction of the project as a joint investment constituting a single and indivisible operational system of works. The solution also essentially led Czechoslovakia to appropriate for its use and benefit between 80 and 90 per cent of waters of the Danube before returning them to the main bed of the river. Consequently, by putting the provisional solution into operation, Czechoslovakia was not applying the 1977 Treaty. It also violated certain of its express provisions, thus committing an internationally wrongful act.[428]

256. Having found that an internationally wrongful act had been committed, the Court proceeded to consider whether the plea of countermeasures was meritorious. It again had recourse to the draft articles of the International Law Commission.

257. In the first place, the Court found that although the provisional solution was not primarily presented as a countermeasure, it was clear that it was a response to Hungary's suspension and abandonment of works and directed against Hungary in

[424] Ibid., para. 55.
[425] Ibid., para. 56.
[426] Ibid., para. 57.
[427] Ibid., para. 58.
[428] Ibid., para. 78.

response to its previous internationally wrongful act, namely the suspension and abandonment of the project.[429]

258. Secondly, the Court found that Czechoslovakia, as an injured State, by requesting Hungary to resume the performance of its Treaty obligation on many occasions, had called upon the State committing the wrongful act to discontinue its wrongful conduct or to make reparation therefor.[430]

259. Thirdly, the Court considered whether the response by Czechoslovakia was proportional to the injury. In determining whether the effects of the countermeasure were commensurate with the injury suffered, it found that Czechoslovakia, by unilaterally assuming control of a shared resource, thereby depriving Hungary of its right to an equitable and reasonable share of the natural resources of the Danube — with the continuing effects of the diversion of those waters on the ecology of the riparian area of Szigetkoz — had failed to respect the proportionality required by international law. It did not view the fact that Hungary had agreed to the diversion of the Danube in the context of the original project as tantamount to an authorization for Czechoslovakia to proceed with a unilateral diversion of "this magnitude" without Hungary's consent.[431] The diversion was an unlawful countermeasure. The Court therefore refrained from addressing the other pertinent question: whether its purpose was to induce the wrongdoing State to comply with its obligations under international law; and whether the measure must therefore be reversible.[432] In its reply to the question posed in the Special Agreement, the Court therefore found that Czechoslovakia was entitled to proceed in November 1991 to the provisional solution insofar as it then confined itself to undertaking works which did not predetermine the final decision to be taken by it. However, Czechoslovakia was not entitled to put the provisional solution into operation as from October 1992.[433]

260. Having disposed of the declaratory aspects of its judgment, the Court proceeded also to prescribe certain rights and obligations for the parties the modalities of which would be the subject of agreement by the parties. It required the parties together to look afresh at the effects on the environment of the operation of the Gabčíkovo power plant and in particular find a satisfactory solution for the volume of water to be released into the old bed of the Danube and into the sidearms on both sides of the river. In its prescription, the Court was:

> "mindful that, in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of damage to the environment and of the limitations inherent in the very mechanism of reparation of this type of damage.
>
> "Throughout the ages, mankind has, for economic and other reasons, constantly interfered with nature. In the past, this was often done without consideration of the effects upon the environment. Owing to new scientific insights and to a growing awareness of the risks for mankind — for present and future generations — of the pursuit of such interventions at an

[429] Ibid., para. 83.
[430] Ibid., para. 84.
[431] Ibid., paras. 85-86.
[432] Ibid., para. 87.
[433] Ibid., para. 88. The Court was also requested to determine the legal effects of the notification on 19 May 1992 of the termination of the 1977 Treaty by Hungary, see generally paras. 89-115.

unconsidered and unabated pace, new norms and standards have been developed, set forth in a great number of instruments during the last two decades. Such new norms have to be taken into consideration, and such new standards given proper weight, not only when States contemplate new activities but also when continuing with activities begun in the past. This need to reconcile economic development with protection of the environment is aptly expressed in the concept of sustainable development."[434]

II. The party that is liable

261. In examining the issue of the liable party, reference should be made to the polluter-pays principle, a principle developed first in a legal context by the Organization for Economic Cooperation and Development in 1972. This principle is different from the principle of the operator's liability provided for in many civil liability conventions. However, new approaches to the principle seem to accentuate its remedial function, which is also extant in civil liability regimes. Therefore, the present chapter of the study provides an overview of the polluter-pays principle and then examines the issue of the party that is liable in international law.

A. The polluter-pays principle

1. Historical development

262. The polluter-pays principle was enunciated by the Council of OECD in 1972. In its publication *Environment and Economics: Guiding Principles Concerning International Economic Aspects of Environmental Policies*, OECD in recommendation C(72)128, adopted on 26 May 1972, recommended:

> "The principle to be used for allocating costs of pollution prevention and control measures to encourage rational use of scarce environmental resources and to avoid distortion in international trade and investment is the so-called 'polluter-pays principle'. This principle means that the polluter should bear the expenses of carrying out the above-mentioned measures decided by public authorities to ensure that the environment is in an acceptable state. In other words, the cost of these measures should be reflected in the cost of goods and services which cause pollution in production and/or consumption. Such measures should not be accompanied by subsidies that would create significant distortion in international trade and investment."[435]

263. The polluter-pays principle holds the polluter who creates an environmental harm liable to pay compensation and the costs to remedy that harm. This principle was set out by OECD as an economic principle and as the most efficient way of allocating the costs of pollution prevention and control measures so as to encourage the rational use of scarce environmental resources and to avoid distortions in international trade and investment. The basis of the principle was the "assertion that as a matter of economic policy, free market internationalization of the costs of

[434] Ibid., paras. 141-142.

[435] OECD, "Environment and Economics: Guiding Principles concerning International Economic Aspects of Environmental Policies", C(72)128, 1972 WL 24710, 26 May 1972, annex, para. 1.

publicly mandated technical measures is preferable to the inefficiencies and competitive distortions of governmental subsidies".[436]

264. The polluter-pays principle was not set forth as a liability or a legal principle. Two years later, in 1974, OECD published a note on the implementation of the principle.[437] The note was adopted as recommendation C(74)223 on 14 November 1974.

265. The OECD recommendation on the implementation of the polluter-pays principle reaffirms the economic basis of the principle. The relevant parts of the recommendation read as follows:

> "1. The polluter-pays principle constitutes for member countries the fundamental principle for allocating costs of pollution prevention and control measures introduced by the public authorities in member countries;
>
> "2. The polluter-pays principle, as defined by the Guiding Principle concerning International Economic Aspects on Environmental Policy, which take account of the particular problems possibly arising for developing countries, meant that the polluter should pay the expenses of carrying out the measures, as specified in the previous paragraph, to ensure that the environment is in an acceptable state. In other words, the cost of these measures should be reflected in the cost of goods and services which cause pollution introduction and/or consumption".

266. The recommendation goes on to indicate that the uniform application of the principle by the member countries in their environmental policies is indispensable to a successful implementation of the principle. It discourages States from providing any financial relief in terms of either subsidies or tax relief to their industries causing pollution. Its economic objective is to internalize the cost of environmental pollution. Internalizing in this context refers to the industry that causes the pollution. With the exception of a few cases, it discourages States from assisting the industry in the payment of that cost. Under this economic theory, the cost of pollution control will be borne by the users of the goods and services produced by that industry.

267. On 7 July 1989, OECD recommendation C(89)88 extended the scope of the polluter-pays principle beyond chronic pollution caused by ongoing activities to cover accidental pollution, in particular, hazardous installations.[438] The appendix to the recommendation on Guiding Principles Relating to Accidental Pollution provides, in paragraph 4, that:

> "[i]n matters of accidental pollution risks, the polluter-pays principle implies that the operator of a hazardous installation should bear the cost of reasonable measures to prevent and control accidental pollution from that installation which are introduced by public authorities in member countries in conformity

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[436] Sanford E. Gaines, "The Polluter-pays Principle: From Economic Equity to Environmental Ethos", *26 Texas International Law Journal* (1991), 470.

[437] Note by the Environment Committee on Implementation of the Polluter-Pays Principle [ENV(73)32(Final)].

[438] See also Recommendation of the Council of 28 April 1981 on Certain Financial Aspects of Action by Public Authorities to Prevent and Control Oil Spills [C(81)32(Final)] and the Concluding Statement of the OECD Conference on Accidents Involving Hazardous Substances held in Paris on 9 and 10 February 1988 [C(88)83].

with domestic law prior to the occurrence of an accident in order to protect human health or the environment."

268. The Guiding Principles provide that for reasons of convenience, the operator or the administrator should bear the cost. According to paragraph 6, when a third party is liable for the accident, that party reimburses to the operator the cost of reasonable measures to control accidental pollution taken after an accident. The recommendation also provides that if the accidental pollution is caused solely by an event for which the operator clearly cannot be considered liable under national law, such as a serious natural disaster that the operator cannot reasonably have foreseen, it is consistent with the polluter-pays principle that the public authorities do not charge the cost of control measures to the operator.

269. The Council of the European Community also adopted its own recommendation on the application of the polluter-pays principle on 7 November 1974.[439] In Council recommendation 74/436/Euratom of 3 March 1975, "polluter" was defined as "someone who directly or indirectly damages the environment or who creates conditions leading to such damage".[440] This is a broad definition which has been criticized as one that could possibly include automobile drivers and farmers and factory owners and community sewage treatment plants.[441] If the class of responsible polluters cannot be clearly defined, the Commission recommended that the Government allocate costs with a view to administrative as well as economic efficiency.[442]

270. Paragraph 3 of the recommendation provides that if identifying the polluter proves impossible or too difficult, and hence arbitrary, particularly where environmental pollution arises from several simultaneous causes, cumulative pollution, or from several consecutive causes or pollution chain, the cost of combating pollution should be borne at the point in the pollution chain or in the cumulative pollution process, and by the legal or administrative means which offer the best solution from the administrative and economic points of view and which make the most effective contribution towards improving the environment. Thus, in the case of pollution chains, costs should be charged at the point at which the number of economic operators is least and control is easiest, or else at the point where the most effective contribution is made towards improving the environment, and where distortions to competition are avoided.

271. As regards what the polluters should pay for, the Commission recommendation provides in paragraph 5 that polluters will be obliged to bear:

"(a) Expenditure of pollution control measures (investment in anti-pollution installations and equipment, introduction of new processes, cost of

[439] "Council Recommendation on the Application of the Polluter-pays Principle", 7 November 1974, 14 ILM (1975) 138. See also the first European Community (EC) Action Programme on the Environment issued in 1973, *Official Journal* C112, 20.12.73, noting that the "cost of preventing nuisances must be in principle be borne by the polluter".

[440] See 74/436/Euratom, European Coal and Steel Community (ECSC), European Economic Community (EEC): "Council Recommendation of 3 March 1975 Regarding Cost Allocation and Action by Public Authorities on Environmental Matters", *Official Journal* L194, vol. 18, 1975, p. 2, para. 3.

[441] See Gaines, op. cit., p. 472.

[442] See *Council Recommendation Regarding Cost Allocation*, op. cit., note 440, p. 2, para. 3.

running anti-pollution installations, etc.), even when these go beyond the standards laid down by the public authorities;

"(b) The charges:

The costs to be borne by the polluter (under the 'polluter-pays principle') should include all the expenditure necessary to achieve an environmental quality objective including the administrative costs directly linked to the implementation of anti-pollution measures.

The costs to the public authorities of constructing, buying and operating pollution monitoring and supervision installations may, however, be borne by those authorities."

272. The European Union's commitment to the polluter-pays principle later appeared in the Single European Act of 1987, which amended the Treaty of Rome. The Act granted the European Community for the first time the express power to regulate environmental affairs. It specifically referred to the polluter-pays principle as a principle governing such regulations: "Action by the Community relating to the environment shall be based on the principle that preventive action should be taken, that environmental damage should as a priority be rectified at the source, and that the polluter should pay."

273. The Treaty establishing the European Community provides in paragraph 2 of article 174 that:[443]

"Community policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Community. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.

"In this context, harmonization measures answering environmental protection requirements shall include, where appropriate, a safeguard clause allowing member States to take provisional measures, for non-economic environmental reasons, subject to a Community inspection procedure."

274. The Union has also applied the polluter-pays principle to other sources of pollution. For example, the Community approved the Directive on the supervision and control within the European Community of the transfrontier shipment of hazardous waste, which expressly instructed member States to impose the costs of waste control on the holder of waste and/or on prior holders or the waste generator in conformity with the polluter-pays principle.[444]

275. Moreover, under Directive 2004/35/EC of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, the

[443] The Treaty of Maastricht of 1993 introduced the protection of the environment as one of the aims of the EC in article 2. With the Treaty of Amsterdam of 1999, the articles were renumbered. The environmental protection provisions remained substantially unchanged in the Treaty of Nice of 2001.

[444] Council directive 84/631/EEC of 6 December 1984 on the Control within the European Community of the Transfrontier Shipment of Hazardous Waste, *Official Journal* No. L326/31, 1984. The directive was modified in 1986 to apply to movements of hazardous wastes leaving the Union (Directive 86/279/EEC).

polluter-pays principle applies in respect of an operator causing environmental damage.[445]

276. The polluter-pays principle is referred to in a number of international instruments. It appears in very general terms as principle 16 of the Rio Declaration:

> "National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment."

277. It also finds reference, for example, in the 1990 International Convention on Oil Pollution Preparedness, Response and Cooperation;[446] the 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention);[447] the 1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area; the 1992 Convention on the Protection of the Marine Environment of the Black Sea against Pollution;[448] the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes; the 1992 Convention on the Transboundary Effects of Industrial Accidents; and the 1993 Lugano Convention.[449]

278. The 2003 Kiev Protocol, in its preamble, refers to the polluter-pays principle as "a general principle of international environmental law, accepted also by the parties to" the 1992 Protection and Use of Watercourses Convention and Lakes and the 1992 Industrial Accidents Convention.

279. In the *Indian Council Enviro-Legal Action v. Union of India*,[450] the Supreme Court of India held that the polluter-pays principle was a sound principle. In *India-Vellore Citizens Welfare v. Union of India*,[451] the Court confirmed that the "precautionary principle and the polluter-pays principle have been accepted as part of the law of the land". After analysing the constitutional provisions guaranteeing the right to life and protection of personal liberty and other provisions concerning the protection and improvement of the environment as well as "plenty of post-independence legislation" on the subject, the Court had "no hesitation in holding that the precautionary principle and the polluter-pays principle are part of the environmental law of the country". The Supreme Court went on to assert:

> "Even otherwise, once these principles are accepted as part of customary international law there would be no difficulty in accepting them as part of the domestic law."

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[445] Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage, *Official Journal* L.143/56, 30 April 2004.

[446] *30 ILM* (1990), 735.

[447] *32 ILM* (1993), 1069. Article 2 (1)(b) provides:

> "The Contracting Parties shall apply the polluter pays principle, by virtue of which the costs of pollution prevention, control and reduction measures are to be borne by the polluter."

[448] Ibid., p. 1110.

[449] The preamble states: "Having regard to the desirability of providing for strict liability in this field taking into account the 'polluter pays principle'."

[450] Supreme Court of India (1996), 3 Supreme Court Cases, 212.

[451] Ibid., Air 1996 SC 2715.

280. In the arbitration between France and the Netherlands concerning the application of the Convention of 3 December 1976 on the Protection of the Rhine against Pollution and the Additional Protocol of 25 September 1991 against Pollution from Chlorides (France/Netherlands), the arbitral tribunal was requested to consider the polluter-pays principle in its interpretation of the Convention, although it was not expressly referred to therein. The tribunal concluded, in its award dated 12 March 2004, that, despite its importance in treaty law, the polluter-pays principle was not a part of general international law and was therefore not pertinent to its interpretation of the Convention.[452]

281. In *Indian Council Enviro-Legal Action v. Union of India*, the Court suggested that "any principle evolved in this behalf should be simple, practical and suited to the conditions obtaining in this country".

282. In practice, the polluter-pays principle has not been fully implemented. A report prepared by OECD in 1989 indicated that subsidies were widely used by Governments to ease the economic burden of the polluter. In addition, it has been interpreted in such a way as "to justify its subsidy schemes as being compatible with the principle".[453] In its report on the implementation of Agenda 21, the United Nations noted:

> "Progress has been made in incorporating the principles contained in the Rio Declaration … including … the polluter-pays principle … in a variety of international and national legal instruments. While some progress has been made in implementing United Nations Conference on Environment and Development commitments through a variety of international legal instruments, much remains to be done to embody the Rio principles more firmly in law and practice."[454]

283. The precise contours and breadth of the polluter-pays principle are unclear. It has different interpretations in different contexts.[455] It has been suggested that the "polluter-pays principle in its original formulation applied only to the costs of 'pollution prevention and control measures … decided by public authorities'". Such

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[452] The matter of the arbitration between the Kingdom of the Netherlands and the French Republic in application of the Convention of 3 December 1976 and the Additional Protocol of 25 September 1991 on the Protection of the Rhine against Pollution from Chlorides. The tribunal, composed of Professor Krzysztof Skubiszewski (President), Judge Gilbert Guillaume (France), and Judge Peter Kooijmans (Netherlands), stated, in pertinent part:

> "102 … The tribunal notes that the Netherlands, in support of its claim, has referred to the 'polluter pays' principle."
>
> "103. The tribunal concludes that the principle is found in some international instruments, both bilateral and multilateral, and has had varying levels of effectiveness. Despite its importance in treaty law, the tribunal does not believe that this principle is a part of general international law." (paras. 102-103.)

Arbitral Award of 12 March 2004, available at www.pca-cpa.org.

[453] Gaines, op. cit., p. 479.

[454] General Assembly resolution S/19-2, para. 14.

[455] Jonathan Remy Nash, "Too Much Market? Conflict between Tradable Pollution allowances and the 'Polluter pays' principle", *24 Harv. L.Rev* (2000) 465, at p. 472. He quotes Professor Hans Bugge, who identifies four versions:

(a) The polluter-pays principle as an economic principle; a principle of efficiency;
(b) As a legal principle; a principle of ('just') distribution of costs;
(c) As a principle of international harmonization of national environmental policy;
(d) As a principle of allocation of costs between States.

costs include: (a) the costs of pollution control at individual facilities; (b) the costs of collective measures on behalf of a group of polluters; and (c) associated administrative costs.[456] In its original formulation the principle also anticipated "exceptional or special arrangements". On the other hand, the liability and compensation components of the 1989 OECD Guiding Principles relating to accidental pollution cover (a) the cost of "reasonable measures to prevent ... accidental pollution" and (b) the cost of controlling and remedying accidental pollution.[457] Thus, OECD "moved the principle … from pure precaution to pure liability for compensation".[458] However, the polluter-pays principle as extended does not seem to cover all the damages that are recoverable from private parties in civil liability regimes. The guiding principles expressly exclude, for instance, "measures to compensate victims for the economic consequences of an accident", even if those measures are instituted by public authorities.[459]

284. EU Directive 2004/35/CE on environmental liability with regard to the prevention and remedying of environmental damage would be "implemented through the furtherance of the polluter-pays principle, as indicated in the Treaty and in line with the principle of sustainable development". Thus the Directive seeks to establish a common framework for the prevention and remedying of environmental damage at a reasonable cost to society. Its fundamental principle would be to make the operator of an activity financially liable for (a) the environmental damage or (b) the imminent threat of such damage, as an inducement to such an operator to adopt measures and develop practices to minimize the risks of environmental damage so that their exposure to financial liabilities is reduced. It is asserted that, according to the polluter-pays principle, an operator causing environmental damage or creating an imminent threat of such damage should, in principle, bear the cost of the necessary preventive or remedial measures. Moreover in cases where a competent authority acts either by itself or with a third party, it shall ensure that it recovers costs incurred from the operator. Similarly, it is considered appropriate that the operator should ultimately bear the cost of assessing environmental damage as well as the imminent threat of occurrence of such damage occurring.

285. These new approaches seem to demonstrate a willingness to give the polluter-pays principle a "remedial and compensatory function".

286. It has been countenanced that the "polluter pays principle" in its fullest sense be employed to establish the legal principle that the "polluter should bear *all* costs

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[456] See Gaines, op. cit., p. 473.

[457] Ibid., pp. 483-484. Gaines points out that some of the costs involved in the control of accidental pollution may be prevention-oriented, but some others may be strongly remedy-oriented. Among the costs mentioned by the OECD Guidelines on Principles relating to Accidental Pollution are costs such as those involved in rehabilitating the polluted environment. The choice and types of environmental rehabilitation take the polluter-pays principle fairly far towards a liability concept for what polluters should pay. In the United States of America, for example, if a source of accidental pollution is responsible for restoration of the environment, that responsibility is considered a measure for compensation of damage inflicted, not a preventive or protective measure. A similar approach is evident in the natural resources section of the United States Statute that imposes liability for remedial costs of hazardous waste clean-up. For example, in the case *Ohio v. Department of the Interior*, the Court held that the cost of restoration was the preferred measure of damages. See 880 F.2d 432, at p. 444, 1989.

[458] Ibid., p. 483.

[459] Ibid., p. 485.

that its activities may generate".[460] While departure from the general rule would be justified at the domestic level, it has been argued that it would be difficult to offer any justification in cases of transboundary harm:

> "It is unlikely that the foreign injured party participated in the decision about the basic environmental standards to be adopted. Moreover, the foreign party probably benefits only remotely, if at all, from the source of the economic activity. The source should therefore be obliged to compensate for and abate any harms inflicted beyond the border, with one important exception. If the State in which the injured party resides has an environmental standard applicable to the offending activity that would have permitted the activity to occur lawfully on the same basis or a less protective basis than the law of the source country, then the principles of non-discrimination dictate that the injured party should not be compensated. On the other hand, if the receiving State's standards are *more* stringent, the full application of the [polluter-pays principle] dictates that the source should be liable on the same terms as it would have been if it had operated in the receiving State."[461]

2. Component elements of the polluter-pays principle

(a) The right of equal access

287. Equal access to national remedies has been considered as one way of implementing the polluter-pays principle. This principle has been endorsed by OECD and purports to afford equivalent treatment in the country of origin to transboundary and domestic victims of pollution damage, or to those likely to be affected. The purpose of the right of equal access is to provide foreign claimants, on an equal footing with domestic claimants, opportunities to influence the process of initiation, authorization and operation of activities with transboundary implications for pollution damage as well as, ultimately, the litigation phase. The equal right of access may involve (a) access to information, (b) participation in administrative hearings and legal proceedings and (c) the application of non-discriminatory standards for determining the illegality of domestic and transboundary pollution.

(i) Access to information

288. Principle 10 of the Rio Declaration makes provision for the participation of the citizenry in decision-making processes involving environmental matters, including access to information on, for example, hazardous materials and activities in their communities. Other international instruments also provide for access to information. These include the Code of Conduct on Accidental Pollution on Transboundary Inland Waters; the 1991 Convention on Environmental Impact Assessment in a Transboundary Context;[462] the 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention); the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes;[463] the 1992 Convention on the Transboundary Effects of Industrial

[460] Ibid., P. 492. Emphasis in original.
[461] Ibid. Emphasis in original.
[462] *30 ILM* (1991), 800, article 3, para. 8.
[463] Article 16.

Accidents;[464] the 1992 United Nations Framework Convention on Climate Change;[465] the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses;[466] and the 1998 Convention on Access to Information, Public Participation in Decision-Making and Access to Justice on Environmental Matters (Aarhus Convention).[467]

289. On 28 January 2003, the European Parliament and Council adopted Directive 2003/4/EC on public access to environmental information.[468] It repeals as at 14 February 2005 an earlier Council Directive 90/313/EEC on freedom of access to information on the environment.[469] The Directive was necessary to ensure the consistency of Community law with the Aarhus Convention, signed by the European Community on 25 June 1998. It recognizes that increased public access to environmental information and the dissemination of such information contribute to a greater awareness of environmental matters, a free exchange of views, more effective participation by the public in environmental decision-making and, eventually, to a better environment. The Directive contains a broad definition of environmental information.[470]

290. In the African context, the 2003 African Convention on the Conservation of Nature and Natural Resources provides in article XVI:

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[464] Article 9.

[465] *31 ILM* (1992), 851, article 6.

[466] Article 12.

[467] *39 ILM* (1999), 517. Article 3 (9) reads :

> "Within the scope of the relevant provisions of this Convention, the public shall have access to information, have the possibility to participate in decision-making and have access to justice in environmental matters without discrimination as to citizenship, nationality or domicile and, in the case of a legal person, without discrimination as to where it has its registered seat or an effective centre of its activities."

[468] [*Official Journal* L.041 of 14 February 2003].

[469] [*Official Journal* L.158 of 23 June 1990].

[470] Article 2 (1) reads:

> "1. 'Environmental information' shall mean any information in written, visual, aural, electronic or any other material form on:
>
> (a) The state of the elements of the environment, such as air and atmosphere, water, soil, land, landscape and natural sites including wetlands, coastal and marine areas, biological diversity and its components, including genetically modified organisms, and the interaction among these elements;
>
> (b) Factors, such as substances, energy, noise, radiation or waste, including radioactive waste, emissions, discharges and other releases into the environment, affecting or likely to affect the elements of the environment referred to in (a);
>
> (c) Measures (including administrative measures), such as policies, legislation, plans, programmes, environmental agreements, and activities affecting or likely to affect the elements and factors referred to in (a) and (b) as well as measures or activities designed to protect those elements;
>
> (d) Reports on the implementation of environmental legislation;
>
> (e) Cost-benefit and other economic analyses and assumptions used within the framework of the measures and activities referred to in (c); and
>
> (f) The state of human health and safety, including the contamination of the food chain, where relevant, conditions of human life, cultural sites and built structures inasmuch as they are or may be affected by the state of the elements of the environment referred to in (a) or, through those elements, by any of the matters referred to in (b) and (c)."

"1. The Parties shall adopt legislative and regulatory measures necessary to ensure timely and appropriate:

(a) Dissemination of environmental information;

(b) Access of the public to environmental information;

(c) Participation of the public in decision-making with a potentially significant environmental impact; and ...".

291. Access to information involves making information readily available to the users and potential users. The North American Agreement on Environmental Cooperation between Canada, Mexico and the United States[471] requires each party to make a conscientious effort to publish laws, regulations, procedures and rulings that have a bearing on the Agreement, including information in advance of the measure to be taken.[472] The Aarhus Convention also contains a detailed provision on access to environmental information, covering both form and the substance, including circumstances in which access to information or disclosure may be denied.[473] EU Directive 2003/4/EC also contains detailed information on the

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[471] *4 Yearbook of International Environmental Law* (1993) 831.

[472] Article 4 of the Agreement provides:

"1. Each Party shall ensure that its laws, regulations, procedures and administrative rulings of general application respecting any matter covered by this Agreement are promptly published or otherwise made available in such a manner as to enable interested persons and Parties to become acquainted with them.

"2. To the extent possible, each Party shall:

(a) Publish in advance any such measure that it proposes to adopt; and

(b) Provide interested persons and Parties a reasonable opportunity to comment on such proposed measures."

[473] Article 4 reads:

"1. Each Party shall ensure that, subject to the following paragraphs of this article, public authorities, in response to a request for environmental information, make such information available to the public, within the framework of national legislation, including, where requested and subject to subparagraph (b) below, copies of the actual documentation containing or comprising such information:

(a) Without an interest having to be stated;

(b) In the form requested unless:

(i) It is reasonable for the public authority to make it available in another form, in which case reasons shall be given for making it available in that form; or

(ii) The information is already publicly available in another form.

"2. The environmental information referred to in paragraph 1 above shall be made available as soon as possible and at the latest within one month after the request has been submitted, unless the volume and the complexity of the information justify an extension of this period up to two months after the request. The applicant shall be informed of any extension and of the reasons justifying it.

"3. A request for environmental information may be refused if:

(a) The public authority to which the request is addressed does not hold the environmental information requested;

(b) The request is manifestly unreasonable or formulated in too general a manner; or

(c) The request concerns material in the course of completion or concerns internal communications of public authorities where such an exemption is provided for in national law or customary practice, taking into account the public interest served by disclosure.

"4. A request for environmental information may be refused if the disclosure would adversely affect:

obligations of member States in ensuring access to information free of charge or at a reasonable cost and its dissemination as well as the circumstances in which access to information may be refused.[474] It essentially seeks to respond to some of the

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(a) The confidentiality of the proceedings of public authorities, where such confidentiality is provided for under national law;

(b) International relations, national defence or public security;

(c) The course of justice, the ability of a person to receive a fair trial or the ability of a public authority to conduct an enquiry of a criminal or disciplinary nature;

(d) The confidentiality of commercial and industrial information, where such confidentiality is protected by law in order to protect a legitimate economic interest. Within this framework, information on emissions which is relevant for the protection of the environment shall be disclosed;

(e) Intellectual property rights;

(f) The confidentiality of personal data and/or files relating to a natural person where that person has not consented to the disclosure of the information to the public, where such confidentiality is provided for in national law;

(g) The interests of a third party which has supplied the information requested without that party being under or capable of being put under a legal obligation to do so, and where that party does not consent to the release of the material; or

(h) The environment to which the information relates, such as the breeding sites of rare species.

The aforementioned grounds for refusal shall be interpreted in a restrictive way, taking into account the public interest served by disclosure and taking into account whether the information requested relates to emissions into the environment.

"5. Where a public authority does not hold the environmental information requested, this public authority shall, as promptly as possible, inform the applicant of the public authority to which it believes it is possible to apply for the information requested or transfer the request to that authority and inform the applicant accordingly.

"6. Each Party shall ensure that, if information exempted from disclosure under paragraphs 3 (c) and 4 above can be separated out without prejudice to the confidentiality of the information exempted, public authorities make available the remainder of the environmental information that has been requested.

"7. A refusal of a request shall be in writing if the request was in writing or the applicant so requests. A refusal shall state the reasons for the refusal and give information on access to the review procedure provided for in accordance with article 9. The refusal shall be made as soon as possible and at the latest within one month, unless the complexity of the information justifies an extension of this period up to two months after the request. The applicant shall be informed of any extension and of the reasons justifying it.

"8. Each Party may allow its public authorities to make a charge for supplying information, but such charge shall not exceed a reasonable amount. Public authorities intending to make such a charge for supplying information shall make available to applicants a schedule of charges which may be levied, indicating the circumstances in which they may be levied or waived and when the supply of information is conditional on the advance payment of such a charge."

[474] Articles 3, 4, 5, 7 and 8 of the Directive. Article 3 reads:

"*Access to environmental information upon request*

"1. Member States shall ensure that public authorities are required, in accordance with the provisions of this Directive, to make available environmental information held by or for them to any applicant at his request and without his having to state an interest.

"2. Subject to Article 4 and having regard to any timescale specified by the applicant, environmental information shall be made available to an applicant:

(a) As soon as possible or, at the latest, within one month after the receipt by the public authority referred to in paragraph 1 of the applicant's request; or

(b) Within two months after the receipt of the request by the public authority if the volume and the complexity of the information is such that the one-month period

referred to in (a) cannot be complied with. In such cases, the applicant shall be informed as soon as possible, and in any case before the end of that one-month period, of any such extension and of the reasons for it.

"3. If a request is formulated in too general a manner, the public authority shall as soon as possible, and at the latest within the time frame laid down in paragraph 2 (a), ask the applicant to specify the request and shall assist the applicant in doing so, e.g. by providing information on the use of the public registers referred to in paragraph 5 (c). The public authorities may, where they deem it appropriate, refuse the request under article 4(1)(c).

"4. Where an applicant requests a public authority to make environmental information available in a specific form or format (including in the form of copies), the public authority shall make it so available unless:

(a) It is already publicly available in another form or format, in particular under article 7, which is easily accessible by applicants; or

(b) It is reasonable for the public authority to make it available in another form or format, in which case reasons shall be given for making it available in that form or format.

For the purposes of this paragraph, public authorities shall make all reasonable efforts to maintain environmental information held by or for them in forms or formats that are readily reproducible and accessible by computer telecommunications or by other electronic means.

The reasons for a refusal to make information available, in full or in part, in the form or format requested shall be provided to the applicant within the time limit referred to in paragraph 2 (a).

"5. For the purposes of this article, member States shall ensure that:

(a) Officials are required to support the public in seeking access to information;

(b) Lists of public authorities are publicly accessible; and

(c) The practical arrangements are defined for ensuring that the right of access to environmental information can be effectively exercised, such as:

– The designation of information officers;
– The establishment and maintenance of facilities for the examination of the information required;
– Registers or lists of the environmental information held by public authorities or information points, with clear indications of where such information can be found.

Member States shall ensure that public authorities inform the public adequately of the rights they enjoy as a result of this directive and to an appropriate extent provide information, guidance and advice to this end."

Article 4 reads:

"*Exceptions*

"1. Member States may provide for a request for environmental information to be refused if:

(a) The information requested is not held by or for the public authority to which the request is addressed. In such a case, where that public authority is aware that the information is held by or for another public authority, it shall, as soon as possible, transfer the request to that other authority and inform the applicant accordingly or inform the applicant of the public authority to which it believes it is possible to apply for the information requested;

(b) The request is manifestly unreasonable;

(c) The request is formulated in too general a manner, taking into account article 3(3);

(d) The request concerns material in the course of completion or unfinished documents or data;

(e) The request concerns internal communications, taking into account the public interest served by disclosure.

Where a request is refused on the basis that it concerns material in the course of completion, the public authority shall state the name of the authority preparing the material and the estimated time needed for completion.

problems experienced in the implementation of Directive 90/313/EEC, such as determining the type of information to be divulged and by whom; the practical arrangements for ensuring actual availability of the information; applicable exceptions; the duty of reply to requests, deadlines therefor and grounds for refusal; review procedures; applicable charges; and the need for continuous flow of information.

292. There also have been some judicial pronouncements that have asserted the importance of access to information. In a 1996 South African case, *Van Huyssteen and others v. Minister of Environmental Affairs and Tourism and others*, the applicants were granted the right to require information on how the environment in

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"2. Member States may provide for a request for environmental information to be refused if disclosure of the information would adversely affect:

(a) The confidentiality of the proceedings of public authorities, where such confidentiality is provided for by law;

(b) International relations, public security or national defence;

(c) The course of justice, the ability of any person to receive a fair trial or the ability of a public authority to conduct an enquiry of a criminal or disciplinary nature;

(d) The confidentiality of commercial or industrial information where such confidentiality is provided for by national or Community law to protect a legitimate economic interest, including the public interest in maintaining statistical confidentiality and tax secrecy;

(e) Intellectual property rights;

(f) The confidentiality of personal data and/or files relating to a natural person where that person has not consented to the disclosure of the information to the public, where such confidentiality is provided for by national or Community law;

(g) The interests or protection of any person who supplied the information requested on a voluntary basis without being under, or capable of being put under, a legal obligation to do so, unless that person has consented to the release of the information concerned;

(h) The protection of the environment to which such information relates, such as the location of rare species.

The grounds for refusal mentioned in paragraphs 1 and 2 shall be interpreted in a restrictive way, taking into account for the particular case the public interest served by disclosure. In every particular case, the public interest served by disclosure shall be weighed against the interest served by the refusal. Member States may not, by virtue of paragraph 2 (a), (d), (f), (g) and (h), provide for a request to be refused where the request relates to information on emissions into the environment.

Within this framework, and for the purposes of the application of subparagraph (f), member States shall ensure that the requirements of Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data are complied with.

"3. Where a member State provides for exceptions, it may draw up a publicly accessible list of criteria on the basis of which the authority concerned may decide how to handle requests.

"4. Environmental information held by or for public authorities which has been requested by an applicant shall be made available in part where it is possible to separate out any information falling within the scope of paragraphs 1 (d) and (e) or 2 from the rest of the information requested.

"5. A refusal to make available all or part of the information requested shall be notified to the applicant in writing or electronically, if the request was in writing or if the applicant so requests, within the time limits referred to in article 3(2)(a) or, as the case may be, (b). The notification shall state the reasons for the refusal and include information on the review procedure provided for in accordance with article 6."

an area where they wanted to erect a holiday house would be impacted by the construction of a development project. In *Greenwatch Ltd v. Attorney General and Uganda Electricity Transmission Company Ltd*, the High Court of Uganda held that every citizen has a right of access to information in the possession of the State.[475]

293. The *Case concerning access to information under article 9 of the OSPAR Convention between Ireland v. United Kingdom*,[476] in which a tribunal constituted pursuant to article 32 of the Convention had an opportunity to adjudicate over questions concerning access to information, bears on aspects of treaty interpretation concerning the treatment of confidential information. Acting on the basis of article 9 of the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention), Ireland requested access to information redacted from reports prepared as part of the approval process for the commissioning of a Mixed Oxide Plant ("the MOX Plant") in the United Kingdom. It requested:

> "full disclosure of two reports commissioned by the United Kingdom Government in the context of the authorization of a new facility at Sellafield for the production of mixed oxide (MOX) fuel … in order to be in a better position to consider the impacts which the commissioning of the MOX Plant will, or might have, on the marine environment … [and] to be able to assess the extent of the compliance by the United Kingdom with its obligations under … the OSPAR Convention, the 1982 United Nations Convention on the Law of the Sea … and various provisions of European Community law, including in particular Council Directive 96/29 Euratom".[477]

294. Ireland furthermore requested the tribunal to declare, inter alia, that the United Kingdom had breached its obligations under article 9 of the OSPAR Convention by refusing to make available information deleted from reports prepared by PA Consulting Group of London and by Arthur D. Little (ADL) requested by Ireland.[478] In response, the United Kingdom refused to disclose the full reports, contending that article 9 of the OSPAR Convention did not establish a direct right to receive information since it only required Contracting Parties to establish a domestic framework for the disclosure of information and the United Kingdom had done this. In addition, it contended that, at any rate Ireland was required to show that the information in question fell within the scope of paragraph 2 of article 9. Furthermore, it contended that pursuant to the terms of paragraph 3 (d) of the same article, Contracting Parties, in accordance with their national legal systems and applicable international regulations, had the right to refuse a request for information on the grounds of commercial confidentiality. The United Kingdom thus requested the tribunal to dismiss the claims for lack of jurisdiction and inadmissibility.[479]

295. The tribunal had the following questions for determination:

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[475] See Lal Karukulasuriya, "The role of the judiciary in promoting environmental governance," prepared for *Global Environmental Governance: the Post-Johannesburg Agenda*, 23-25 October 2003, Yale Center for Environmental Law and Policy New Haven, Connecticut, United States, www.yale.edu/gegdialogue/docs/dialogue/oct03/papers/Kurukulasuriya/20final.pdf, visited on 15 April 2004.

[476] www.pca-cpa.org/ENGLISH/RPC/OSPAR/OSPAR%20final%award%20revised.pdf.

[477] Ibid., para. 41.

[478] Ibid., para. 42.

[479] Ibid., para. 44.

First, whether paragraph 1 of article 9 of the Convention required a Contracting Party to disclose, or to set out a procedure to disclose, "information" within the meaning of paragraph 2 of the article.

Secondly, whether, if so, the material the disclosure of which Ireland had requested constituted "information" for the purposes of article 9 of the Convention.

And thirdly, whether, if so, the United Kingdom had redacted and withheld any — and what — information requested by Ireland contrary to paragraph 3 (d) of article 9.

296. The tribunal was unanimous in its decision to reject the request of the United Kingdom concerning questions of jurisdiction and admissibility. By a majority decision, however, it rejected the submission of the United Kingdom, as encapsulated in the first question, that the implementation of paragraph 1 of article 9 of the OSPAR Convention was assigned exclusively to the competent authorities in the United Kingdom and not to a tribunal established under the OSPAR Convention. In response to the second question, it found by a majority decision that the claim by Ireland for information did not fall within paragraph 2 of article 9, and as a consequence the majority did not deem it necessary to consider the third question, namely the claim by Ireland that the United Kingdom had breached its obligations under article 9 of the Convention by refusing, on the basis of its understanding of the requirements of paragraph 3 (d), to make available information.

297. Paragraph 1 of article 9 of the OSPAR Convention reads as follows:

> "The Contracting Parties shall ensure that their competent authorities are required to make available the information described in paragraph 2 of this article to any natural or legal person, in response to any reasonable request, without that person's having to prove an interest, without unreasonable charges, as soon as possible and at the latest within two months."

298. It was central to the argument of the United Kingdom that by requiring that the Contracting Parties shall "ensure that their competent authorities are required to make available information", the article in question did not create a direct obligation to supply particular information. A breach could only arise if there was a failure to provide a domestic regulatory framework dealing with the disclosure of information. On its part, Ireland argued that the relevant article constituted an "obligation of result" rather than an obligation to provide a domestic regulatory framework dealing with the disclosure of information.

299. In its reaching its decision, the majority observed that article 9 was an access-to-information provision that must be taken to articulate the intentions of the Contracting Parties as expressed within the framework of the general objectives and the particular other provisions of the Convention. It construed article 9 as an enforceable obligation in its particular subject matter like the other provisions of the Convention. "Its provisions for disclosure of defined information must be taken to have an intended bite beyond being an expression of aspirational objectives for the domestic laws of the Contracting Parties."[480]

[480] Ibid., para. 127.

300. The majority found that the main purpose of the OSPAR Convention was to protect the marine environment and to eliminate marine pollution in the North-East Atlantic. Read as a whole (including the annexes), it was plain that entire text of the Convention disclosed a carefully crafted hierarchy of obligations or engagement to achieve the disparate objectives of the OSPAR Convention. It found that contextually the use of "shall ensure" was a reflection of a deliberate wish by the framers to use differential language rather than a lax choice of vocabulary. It therefore construed the phrase as positing an obligation of the United Kingdom, as a "Contracting Party", to ensure something, namely that its competent authorities "are required to make available the information described in paragraph 2 … to any natural legal person, in response to any reasonable request".[481] Such obligation was "at the mandatory end of the scale" rather than merely making provision for access to a domestic regime which is directed at obtaining the required result.[482]

301. The tribunal also looked to the objective criteria specified in paragraph 1 of article 9, namely that the information must be available (a) to any natural or legal person; (b) in response to a reasonable request; (c) without the requester having to prove an interest; (d) without unreasonable charges; and (e) as soon as possible but at the latest within two months, and interpreted it as meaning that a compliance by Contracting States with such criteria might itself become a separate issue for arbitration under article 32.[483]

302. The tribunal also found support for its textual analysis from the relevant rules of international and EU law.[484] It noted however that the adoption of a similar or identical definition or term in international texts should be distinguished from the intention to bestow the same normative status upon both instruments. Consequently, it found that that OSPAR Convention and Directive 90/313/EEC were independent legal sources and that each "establishes a distinct legal regime and provides for different legal remedies". While article 4 of Directive 90/313/EEC provides that legal action against a State in breach should be pursued domestically, the "OSPAR Convention contains a particular and self-contained dispute resolution mechanism in article 32, in accordance with which this Tribunal acts."[485] In its view:

> "The similar language of the two legal instruments, as well as the fact that the 1992 Regulations [promulgated in the United Kingdom] are an implementing instrument for both Directive 90/313 and the OSPAR Convention, does not limit a Contracting Party's choice of a legal forum to only one of the two available … The primary purpose of employing the similar language is to create uniform and consistent legal standards in the field of the protection of the marine environment, and not to create precedence of one set of legal remedies over the other."

303. In a separate declaration, however, the chairman of the arbitral tribunal disagreed with the finding of the majority on the interpretation of the majority.[486] In his view, the words "ensure that their competent authorities are required to", in their plain meaning, constituted no more than an obligation to adjust domestic law in a

[481] Ibid., paras. 128-134.
[482] Ibid., paras. 132-135.
[483] Ibid., para. 136.
[484] Ibid., para. 139.
[485] Ibid., paras. 141-143.
[486] Ibid., first attachment, Declaration of Professor W. Michael Reisman.

prescribed way by providing for certain institutional recourses, for which specific criteria are provided. Paragraph 1 of article 9

> "is not expressed in terms to establish an obligation on the international plane to provide information, with the performance of that obligation in specific cases to be subject to the jurisdiction of a tribunal established under article 32."[487]

304. He noted that it would be anomalous and duplicitous for paragraph 1 of article 9 to require that Contracting Parties ensure that their national competent authorities should do something and to prescribe how it should be done, and then to assign the role of application in specific cases to an international tribunal.[488] He also observed that his interpretation was consistent with the other goals expressed in paragraph 1 of article 9 concerning timeliness of the responses, which could not otherwise be achieved by the cumbersome procedures envisaged under the dispute settlement mechanism envisaged under article 32.[489]

305. He disagreed with the majority on the textual and historical analysis of the provision. Textually, article 9 was the only provision that referred to another dispute settlement mechanism and, historically, article 9 OSPAR was unique, in that the antecedent instruments, namely the 1972 Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft[490] and the Paris Convention for the Prevention of Marine Pollution from Land-based Sources,[491] did not contain a comparable provision.[492]

306. The fact that the *travaux préparatoires* of paragraph 1 of article 9 indicated that the provisions of what later became article 9 (1) had been adjusted to ensure conformity with EC Directive 90/313/EEC was also found instructive in that both provisions were linked to an exclusive municipal remedy.[493]

307. In his conclusion, the chairman stated that the interpretation could have been consistent with common treaty practice obliging States to make adjustments in domestic law and, to the extent that they were able to do so appropriately, they had fulfilled their treaty obligations. The only international claim that would lie would be that the respondent State had failed to ensure that its municipal law was created or structured in such a way as to accomplish the objectives prescribed by the particular Convention.[494] In other words, paragraph 1 of article 9 was still subject to international standards:

> "Although such a provision must allow a certain discretion or 'margin of appreciation' as to its implementation to the Contracting Parties, the national arrangements must nonetheless meet whatever objective criteria are set out in the provision if they are not to be in breach of the Convention."[495]

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[487] Ibid., para. 6.
[488] Ibid., para. 7.
[489] Ibid., para. 8.
[490] United Nations, *Treaty Series*, vol. 982 (1972), p. 3.
[491] *13 ILM* (1974) 352.
[492] Declaration of Chairman of the Tribunal, W. Michael Reisman, op. cit., note 486, para. 9.
[493] Ibid., paras. 10-11.
[494] Ibid., paras. 12-14.
[495] Ibid., para. 19.

308. It was only questions relating to alleged violations of such criteria which would be admissible under article 32.

309. Concerning paragraph 2 of article 9, the tribunal unanimously found that the question raised by Ireland, namely whether the material the disclosure of which had been requested constituted "information" for the purposes of article 9 of the Convention, was substantive rather than concerning a question of admissibility or jurisdiction. Paragraph 2 reads as follows:

> "2. The information referred to in paragraph 1 of this article is any available information in written, visual, aural or database form on the state of the maritime area, on activities or measures adversely affecting or likely to affect it and on activities or measures introduced in accordance with the Convention."

310. The majority avoided addressing the question in the abstract and preferred to address it in the context of the 14 categories of information redacted from the reports. Such information related to estimated annual production capacity of the MOX facility; time taken to reach such capacity; sales volumes; probability of achieving higher sales volumes; probability of being able to win contracts for recycling fuel in "significant quantities"; estimated sales demand; percentage of plutonium already on site; maximum throughput figures; lifespan of the MOX facility; number of employees; price of MOX fuel; whether, and to what extent, there were firm contracts to purchase MOX from Sellafield; arrangements for the transport of plutonium to and from the MOX facility and from Sellafield; and the likely numbers of such transports.

311. The specific issue before the tribunal was whether the redacted portions of the PA and ADL reports, viewed as categories, constituted "information" within the meaning of paragraph 2 of article 9. The majority distinguished between the categories of the redaction and the content of those categories and felt that the former fell within the scope of paragraph 2, while the latter was to be determined in accordance with paragraph 3.[496]

312. The tribunal noted that the scope of the information appertaining to paragraph 2 was not environmental, in general, but consistent with the tenor of the OSPAR Convention concerning the "state of the maritime area". And according to the majority, none of the 14 categories in Ireland's list could plausibly be characterized as "information … on the state of the maritime area".[497]

313. The tribunal further proceeded to consider whether the drafters of the OSPAR Convention had adopted the interpretative theory of inclusive causality, by the terms of which "anything, no matter how remote", was deemed to be part of "an activity if it facilitated the performance of an activity".[498] It observed that paragraph 2 was concerned with three categories of information, namely "any available information" on "the state of the maritime area"; "any available information" on "activities or measures adversely affecting or likely to affect … the maritime area"; and "any available information" on "activities or measures introduced in accordance with the Convention". In their submissions, the parties focused on the second category, namely any available information on activities or measures adversely affecting or

[496] OSPAR Arbitration, Final Award, op. cit., note 472, para. 161.
[497] Ibid., para. 163.
[498] Ibid.

likely to affect the maritime area. Although the OSPAR Convention did not define "activities or measures", in its article 1, the majority determined that it was clear from other parts of the Convention that the term "measures" referred generically to regulatory initiatives by any part of the governmental apparatus of the Contracting Parties with respect to matters covered by the Convention, while "activities" referred to the actions, whether emanating from or expected by governmental or non-governmental entities, that would be the object of the "measures".[499] The tribunal also acknowledged the identical language in article 2 (a) of Directive 90/313 and the decision of the European Court of Justice in the *Mecklenburg* case, which remarked that the term "measures" served merely to make it clear that the acts governed by the directive included all forms of administrative activity. While the inclusion of both measures and activities denoted that the drafters intended the second category to cover a wide range of information, the tribunal stressed that information must be related to the state of the maritime area.[500]

314. The tribunal noted in addition that the second category also referred to two types of activities or measures, which included prospective activities and measures as well as those already under way. Unlike the other two categories, the second category was qualified by the adverbs "adversely" and "likely", thereby, in the view of the majority, excluding from the scope of the obligation of article 9 current activities or measures that affected or were likely to affect the maritime areas but did not affect it adversely and the prospective activities that were not likely to adversely affect the maritime area.[501] In adopting a restrictive construction, the tribunal refused to attribute to article 9 any possibility that it was a provision on "information relating to the environment". It thus found that Ireland had failed to demonstrate that the 14 categories of redacted items were "information" on the activities or measures adversely affecting or likely to affect the maritime area, or even if the 14 categories of items had constituted such information, the activities were not likely to adversely affect the maritime area.[502]

315. In his dissenting opinion, Gavan Griffith QC decried that the majority's decision to opt for a strict temporal approach and its rejection of the normative value of other instruments invoked by Ireland, such as the Aarhus Convention. He lamented also that it had not taken into account the adoption of Council Directive 2003/4/EC on public access to environmental information, which replaced the earlier Directive 90/313/EEC. He insisted that the OSPAR Convention should not have been interpreted as an isolated legal regime without taking into account newly emerged as well as emerging legal instruments.

316. He furthermore disagreed that the second and third categories of activities must be confined by reference to information "on the state of the maritime area". Indeed, the third category was defined by reference to "activities or measures introduced in accordance with the Convention". In his view, as a matter of unambiguous grammatical construction, the expression "any available information" on "activities or measures adversely affecting or likely to affect … the maritime area" was incapable of being confined to "information … on the state of the

[499] Ibid., para. 171.

[500] Ibid., para. 172; see also C-321/*96 Mecklenburg v. Kreis Pinneberg — Der Landrat* [1999] 2CMLR 418, 435.

[501] Ibid., paras. 173-175.

[502] Ibid., paras. 176-182.

maritime area".[503] He also considered that the majority had erred in confining itself to a "simplistic application of the definition under review to the 14 objectives of redacted items" and had failed to address the wider question concerning the extent and inclusiveness of the definition. The task of the tribunal should have been to consider whether the reports as a whole, in principle, fell within the scope of the definition:[504]

> "[O]nce [it is] established that the information contained in each report is in principle within article 9 (2), the entire reports have to be made available under the terms of article 9 (1) except as to parts protected as excepted under article 9 (3). There appears no room for a further analysis of redactions, category by category, in the article 9 (2) exercise in the manner summarily engaged by the majority."[505]

317. The dissenting opinion also found fault with the reasoning of the majority in focusing on the second category of information. The majority had misdirected itself in making a determinative finding of fact of no adverse effect because neither party had contended that the PA and the ADL reports were in themselves activities or measures with respect to the commissioning and operation of the MOX Plant.[506] The main point was whether the reports contained information on activities or measures within paragraph 2 of article 9. In making the finding as it did, the majority had effectively determined that future radioactive discharges into the Irish Sea did not constitute an activity which was likely to adversely affect the state of the maritime area. In the dissenting view:

> "The economic data collected and presented in the PA and ADL reports was an integral and necessary part of the required process to determine whether the pollution of the marine environment might be legitimized under the nuclear regimes. It was this data that was deployed by the decision makers (at the executive level of Ministers of State) in justification exercise for the commissioning of the MOX Plant … It is inherent in the justification test that economic analyses may be determinative of whether future environmental harm is legitimate and whether the activity that is likely to affect the maritime area should be authorized."[507]

318. Mr. Griffith also averred that the majority had erred in assuming that the burden of proof was on Ireland to establish that the MOX fuel production was an activity that was likely to adversely affect the State of the maritime area. By finding that Ireland had "failed to demonstrate" an adverse effect the majority was acting contrary to the precautionary principle embraced in paragraph 2 (a) of article 2 of the OSPAR Convention.[508] Moreover, he disagreed with the majority's interpretation of the adverb "likely", which in his view in fact raised a lower threshold than the one ascribed to it by the majority.[509]

319. The majority also had erred in not considering whether the information in the reports would fall within the third category of information. In the view of

[503] Ibid., second attachment, Dissenting opinion of Gavan Griffith, Q.C., para. 38.
[504] Paras. 34-44.
[505] Ibid., para. 45.
[506] Ibid., paras. 65-71.
[507] Ibid., paras. 109-110.
[508] Ibid., paras. 72-78.
[509] Ibid., paras. 79-82.

Mr. Griffith, the third category did not require a direct relationship between the maritime area and information on such activities or measures:[510]

> "[I]t suffices to establish that the reports contain information related to distinct measures or activities introduced in accordance with the OSPAR Convention ... Plainly, the PA and the ADL reports have had determinative effects on the authorization of discharges into the maritime area by the United Kingdom Government, as the findings of the reports were used … in preparing the decision for the manufacture of MOX fuel."[511]

(ii) Participation in administrative hearings and legal proceedings

320. The recommendation by OECD notes that participation in administrative hearings and legal proceedings is intended to facilitate the solution of transfrontier pollution problems. OECD defines the purpose in the following manner:

> "The principle of *equal right of access* is designed to make available to actual or potential 'victims' of transfrontier pollution who are in a country other than that where the pollution originates the same administrative or legal procedures as those enjoyed by potential or actual 'victims' of a similar pollution in the country where such pollution originates. The application of the principle leads, in particular, to a situation where two 'victims' of the same transfrontier pollution situated on opposite sides of a common frontier have the same opportunity to voice their opinions or defend their interests both at the preventive stage before the pollution has occurred and in the curative stage after damage has been suffered. The national and foreign 'victims' may thus participate on an equal footing at enquiries or public hearings organized, for example, to examine the environmental impact of a given polluting activity. They may take proceedings in relation to environmental decisions which they wish to challenge without discrimination before the appropriate administrative or legal authorities of the country where the pollution originates. And they may take legal action to obtain compensation for damage or its cessation."[512]

321. The implementation of the principle of equal access to national remedies requires that participating States remove jurisdictional barriers to civil proceedings for damages and other remedies in respect of environmental injury.[513] For example, the courts of some States do not hear cases where the installation or the conduct leading to injury was in a foreign territory.

322. Moreover, there are difficulties related to a long-standing tradition in some countries, whereby administrative courts have no jurisdiction to hear cases concerning the extraterritorial effects of administrative decisions. Another difficulty arises from conferring sole jurisdiction on the courts of the place where the damage occurred. OECD, while acknowledging these difficulties, nonetheless has supported and endorsed its application.

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[510] Ibid., para. 126.

[511] Ibid., para. 134.

[512] OECD, Environment Directive, "Equal Right of Access in Relation to Transfrontier Pollution", 1976, note by the Secretariat.

[513] Alan E. Boyle, "Making the Polluter Pay? Alternatives to State Responsibility in the Allocation of Transboundary Environmental Costs", in Francesco Francioni and Tullio Scovazzi (eds.), *International Responsibility for Environmental Harm,* 1991, p. 363, at p. 370.

323. There are a number of instruments that recognize participation in administrative hearings and legal proceedings. Article 6 of the North American Environmental Cooperation Agreement[514] and article 9 of the Aarhus Convention[515]

[514] Article 6 of the North American Agreement reads:

"*Private access to remedies*

"1. Each Party shall ensure that interested persons may request the Party's competent authorities to investigate alleged violations of its environmental laws and regulations and shall give such requests due consideration in accordance with law.

"2. Each Party shall ensure that persons with a legally recognized interest under its law in a particular matter have appropriate access to administrative, quasi-judicial or judicial proceedings for the enforcement of the Party's environmental laws and regulations.

"3. Private access to remedies shall include rights, in accordance with the Party's law, such as:

(a) To sue another person under that Party's jurisdiction for damages;

(b) To seek sanctions or remedies such as monetary penalties, emergency closures or orders to mitigate the consequences of violations of its environmental laws and regulations;

(c) To request the competent authorities to take appropriate action to enforce that Party's environmental laws and regulations in order to protect the environment or to avoid environmental harm; or

(d) To seek injunctions where a person suffers, or may suffer, loss, damage or injury as a result of conduct by another person under that Party's jurisdiction contrary to that Party's environmental laws and regulations or from tortious conduct."

[515] Article 9 of the Aarhus Convention reads:

"*Access to justice*

"1. Each Party shall, within the framework of its national legislation, ensure that any person who considers that his or her request for information under article 4 has been ignored, wrongfully refused, whether in part or in full, inadequately answered, or otherwise not dealt with in accordance with the provisions of that article, has access to a review procedure before a court of law or another independent and impartial body established by law.

In the circumstances where a Party provides for such a review by a court of law, it shall ensure that such a person also has access to an expeditious procedure established by law that is free of charge or inexpensive for reconsideration by a public authority or review by an independent and impartial body other than a court of law.

Final decisions under this paragraph 1 shall be binding on the public authority holding the information. Reasons shall be stated in writing, at least where access to information is refused under this paragraph.

"2. Each Party shall, within the framework of its national legislation, ensure that members of the public concerned

(a) Having a sufficient interest

or, alternatively,

(b) Maintaining impairment of a right, where the administrative procedural law of a Party requires this as a precondition,

have access to a review procedure before a court of law and/or another independent and impartial body established by law, to challenge the substantive and procedural legality of any decision, act or omission subject to the provisions of article 6 and, where so provided for under national law and without prejudice to paragraph 3 below, of other relevant provisions of this Convention.

What constitutes a sufficient interest and impairment of a right shall be determined in accordance with the requirements of national law and consistently with the objective of giving the public concerned wide access to justice within the scope of this Convention. To this end, the interest of any non-governmental organization meeting the requirements referred to in article 2, paragraph 5, shall be deemed sufficient for the purpose of subparagraph (a) above. Such organizations shall also be deemed to have rights capable of being impaired for the purpose of subparagraph (b) above.

are quite detailed in stipulating the required procedures. EU Directive 2003/4/EC also provides for access to justice provisions in respect of requests for information under the Directive.[516] The 2003 African Convention provides, in article XVI:

> "1. The Parties shall adopt legislative and regulatory measures necessary to ensure timely and appropriate:
>
> …
>
> (d) Access to justice in matters related to protection of environment and natural resources.
>
> "2. Each Party from which a transboundary environmental harm originates shall ensure that any person in another Party affected by such harm has a right of access to administrative and judicial procedures equal to that afforded to nationals or residents of the Party of origin in cases of domestic environmental harm."

324. Other examples include the 1974 Nordic Convention on the Protection of the Environment, article 3 of which provides:

The provisions of this paragraph 2 shall not exclude the possibility of a preliminary review procedure before an administrative authority and shall not affect the requirement of exhaustion of administrative review procedures prior to recourse to judicial review procedures, where such a requirement exists under national law.

"3. In addition and without prejudice to the review procedures referred to in paragraphs 1 and 2 above, each Party shall ensure that, where they meet the criteria, if any, laid down in its national law, members of the public have access to administrative or judicial procedures to challenge acts and omissions by private persons and public authorities which contravene provisions of its national law relating to the environment.

"4. In addition and without prejudice to paragraph 1 above, the procedures referred to in paragraphs 1, 2 and 3 above shall provide adequate and effective remedies, including injunctive relief as appropriate, and be fair, equitable, timely and not prohibitively expensive. Decisions under this article shall be given or recorded in writing. Decisions of courts, and whenever possible of other bodies, shall be publicly accessible.

"5. In order to further the effectiveness of the provisions of this article, each Party shall ensure that information is provided to the public on access to administrative and judicial review procedures and shall consider the establishment of appropriate assistance mechanisms to remove or reduce financial and other barriers to access to justice."

[516] Article 6 of the EU directive reads:

"*Access to justice*

"1. Member States shall ensure that any applicant who considers that his request for information has been ignored, wrongfully refused (whether in full or in part), inadequately answered or otherwise not dealt with in accordance with the provisions of articles 3, 4 or 5, has access to a procedure in which the acts or omissions of the public authority concerned can be reconsidered by that or another public authority or reviewed administratively by an independent and impartial body established by law. Any such procedure shall be expeditious and either free of charge or inexpensive.

"2. In addition to the review procedure referred to in paragraph 1, member States shall ensure that an applicant has access to a review procedure before a court of law or another independent and impartial body established by law, in which the acts or omissions of the public authority concerned can be reviewed and whose decisions may become final. Member States may furthermore provide that third parties incriminated by the disclosure of information may also have access to legal recourse.

"3. Final decisions under paragraph 2 shall be binding on the public authority holding the information. Reasons shall be stated in writing, at least where access to information is refused under this article."

> "Any person who is affected or may be affected by a nuisance caused by environmentally harmful activities in another Contracting State shall have the right to bring before the appropriate Court or Administrative Authority of that State the question of the permissibility of such activities, including the question of measures to prevent damage, and to appeal against the decision of the Court or the Administrative Authority to the same extent and on the same terms as a legal entity of the State in which the activities are carried out".

325. In North America, the 1982 United States/Canadian Uniform Transboundary Pollution Reciprocal Act provides a model for appropriate legislation removing jurisdictional limits on actions for transboundary damage. It has been implemented in Colorado, Connecticut, Manitoba, Michigan, Montana, New Jersey, Nova Scotia, Ontario, Oregon, Prince Edward Island, South Dakota and Wisconsin. Similarly article II of the 1909 United States-Canadian Boundary Waters Treaty provides for equal right of access, but it is not limited to environmental pollution only. The 1986 Agreement on Third Party Liability between Switzerland and the Federal Republic of Germany applies only to nuclear damage.

326. The 2004 EU Directive on Environmental Liability anticipates that persons who have standing pursuant to its article 12 (1) would have access to a court of law or other independent and impartial body competent to review the decisions made by the authority designated at the national level to implement the Directive. The provisions are without prejudice to national law provisions regulating access to justice and those that require that administrative review procedures be exhausted prior to recourse to judicial proceedings.[517] Further, the United Nations Convention on the Law of the Sea also appears to uphold the requirement of equal access, in its article 235, paragraph 2, which reads:

> "States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction."

(iii) Principle of non-discrimination

327. As for the principle of non-discrimination, OECD states the following:

> "The *principle of non-discrimination*, on the other hand, is mainly designed to ensure that the environment is given at least the same protection when pollution has effects beyond the frontier as when it occurs within the territory where it originates, all other things being equal. A particular result of application of the principle is that a polluter situated near the frontier of a country will not be subject to less severe restrictions than a polluter situated in the interior of such a country in a situation where the two polluters produce similar effects on the environment, either at home or abroad. The principle implies indeed that environmental policies shall not be consistently less strict in frontier regions by reason of the fact that it induces a State to consider on an equal footing extraterritorial ecological damages and national ecological damages.

[517] Article 13.

> "A second aim of the principle is to ensure that the victims of transfrontier pollution situated in a foreign country receive at least the same treatment as that given to victims of the same pollution who are situated in the country where the pollution originates. In concrete terms, such an approach leads to the victims of transfrontier pollution receiving *at least* the same compensation as that given to a victim suffering the same damage under the same conditions within the national territory."[518]

328. The principle of non-discrimination aims at harmonizing the policies of the State for the protection of the environment within or outside its territory. It also aims at ensuring the foreigners who suffer from the damage the same treatment as that provided for its own citizens under the domestic law of the State in which the damage originated. There is to some extent an analogy with the national treatment of aliens in the law of State responsibility. It may be recalled that there are two views in respect of the treatment of aliens under the international law of State responsibility. One view purports to give aliens the same treatment as the domestic law of the host State provides for its own nationals. The other view opts for a minimum standard of treatment to be granted to aliens when the law of the host State provides for less than the minimum international standard. The principle of non-discrimination, although it deals with the substantive rights of the claimants, does not affect the substance of the claim directly. The OECD secretariat, however, suggests that there may be channels available, because of equal right of access, to the claimants to petition the Government and administrative authorities of the States where the harm has originated to change their substantive law, as well as to encourage their Governments to negotiate with the Government of the State of the polluter.

329. The potential problem with the application of the principle of non-discrimination in the area of the environment lies in the fact that there are sometimes drastic differences between the substantive remedies provided in various States. Because this principle was intended to be applied principally between neighbouring States, it was assumed that there would be some affinity even in the substantive law of the various States concerned or that there would at least be an attempt on their part to harmonize their domestic laws as regards the protection of the environment. A broad application of this principle in respect of long-distance pollution problems as well as between neighbouring States with very diverse environmental policies and laws would create considerable problems.

330. Although the North American Agreement on Environmental Cooperation seeks to provide for reciprocal access to courts and administrative agencies, it does not contain a non-discrimination clause.

(iv) Limitations of right of equal access

331. OECD recognizes that the principle of equal right of access is essentially a procedural principle, since it affects the way in which the substance of the victim's claims will be dealt with. The principle was designed primarily to deal with environmental problems occurring among neighbouring States. Geographical proximity presumes some affinity and similarity between the legal systems of the neighbouring States and some similarities between their policies for the protection

[518] OECD, Environment Directive, Equal Right of Access ..., op. cit., note 512.

of the environment. A good example is the 1994 Nordic Convention on the Protection of the Environment.[519] The application of this principle in respect of long-distance pollution problems may not be practical or so felicitous.

332. Some authors have also mentioned that the principle favours litigation against defendants in the State where the activity causing the transboundary harm was undertaken. The courts of the State of the defendants may be more sympathetic to the defendants and less informed about the scope of the transfrontier harm. In other words, the State where the harm has occurred has a better chance of assessing the full impact of the damage and is more amenable to hearing actions involving multiple plaintiffs.[520] The jurisdictional regime established under the CLC whereby an action may be pursued in the courts of the Contracting States where the damage has occurred was thus intended to offset such considerations. Such a choice, however, does not alleviate problems relating to service of process on foreign defendants, the inability to secure injunctive relief and difficulties concerning the recognition and enforcement of judgements. Other problems are linked to the possible invocation of sovereign immunity if a State-owned enterprise is the defendant and to the application of the double actionability rule. All these matters must be addressed in a particular agreement. Otherwise, proceeding in the State of injury may be daunting and ineffective.

333. In the circumstances where recourse is taken in the forum of the defendant, equal right of access may prove favourable to a polluter, at the expense of protection of the environment, particularly where the focus of the States concerned is on industrial development. Thus, it has been suggested that the plaintiff should be offered a choice of venue. In *Handelskwerkerij G.J. Bier v. Mines de Potasse d'Alsace S.A.*,[521] the Court of Justice of the European Communities construed the phrase "in the courts of the place where the harmful events occurred" in article 5 of the 1968 Brussels Convention on Jurisdiction and Enforcement of Judgements in Civil and Commercial Matters as meaning the choice of forum between the State in which the harm occurred and the State in which the harmful activity was situated; and determined that the choice of forum belonged to the plaintiff whom the Convention seeks to protect. In that case, the plaintiff, a Dutch company, was able to proceed in Dutch courts against a French company which operated mines in Alsace, France, where its enterprises had discharged waste salts into the Rhine, causing harm downstream in the Netherlands to crops belonging to the plaintiff. The plaintiff could have proceeded against the defendants in the French courts, where the mine was located or where the defendant was domiciled.

334. The ELA of Germany also offers the plaintiff the choice of forum. The 1962 Nuclear Ships Convention, the 1977 Convention on Civil Liability for Oil Pollution Damage from Seabed Exploration and Exploitation and the Lugano Convention also do likewise.[522]

335. The 1997 Vienna Convention on Civil Liability for Nuclear Damage addresses some of the problems posed by equal access by permitting a State to bring an action

[519] *13 ILM* (1974) 1319.
[520] Alan E. Boyle, "Making the Polluter Pay? ...", p. 371
[521] Case 21/76, *ECJ Reports* 1976, III, 1735.
[522] Article 19.

in a foreign court on behalf of its nationals, or those with its residence or domicile.[523]

336. It should also be noted that the right of equal access does not guarantee substantive rights of environmental protection. Nor does it provide for any additional procedural guarantees to those that are already available domestically. Moreover, it does not always resolve jurisdictional or choice of law questions. These are obviously critical issues in relation to environmental harm, particularly in a transboundary context. There is no preferred position and several possibilities exist. These include: (a) application of the law of the place where the harmful activity is located; (b) application of the law of the place where the injury occurred; (c) application of some other law, such as the law of the domicile or principal place of business of the defendant; or (d) application of the law more favourable to the plaintiff.

(b) Civil liability

337. Civil liability regimes have been considered as one other method for implementing the polluter-pays principle. These regimes have been used in relation to nuclear and oil pollution as well as other activities such as those involving hazardous wastes. For example, the preamble to the Lugano Convention states that the Convention desires to provide for strict liability taking into account the polluter-pays principle. On the other hand, it has been argued that the civil liability conventions do not necessarily implement the polluter-pays principle, since States and voluntary contributions from other sources pay for the polluter.

338. It has thus been noted that:

> "The extent to which civil liability makes the polluter pay for environmental damage depends on a variety of factors. If liability is based on negligence, not only does this have to be proved, but harm which is neither reasonably foreseeable nor reasonably avoidable will not be compensated and the victim or the taxpayer, not the polluter, will bear the loss. Strict liability is a better approximation of the 'polluter pays' principle, but not if limited in amount, as in internationally agreed schemes involving oil tankers or nuclear installations."[524]

339. Other concerns include the possibility of a narrow definition of damage excluding environmental losses that cannot be quantified monetarily; and that the broader use of the strict liability principle does not always indicate who the polluter is since the focus appears to be on how the liability is shared and the burden is alleviated.[525] In the nuclear field, the adoption of a strict polluter-pays approach would create a heavy economic burden. Equitable sharing of risk, with an element of State involvement, appears to be the dominant consideration.

B. Operator liability

340. In some of the domestic laws which have adopted the concept of strict liability, the operator of the activity is liable for damage caused. The definition of operator

[523] Article XIA.
[524] Birnie and Boyle, p. 93.
[525] Ibid., pp. 93-94.

changes depending upon the nature of the activity. For example, under the 1990 OPA of the United States, the following individuals may be held liable: (a) the responsible party, such as the owner or operator of a vessel, onshore or offshore facility, deepwater port and pipeline; (b) the "guarantor", the "person, other than the responsible party, who provides evidence of financial responsibility for a responsible party"; and (c) third parties (individuals other than those mentioned in the first two categories, their agents or employees or their independent contractors, whose conduct is the sole cause of injury).

341. The United States CERCLA imposes liability on owners and operators of vessels and facilities.[526] The terms "owner" and "operator" are defined as:

> "(i) In the case of a vessel, any person owning, operating, or chartering by demise, such vessel;
>
> (ii) In the case of an onshore facility or an offshore facility, any person owning or operating a facility."[527]

342. Section 9607 (3) also provides for *arranger* liability: any person who by contract, agreement or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility or incineration vessel owned or operated by another party or entity and containing such hazardous substances.

343. Both CERCLA and OPA authorize direct action again the financial guarantor of the responsible person.

344. Under the 1990 German Environmental Liability Act (ELA), the "owner" of the "facilities" which caused damage is strictly liable.[528]

345. The Swiss Federal Law relating to the Protection of the Environment attaches liability to the "owner" of "an enterprise" and "installation". Under the Contaminated Soil Act 1999 of Denmark,[529] liability under the Act falls on the "polluter", who is defined as:

> "(1) Any party who, at the time when the contamination occurred, operated the enterprise or used the plant from which the contamination originated; or
>
> (2) Any other party who caused contamination where that involved reckless conduct or conduct subject to stricter liability rules under other legislation."

346. In international law, with very few exceptions, operators and owners are held liable for the damage caused by their activities. This is particularly evident in treaty practice.

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[526] 42 U.S.C.A. Section 9607(a).

[527] Ibid. Section 9601(2)(A).

[528] See article 1 of the Act, in W. C. Hoffman, op. cit., p. 32.

[529] Act No. 370/99. This is a public and administrative law regime replacing earlier provisions under the Contaminated Sites Act (Act No. 420 of 13 June 1990) (also known as the Waste Deposits Act or the Contaminated Land Act) and the Environmental Protection Act (Act No. 358 of 6 June 1991).

1. Treaty practice

347. The operator of activities causing extraterritorial damage or the insurer of the operator may be liable for damage. This is standard practice in conventions primarily concerned with commercial activities.[530] The 1992 CLC provides for a

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[530] See for example the 1966 Additional Convention to the 1961 International Convention Concerning the Carriage of Passengers and Luggage by Rail (CIV) of 25 February 1961 relating to the liability of the railway for death of and personal injury to passengers. Article 2 of the Convention reads in part:

> "1. The railway shall be liable for damage resulting from the death of, or personal injury or any other bodily or mental harm to, a passenger, caused by an accident arising out of the operation of the railway and happening while the passenger is in, entering or alighting from a train.
>
> "…
>
> "6. For the purposes of this Convention, the 'responsible railway' is that which, according to the list of lines provided for in article 59 of CIV, operates the line on which the accident occurs. If, in accordance with the aforementioned list, there is joint operation of the line by two railways, each of them shall be liable."

The operators of railways may be private entities or Government agencies. The Convention makes no distinction between them as far as liability and compensation are concerned.

Similarly, the 1952 Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface provides for the liability of the operator of an aircraft causing injury to a person on the surface. The relevant articles of the Convention read:

> "*Principles of liability*
>
> "*Article 1*
>
> "1. Any person who suffers damage on the surface shall, upon proof only that the damage was caused by an aircraft in flight or by any person or thing falling therefrom, be entitled to compensation as provided by this Convention.
>
> "…
>
> "*Article 2*
>
> "…
>
> "2. (a) For the purpose of this Convention the term 'operator' shall mean the person who was making use of the aircraft at the time the damage was caused, provided that if control of the navigation of the aircraft was retained by the person from whom the right to make use of the aircraft was derived, whether directly or indirectly, that person shall be considered the operator.
>
> (b) A person shall be considered to be making use of an aircraft when he is using it personally or when his servants or agents are using the aircraft in the course of their employment, whether or not within the scope of their authority.
>
> "3. The registered owner of the aircraft shall be presumed to be the operator and shall be liable as such unless, in the proceedings for the determination of his liability, he proves that some other person was the operator and, in so far as legal procedures permit, takes appropriate measures to make that other person a party in the proceedings.
>
> "*Article 3*
>
> "If the person who was the operator at the time the damage was caused had not the exclusive right to use the aircraft for a period of more than fourteen days, dating from the moment when the right to use commenced, the person from whom such right was derived shall be liable jointly and severally with the operator, each of them being bound under the provisions and within the limits of liability of this Convention.
>
> "*Article 4*
>
> "If a person makes use of an aircraft without the consent of the person entitled to its navigational control, the latter, unless he proves that he has exercised due care to prevent such use, shall be jointly and severally liable with the unlawful user for damage giving a right to compensation under article 1, each of them being bound under the provisions and within the limits of liability of this Convention."

regime of *strict liability* of the *shipowner*. Paragraph 1 of article III of the 1992 Convention provides:

> "Except as provided in paragraphs 2 and 3 of this article, the owner of a ship at the time of an incident, or, where the incident consists of a series of occurrences, at the time of the first such occurrence, shall be liable for any pollution damage caused by the ship as a result of the incident."

348. This provision is largely similar to paragraph 1 of article III of the 1969 CLC.[531] Owner includes the person or persons registered as the owner of the ship or, in the absence of registration, the person or persons owning the ship. However, in the case of the ship owned by a State and operated by a company which in that State is registered as the ship's operator, "owner" shall mean such company.[532]

349. It will be recalled that concerns were voiced at the 1969 Conference regarding whether the shipowner or the cargo owner or both should bear the costs of strict liability.[533] The final agreement, holding the shipowner strictly liable, was secured by agreeing to adopt another convention (a) to ensure adequate compensation for the victim and (b) to distribute the burden of liability by indemnifying the shipowners against part of the liability. This arrangement led to the adoption of the 1971 Fund Convention. The preamble to the 1971 Fund Convention sets out the two principal goals mentioned above:

The operators of aircraft may also be private or Government entities. Under article 11, the operators enjoy limitation on liability. However, the operators do not enjoy limitation on liability if the injury was due to their negligence.

Article 12 reads:

"1. If the person who suffers damage proves that it was caused by a deliberate act or omission of the operator, his servants or agents, done with intent to cause damage, the liability of the operator shall be unlimited; provided that in the case of such act or omission of such servant or agent, it is also proved that he was acting in the course of his employment and within the scope of his authority.

"2. If a person wrongfully takes and makes use of an aircraft without the consent of the person entitled to use it, his liability shall be unlimited."

In some circumstances, liability can be imputed to the insurer of the aircraft. The relevant paragraphs of article 16 read:

"5. Without prejudice to any right of direct action which he may have under the law governing the contract of insurance or guarantee, the person suffering damage may bring a direct action against the insurer or guarantor only in the following cases:

(a) Where the security is continued in force under the provisions of paragraph 1 (a) and (b) of this article;

(b) The bankruptcy of the operator.

"6. Excepting the defence specified in paragraph 1 of this article, the insurer or other person providing security may not, with respect to direct actions brought by the person suffering damage based upon application of this Convention, avail himself of any grounds of nullity or any right of retroactive cancellation.

"7. The provisions of this article shall not prejudice the question whether the insurer or guarantor has a right of recourse against any other person."

[531] Article III (1) reads:

"1. Except as provided in paragraphs 2 and 3 of this article, the owner of a ship at the time of an incident, or where the incident consists of a series of occurrences at the time of the first such occurrence, shall be liable for any pollution damage caused by oil which has escaped or been discharged from the ship as a result of the incident."

[532] Article I, para. 3.

[533] See LEG/CONF/C.2/SR.2-13, cited in Abecassis and Jarashow, p. 253.

"*Considering* however that this regime does not afford full compensation for victims of oil pollution damage in all cases while it imposes an additional financial burden on shipowners,

"*Considering further* that the economic consequences of oil pollution damage resulting from the escape or discharge of oil carried in bulk at sea by ships should not exclusively be borne by the shipping industry but should in part be borne by the oil cargo interests,

"*Convinced* of the need to elaborate a compensation and indemnification system supplementary to the International Convention on Civil Liability for Oil Pollution Damage with a view to ensuring that full compensation will be available to victims of oil pollution incidents and that the shipowners are at the same time given relief in respect of the additional financial burdens imposed on them by the said Convention,"

..."

350. The 1992 Fund Convention reiterates:

"*Convinced* that the economic consequences of pollution damage resulting from the carriage of oil in bulk at sea by ships should continue to be shared by the shipping industry and by the oil cargo interests,".

351. The 2001 Bunker Oil Convention also attaches liability on the shipowner. It provides in article 3:

"Except as provided in paragraphs 3 and 4, the shipowner at the time of an incident shall be liable for pollution damage caused by any bunker oil on board or originating from the ship, provided that, if an incident consists of a series of occurrences having the same origin, the liability shall attach to the shipowner at the time of the first of such occurrences."

352. The definition of shipowner is broad. It includes the registered owner, bareboat charterer, manager and operator of the ship.[534]

353. The 1996 HNS Convention, in article 7, paragraph 1, provides for strict liability of the *owner* of the ship carrying hazardous substances. The definition of owner is the same as in the 1992 CLC.

354. In respect of nuclear damage, the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy and the revised 2004 Paris Convention provide for the absolute but limited liability of the *operator of a nuclear installation*. In their preamble, both instruments state as their purpose to provide adequate compensation for the victims of nuclear damage and to unify the laws related to nuclear damage in the States parties. Operator in respect to a nuclear installation refers to the person designated by the competent public authority as the operator of the installation.[535]

355. The comparable 1963 Vienna Convention on Civil Liability for Nuclear Damage makes an explicit reference to the concept of absolute liability in article IV, where it states that "[t]he liability of the operator for nuclear damage under this

[534] Article 1, para. 2.
[535] Article 1(vi).

Convention shall be *absolute*".[536] The definition of operator is the same as in the 1960 Paris Convention. It further defines person as including an individual, partnership, a private or public body, an international organization, and a State or any of its constituent sub-divisions. The 1997 Vienna Convention contains similar definitions in respect of "operator" and "person".[537]

356. The 1962 Convention on the Liability of Operators of Nuclear Ships also provides for the absolute liability of the *operator of nuclear ships*.[538] Operator means the person authorized by the licensing State to operate a nuclear ship, or where a Contracting State operates a nuclear ship, that State.[539]

357. Under the CRTD the *carrier* is liable.[540] The element of "control" appears in the definition of "carrier". Paragraph 8 of article 1 defines "carrier" with respect to

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[536] Emphasis added.

[537] Article 1 (c) and (a).

[538] Article II of the Convention reads:

> "1. The operator of a nuclear ship shall be absolutely liable for any nuclear damage upon proof that such damage has been caused by a nuclear incident involving the nuclear fuel of, or radioactive products or waste produced in, such ship.
>
> "2. Except as otherwise provided in this Convention, no person other than the operator shall be liable for such nuclear damage."

For writings on this Convention, see P. C. Szasz, "The Convention on the Liability of Operators of Nuclear Ships", *2 Journal of Maritime Law and Commerce* (1970) 541; and Stojan Cigoj, "International Regulation of Civil Liability for Nuclear Risk", *14 ICLQ* (1965) 809.

[539] Article I. "Person means any individual or partnership, or any public or private body whether corporate or not, including a State or any of its constituent subdivisions".

[540] The 1999 Convention for the Unification of Certain Rules for International Carriage by Air also imposes liability on the carrier in respect of death or bodily injury, damage to baggage or cargo and delay. The relevant articles read:

> "*Article 17*
>
> "*Death and injury of passengers — damage to baggage*
>
> "1. The carrier is liable for damage sustained in case of death or bodily injury of a passenger upon condition only that the accident which caused the death or injury took place on board the aircraft or in the course of any of the operations of embarking or disembarking.
>
> "2. The carrier liable for damage sustained in case of destruction or loss of, or of damage to, checked baggage upon condition only that the event which caused the destruction, loss or damage took place on board the aircraft or during any period within which the checked baggage was in the charge of the carrier. However, the carrier is not liable if and to the extent that the damage resulted from the inherent defect, quality or vice of the baggage. In the case of unchecked baggage, including personal items, the carrier is liable if the damage resulted from its fault or that of its servants or agents.
>
> "3. If the carrier admits the loss of the checked baggage, or if the checked baggage has not arrived at the expiration of twenty-one days after the date on which it ought to have arrived, the passenger is entitled to enforce against the carrier the rights which flow from the contract of carriage.
>
> "4. Unless otherwise specified, in this Convention the term "baggage" means both checked baggage and unchecked baggage.
>
> "*Article 18*
>
> "*Damage to cargo*
>
> "1. The carrier is liable for damage sustained in the event of the destruction or loss of or damage to, cargo upon condition only that the event which caused the damage so sustained took place during the carriage by air.
>
> "2. However, the carrier is not liable if and to the extent it proves that the destruction, or loss of, or damage to, the cargo resulted from one or more of the following:
>
> (a) Inherent defect, quality or vice of that cargo;

inland navigation vessel as "the person who at the time of the incident controls the use of the vehicle on board which the dangerous goods are carried". Under this paragraph, the person in whose name the vehicle is registered in a public register or, in the absence of such registration, the owner of the vehicle shall be presumed to control the use of the vehicle unless he proves that another person controls the use of the vehicle and he discloses the identity of such a person. With respect to carriage by rail, the person or persons operating the railway line is considered the "carrier".

(b) Defective packing of that cargo performed by a person other than the carrier or its servants or agents;

(c) An act of war or an armed conflict;

(d) An act of public authority carried out in connection with the entry, exit or transit of the cargo.

"3. The carriage by air within the meaning of paragraph 1 of this article comprises the period during which the cargo is in the charge of the carrier.

"4. The period of the carriage by air does not extend to any carriage by land, by sea or by inland waterway performed outside an airport. If, however, such carriage takes place in the performance of a contract for carriage by air, for the purpose of loading, delivery or trans-shipment, any damage is presumed, subject to proof to the contrary, to have been the result of an event which took place during the carriage by air. If a carrier, without the consent of the consignor, substitutes carriage by another mode of transport for the whole or part of a carriage intended by the agreement between the parties to be carriage by air, such carriage by another mode of transport is deemed to be within the period of carriage by air.

"*Article 19*

"Delay

"The carrier is liable for damage occasioned by delay in the carriage by air of passengers, baggage or cargo. Nevertheless, the carrier shall not be liable for damage occasioned by delay if it proves that it and its servants and agents took all measures that could reasonably be required to avoid the damage or that it was impossible for it or them to take such measures.

"*Article 20*

"Exoneration

"If the carrier proves that the damage was caused or contributed to by the negligence or other wrongful act or omission of the person claiming compensation, or the person from whom he or she derives his or her rights, the carrier shall be wholly or partly exonerated from its liability to the claimant to the extent that such negligence or wrongful act or omission caused or contributed to the damage. When by reason of death or injury of a passenger compensation is claimed by a person other than the passenger, the carrier shall likewise be wholly or partly exonerated from its liability to the extent that it proves that the damage was caused or contributed to by the negligence or other wrongful act or omission of that passenger. This Article applies to all the liability provisions in this Convention, including paragraph 1 of article 21.

"*Article* 21

"Compensation in case of death or injury of passengers

"1. For damages arising under paragraph 1 of article 17 not exceeding 100,000 Special Drawing Rights for each passenger, the carrier shall not be able to exclude or limit its liability.

"2. The carrier shall not be liable for damages arising under paragraph 1 of article 17 to the extent that they exceed for each passenger 100,000 Special Drawing Rights if the carrier proves that:

(a) Such damage was not due to the negligence or other wrongful act or omission of the carrier or its servants or agents; or

(b) Such damage was solely due to the negligence or other wrongful act or omission of a third party."

358. The Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources attaches liability to the *operator of a continental shelf installation*. The definition of operator also contains an element of control. Operator means the person, whether licensee or not, designated as operator for the purposes of the Convention by the controlling State, or in the absence of such designation, the person who is in overall control of the activities carried on at the installation,[541] and person encompasses an individual or partnership or any public or private body, whether corporate or not, including a State or any of its constituent subdivisions.

359. The same is true of the 2004 EU Directive on environmental liability, which attaches liability on the *operator*. Operator includes any natural or legal, private or public person who operates or controls the occupational activity. In cases where national law so provides, it also includes that person to whom decisive economic power over the technical functioning of such an activity has been delegated, including the holder of a permit or authorization for such an activity or the person registering or notifying such an activity.[542]

360. Under the 2003 Kiev Protocol, the *operator* shall be liable for the damage caused by an industrial accident. The Protocol does not provide a definition of operator. The definition contained in the Industrial Accidents Convention, namely any natural or legal person, including public authorities, in charge of an activity, e.g. supervising, planning to carry out or carrying out an activity, should apply to the Protocol.[543]

361. Under articles 6 and 7 of the 1993 Lugano Convention, the *operator* in respect of a dangerous activity or the operator of a site is strictly liable. Operator in paragraph 6 of article 2 is defined as "any person who exercises the control of a dangerous activity". And "person" is defined in paragraph 7 of article 2 as "any individual or partnership or any body governed by public or private law, whether corporate or not, including a State or any of its constituent subdivisions".

362. Instead of assigning liability to a single operator, the Basel Protocol envisages, in its article 4, holding *generators, exporters, importers and disposers* strictly liable at different stages of the movement of the transboundary waste.[544] The Basel

[541] Article 1 (3). In article 1 (4), Controlling State means the State Party which exercises sovereign rights for the purpose of exploring for and exploiting the resources of the seabed and its subsoil in the area in or above which the installation is situated. In the case of an installation extending over area in which two or more States Parties exercise such rights, these States may agree which of them shall be the Controlling State.

[542] Article 1, para. 6.

[543] Article 1(e) of the Industrial Accidents Convention.

[544] Article 4 reads:

> "1. The person who notifies in accordance with article 6 of the Convention shall be liable for damage until the disposer has taken possession of the hazardous wastes and other wastes. Thereafter the disposer shall be liable for damage. If the State of export is the notifier or if no notification has taken place, the exporter shall be liable for damage until the disposer has taken possession of the hazardous wastes and other wastes. With respect to article 3, subparagraph 6 (b) , of the Protocol, article 6, paragraph 5, of the Convention shall apply mutatis mutandis. Thereafter the disposer shall be liable for damage.
>
> "2. Without prejudice to paragraph 1, with respect to wastes under article 1, subparagraph 1 (b), of the Convention that have been notified as hazardous by the State of import in accordance with article 3 of the Convention but not the State of Export, the

Convention defines generator as any person, natural or legal, whose activity produces hazardous wastes or other wastes, and if that person is not known, the person who is in possession and/or control of such waste. The exporter or importer is the person under the jurisdiction of the State of export or import, as the case may be, who arranges for the export or import of such waste; and disposer is the person to whom such wastes are shipped and who carries out their disposal.[545]

363. Under article 8 of CRAMRA, the primary liability lies with the *operator*, which is defined as a party or an agency or instrumentality of a party or a juridical person established under the law of a party or a joint venture consisting exclusively of any combination of the aforementioned.[546] The sponsoring State remains liable (a) if it has failed to comply with its obligations under the Convention and (b) if full compensation cannot be provided through the liable operator or otherwise.

364. Pursuant to section 16.1 of the Standard Clauses for Exploration contract annexed to the Regulations on the Prospecting and Exploration for Polymetallic Nodules in the Area adopted by the International Seabed Authority on 13 July 2000, the *contractor* is liable for the actual amount of any damage, including damage to the marine environment, arising out of its wrongful acts or omissions, and those of its employees, subcontractors, agents and all persons engaged in working or acting for them.[547]

365. Treaty practice also shows that liability in most of the conventions is joint and several mostly in situations where damage cannot be reasonably separable. Under article IV of the 1969 CLC, joint and several liability attaches to the owner when oil has escaped or has been discharged from two or more ships resulting in pollution

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importer shall be liable until the disposer has taken possession of the wastes, if the State of import is the notifier or if no notification has taken place. Thereafter the disposer shall be liable for damage.

"…

"5. No liability in accordance with this article shall attach to the person referred to in paragraphs 1 and 2 of this article if that person proves that the damage was:

(a) The result of an act of armed conflict, hostilities, civil war, insurrection;

(b) The result of a natural phenomenon of exceptional, inevitable, unforeseeable and irresistible character;

(c) Wholly the result of compliance with a compulsory measure of a public authority of the State where the damage occurred; or

(d) Wholly the result of wrongful intentional conduct of a third party, including the person who suffered damage."

[545] Article 2 (14)-(19) of the Basel Convention.

[546] Article 1 (11).

[547] ISBA/6/A/18, annex. Clause 16 reads:

"16.1 The Contractor shall be liable for the actual amount of any damage, including damage to the marine environment, arising out of its wrongful acts or omissions, and those of its employees, subcontractors, agents and all persons engaged in working or acting for them in the conduct of its operations under this contract, including the costs of reasonable measures to prevent or limit damage to the marine environment, account being taken of any contributory acts or omissions by the Authority.

"16.2 The Contractor shall indemnify the Authority, its employees, subcontractors and agents against all claims and liabilities of any third party arising out of any wrongful acts or omissions of the Contractor and its employees, agents and subcontractors, and all persons engaged in working or acting for them in the conduct of its operations under this contract."

damage which is not reasonably separable.[548] Article IV of the 1992 CLC has a comparable provision. However, it links joint and several liability to an incident involving two or more ships.[549] In both cases, the relevant provisions concerning exoneration of liability would also apply in situations of joint and several liability.

366. The 2001 Bunker Oil Convention[550] and the HNS Convention have similar provisions. The HNS Convention makes clear that owners are entitled to invoke the applicable limitations on liability and also that their right of recourse against another owner is not prejudiced.[551]

367. Joint and several liability also applies in respect of nuclear damage. The 1960 Paris Convention establishes a presumption of joint and several liability where separability cannot reasonably be established.[552] The 2004 Paris Convention has a similar provision and makes clear that any part of damage which cannot be reasonably separated is nuclear damage.[553] The 1963 Vienna Convention also

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[548] Article IV reads:

> "When oil has escaped or has been discharged from two or more ships, and pollution damage results therefrom, the owners of all the ships concerned, unless exonerated under Article III, shall be jointly and severally liable for all such damage which is not reasonably separable."

[549] Article IV reads:

> "When an incident involving two or more ships occurs and pollution damage results there from, the owners of all the ships concerned, unless exonerated under Article III, shall be jointly and severally liable for all such damage which is not reasonably separable."

[550] Article 5 reads:

> "*Incidents involving two or more ships*
>
> "When an incident involving two or more ships occurs and pollution damage results therefrom, the ship-owners of all the ships concerned, unless exonerated under article 3, shall be jointly and severally liable for all such damage which is not reasonably separable."

[551] Article 8 reads:

> "1. Whenever damage has resulted from an incident involving two or more ships each of which is carrying hazardous and noxious substances, each owner, unless exonerated under article 7, shall be liable for the damage. The owners shall be jointly and severally liable for all such damage which is not reasonably separable.
>
> "2. However, owners shall be entitled to the limits of liability applicable to each of them under article 9.
>
> "3. Nothing in this article shall prejudice any right of recourse of an owner against any other owner."

[552] Article 3 reads:

> "…
>
> "b. Where the damage or loss is caused jointly by a nuclear incident and by an incident other than a nuclear incident, that part of the damage or loss which is caused by such other incident, shall, to the extent that it is not reasonably separable from the damage or loss caused by the nuclear incident, be considered to be damage caused by the nuclear incident. Where the damage or loss is caused jointly by a nuclear incident and by an emission of ionizing radiation not covered by this Convention, nothing in this Convention shall limit or otherwise affect the liability of any person in connection with that emission of ionizing radiation."

[553] Article 3 reads:

> "…
>
> "b. Where nuclear damage is caused jointly by a nuclear incident and by an incident other than a nuclear incident, that part of the damage which is caused by such other incident, shall, to the extent that it is not reasonably separable from the nuclear damage caused by the nuclear incident, be considered to be nuclear damage caused by the

provides for such liability where damage is not reasonably separable.[554] The 1997 Vienna Convention[555] and the 1997 Convention on Supplementary Compensation for Nuclear Damage have similar provisions. However, they contemplate placement of limitations on the use of public funds by the State of installation.[556]

368. The 1962 Convention on the Liability of Operators of Nuclear Ships provides for joint and several liability in cases where damage cannot be reasonably separable. The share of contribution is proportional to the fault attributable, or where it cannot be determined, the share is equal.[557]

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nuclear incident. Where nuclear damage is caused jointly by a nuclear incident and by an emission of ionizing radiation not covered by this Convention, nothing in this Convention shall limit or otherwise affect the liability of any person in connection with that emission of ionizing radiation."

[554] Article II reads:

"…

"3. a. Where nuclear damage engages the liability of more than one operator, the operators involved shall, in so far as the damage attributable to each operator is not reasonably separable, be jointly and severally liable.

"b. Where a nuclear incident occurs in the course of carriage of nuclear material, either in one and the same means of transport, or, in the case of storage incidental to the carriage, in one and the same nuclear installation, and causes nuclear damage which engages the liability of more than one operator, the total liability shall not exceed the highest amount applicable with respect to any one of them pursuant to Article V.

"c. In neither of the cases referred to in subparagraphs (a) and (b) of this paragraph shall the liability of any one operator exceed the amount applicable with respect to him pursuant to Article V.

"4. Subject to the provisions of paragraph 3 of this Article, where several nuclear installations of one and the same operator are involved in one nuclear incident, such operator shall be liable in respect of each nuclear installation involved up to the amount applicable with respect to him pursuant to article V."

[555] Article II reads:

"…

"3. Where nuclear damage engages the liability of more than one operator, the operators involved shall, in so far as the damage attributable to each operator is not reasonably separable, be jointly and severally liable. The Installation State may limit the amount of public funds made available per incident to the difference, if any, between the amounts hereby established and the amount established pursuant to paragraph 1 of article V".

[556] Article 7 of the annex reads:

"1. Where nuclear damage engages the liability of more than one operator, the operators involved shall, in so far as the damage attributable to each operator is not reasonably separable, be jointly and severally liable. The Installation State may limit the amount of public funds made available per incident to the difference, if any, between the amounts hereby established and the amount established pursuant to Article 4.1.

"…"

[557] Article 7 reads:

"1. Where nuclear damage engages the liability of more than one operator and the damage attributable to each operator is not reasonably separable, the operators involved shall be jointly and severally liable for such damage. However, the liability of any one operator shall not exceed the limit laid down in article III.

"2. In the case of a nuclear incident where the nuclear damage arises out of or results from nuclear fuel or radioactive products or waste of more than one nuclear ship of the same operator, that operator shall be liable in respect of each ship up to the limit laid down in article III.

369. The CRTD also anticipates joint and several liability with respect to carriage by rail, in which case the person or persons operating the railway line on which the incident occurred are each considered a carrier if they carried a joint operation.[558] The Lugano Convention also contemplates joint and several liability for operators of dangerous sites or installation. The burden of proof is on the operator to prove that he or she is liable for only part of the damage.[559]

370. Instead of focusing on joint and several liability as such, some instruments stress the procedural ability to sue more than one person. Thus, under 1999 Basel Protocol the claimant has a right to seek full compensation from generators, exporter, importer or disposer.[560] The 2003 Kiev Protocol has a provision of similar import. The claimant has a right to proceed with a claim for damages against any one of the operators. The operator has the burden of proving that he is only responsible for part of the damage.[561]

371. The 2004 EU Directive on Environmental Liability acknowledges that not all forms of environmental damage can be remedied through liability. In order for liability to be effective, there must be one or more identifiable polluters. Moreover, the damage should be concrete and quantifiable, and a causal link must be established between the damage and the identified polluter. Thus, liability is not a suitable instrument for dealing with pollution of a widespread, diffuse character, where it is impossible to link the negative environmental effects with the acts or failure to act of individual actors. Although it does not provide for joint and several

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"3. In case of joint and several liability, and subject to the provisions of paragraph 1 of this article:

(a) Each operator shall have a right of contribution against the other in proportion to the fault attaching to each of them;

(b) Where circumstances are such that the degree of fault cannot be apportioned, the total liability shall be borne in equal parts."

[558] Article 5 reads:

"…

"2. If an incident consists of a series of occurrences having the same origin, the liability shall attach to the carrier at the time of the first of such occurrences.

"3. If two or more persons referred to in article 1, paragraph 8 (b), are liable as a carrier under this Convention, they shall be jointly and severally liable."

[559] Article 11 reads as follows:

"*Plurality of installations or sites*

"When damage results from incidents which have occurred in several installations or on several sites where dangerous activities are conducted or from dangerous activities under article 2, paragraph 1, subparagraph (d), the operators of the installations or sites concerned shall be jointly and severally liable for all such damage. However, the operator who proves that only part of the damage was caused by an incident in the installation or on the site where he conducts the dangerous activity or by a dangerous activity under article 2, paragraph 1, subparagraph (d), shall be liable for that part of the damage only."

[560] Article 4 reads:

"…

"6. If two or more persons are liable according to this article, the claimant shall have the right to seek full compensation for the damage from any or all of the persons liable."

[561] Article 4 reads:

"…

"4. If two or more operators are liable according to this article, the claimant shall have the right to seek full compensation for the damage from any or all of the operators liable. However, the operator who proves that only part of the damage was caused by an industrial accident shall be liable for that part of the damage only."

liability, the EU Directive, in article 9, provides that it is without prejudice to any provisions of national regulations concerning cost allocation in cases of multiple-party causation, especially concerning the apportionment of liability between the producer and the user of a product.

2. Judicial decisions and State practice outside treaties

372. No clear picture of the liability of the operator can be derived from judicial decisions or official correspondence. These sources yield no instances where the operator has been held to be solely liable for payment of compensation for transboundary injuries resulting from his activities. However, in a judgement rendered in a domestic context by the Indian Supreme Court in *Indian Council for Enviro-Legal Action v. Union of India* (see para. 279 above), the Court ruled that:

> "Once the activity carried on is hazardous or inherently dangerous, the *person* carrying on such activity is liable to make good the loss caused to any other person by his activity irrespective of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on."

373. The Court thus held chemical industrial plants liable for operating without permits and for not adhering to effluent discharge standards. The industries were:

> "absolutely liable to compensate for the harm caused by them to villagers in the affected areas, to the soil and to the underground water and, hence, they are bound to take all necessary measures to remove sludge and other pollutants lying in the affected areas.
>
> "The 'polluter pays' principle as interpreted by this Court means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution, but also the cost of restoring the environmental degradation. Remediation of the damaged environment is part of the process of 'sustainable development' and as such [the] polluter is liable to pay the cost to the individual sufferers as well as the cost of reversing the damaged ecology …"

374. The above decision was cited with approval in *M. C. Mehta v. Kamal Nath and others*.[562] The Supreme Court noted that "[i]t is thus settled by this Court that one who pollutes the environment, must pay to reverse the damage caused by his acts."

375. In other incidents, private operators have voluntarily paid compensation and taken unilateral action to minimize or prevent injuries, but without admitting liability. It is obviously difficult to determine the real reason for the unilateral and voluntary action. But it cannot be entirely assumed that this action was taken solely on "moral" grounds. The factors of pressure from the home Government, public opinion or the necessity of a relaxed atmosphere for doing business should not be underestimated. All these pressures may lead to the creation of an expectation which is stronger than a mere moral obligation.

376. In 1972, the World Bond, a tanker registered in Liberia, leaked 12,000 gallons of crude oil into the sea while unloading at the refinery of the Atlantic Richfield Refining Company (ARCO), at Cherry Point, in the State of Washington. The oil

[562] Supreme Court of India (1996) 1 Supreme Court Cases 388.

spread to Canadian waters and fouled five miles of beaches in British Columbia. The spill was relatively small, but it had major political repercussions. Prompt action was taken both by the refinery and by the authorities on either side of the frontier to contain and limit the damage, so that the injury to Canadian waters and shorelines could be minimized. The cost of the clean-up operations was borne by the private operator, ARCO.[563]

377. In the case of the transfrontier pollution of the air with gaseous fumes from "the stench caused by the activities of" the Peyton Packing Company and the Casuco Company,[564] action was taken unilaterally by those two United States companies to remedy the injury. Similarly, in the *Trail Smelter* case, the Canadian operator, the Consolidated Mining and Smelting Company acted unilaterally to repair the damage caused by the plant's activities in the state of Washington. On the other hand, in the case of an oil prospecting project contemplated by a private Canadian corporation in the Beaufort Sea, near the Alaskan border, the Canadian Government undertook to ensure compensation for any damage that might be caused in the United States in the event that the guarantees furnished by the corporation proved insufficient.

378. Following the 2000 Tisza cyanide disaster, during which highly polluted water was discharged from a dam at the Aurul gold mine jointly owned by a Romanian Government-owned company, Remin, and an Australian mining company, Esmeralda Exploration Ltd., the European Commission Vice-President Loyola de Palacio characterized the disaster as "a true European catastrophe" while indicating that the European Union might offer financial assistance. She invoked the polluter-pays principle and stated that "[t]here is a clear principle in the European Union that in general, [the one] who contaminates will pay for the restitution, although full restitution here is impossible".[565]

379. Concerning joint and several liability, the *Case concerning Certain Phosphate Lands in Nauru* (*Nauru v. Australia*)[566] has a bearing on the question whether a State may proceed to sue one of several States alone irrespective of a determination as to their joint and several liability. In May 1989, Nauru submitted an application to the International Court of Justice that it declare Australia responsible for breaches of international legal obligations relating to its phosphate mining activities in Nauru. It contended that the responsibility of Australia in respect of Nauru's claim was not "qualified, limited or excluded in international law by reason of the involvement of the Governments of the United Kingdom and New Zealand in the arrangements for the administration of Nauru or the exploitation of its phosphate resources from 1919 onwards". Nauru based its claim on the presumption of "the several or concurrent responsibility of States". In its view, the "principle of separate

[563] See *Canadian Yearbook of International Law* (1973), vol. XI, pp. 333-334.

[564] See Whiteman, Digest of International Law, vol. 6, pp. 256-259. See also Rubin, "Pollution by analogy: The Trail Smelter Arbitration", *50 Oregon L. Rev*. (1971) 259, at p. 277 quoted in Handl, Balancing of interests …, p. 172.

[565] Quoted in Aaron Schwabach, "The Tisza Cyanide Disaster and International Law", *30 Environmental Law Reporter* (2000) 10509, at p. 10510.

[566] *Case concerning Certain Phosphate Lands in Nauru* (*Nauru v. Australia*) (*Preliminary Objections*), *I.C.J. Reports 1992*, p. 240.

or solidary liability" was a general rule of international law. Among other cases, the *Corfu Channel* case was cited as illustrative of this proposition.[567]

380. Australia disputed the provenance of the "so-called principle of 'passive solidary responsibility'." as a general rule of international law, and if such existed it could only do so by agreement. Thus, Australia claimed that in a case of an international claim based on joint liability of two or more States, the case was inadmissible and jurisdiction exercisable only if all States jointly liable were before the Court.[568]

381. In its judgment on the preliminary objections, the Court noted that Australia had raised the question whether the "liability of the three States would be 'joint and several' (*solidaire*), so that any one of the three [Australia, New Zealand or the United Kingdom] would be liable to make full reparation for damage flowing from any breach of the obligations of the Administering Authority, and not merely a third or some other proportionate share. This is a question which the Court must reserve for the merits."[569]

382. The Court however viewed this question to be independent of the question whether Australia could be sued alone. And it found that it did not consider that any reason had been shown "why a claim brought against only one of the three States should be declared inadmissible *in limine* merely because that claim raises questions of the administration of the Territory, which was shared with two other States. It cannot be denied that Australia had obligations under the Trusteeship Agreement, in its capacity as one of the three States forming the Administering Authority, and there is nothing in the character of that Agreement which debars the Court from considering a claim of breach of those obligations by Australia."[570]

383. The Court acknowledged that a finding by the Court regarding the existence or the content of responsibility attributable to Australia by Nauru might well have implications for the legal situations of New Zealand and the United Kingdom. It nevertheless determined that no finding in respect of that legal situation would be needed as a basis for the Court's decision on Nauru's claims against Australia. Accordingly, it could not decline to exercise its jurisdiction.[571]

384. In his dissenting opinion, Judge Ago recognized the complication involved, noting that "[i]n fact, it is precisely by ruling on these claims against Australia alone that the Court will, *inevitably*, affect the legal situation of the two other States, namely, their rights and their obligations."[572]

385. Judge Schwebel, also in a dissenting opinion, inter alia, cast doubt on the authority of the *Corfu Channel* case, noting that the "most that may be gleaned from this case is that, where it appears from the facts alleged or shown that there was some unknown joint tortfeasor, the Court will not dismiss the claim against the named tortfeasor."[573] In his view, if the judgment of the Court against a State would

[567] Memorial of the Republic of Nauru, vol. I (1990), Part V, sect. 1, paras. 623, 624 and 628.
[568] Preliminary Objections of the Government of Australia, vol. I (1990), Part III, chap. 1, sect. I, paras. 295-296.
[569] *Certain Phosphate Lands in Nauru*, op. cit., p. 258, para. 48.
[570] Ibid.
[571] Ibid., p. 262, para. 55.
[572] Ibid., dissenting opinion of Judge Ago, at p. 328.
[573] Ibid., dissenting opinion of Judge Schwebel, at p. 330. Italics in original.

effectively determine the legal obligations of one or more States which were not before the Court, the Court should not proceed to consider rendering judgment against that State in the absence of the others.[574] Considering "the essential fact that, from 1919 until Nauruan independence in 1968, Australia always acted as a member of a joint Administering Authority composed of three States, and always acted on behalf of its fellow members of that Administering Authority as well as its own behalf", a judgment of the Court on the responsibility of Australia was tantamount to a judgment upon the responsibility of its "Partner Governments", New Zealand and United Kingdom.[575]

386. In August 1993, Australia offered Nauru A$ 107 million in full and final settlement of the claim. Nauru accepted the sum and undertook to discontinue the proceedings in the Court and to bring no further claims.[576]

C. State liability

387. Past trends demonstrate that States have been held liable for injuries caused to other States and their nationals as a result of activities occurring within their territorial jurisdiction or under their control. Even treaties imposing liability on the operators of activities have not in all cases exempted States from liability.

1. Treaty practice

388. In some multilateral treaties, States have agreed to be held liable for injuries caused by activities occurring within their territorial jurisdiction or under their control. Some conventions regulating activities undertaken mostly by private operators impose certain obligations upon the State to ensure that its operators abide by those regulations. If the State fails to do so, it is held liable for the injuries caused by the operator. For example, under paragraph 2 of article III of the 1962 Convention on the Liability of Operators of Nuclear Ships, the operator is required to maintain insurance or other financial security covering his liability for nuclear damage in such forms as the licensing State specifies. Furthermore, the licensing State has to ensure the payment of claims for compensation for nuclear damage established against the operator by providing the necessary funds up to the limit laid down in paragraph 1 of article III, to the extent that the yield of the insurance of the financial security is inadequate to satisfy such claims. Hence the licensing State is obliged to ensure that the insurance of the operator or the owner of the nuclear ship satisfies the requirements of the Convention. In addition, under article XV of the Convention, the State is required to take all necessary measures to prevent a nuclear ship flying its flag from operating without a licence. If a State fails to do so, and a nuclear ship flying its flag causes injury to others, the flag State is considered to be the licensing State, and it will be held liable for compensation to victims in accordance with the obligations laid down in article III.[577]

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[574] Ibid., p. 331.

[575] Ibid., p. 342.

[576] *32 ILM* (1993) 1471.

[577] Article XV of the Convention reads:

> "1. Each Contracting State undertakes to take all measures necessary to prevent a nuclear ship flying its flag from being operated without a licence or authority granted by it.

389. Furthermore, the 1997 Vienna Convention mandates the installation State to ensure the payment of claims for compensation for nuclear damage which have been established against the operator to the extent that the yield of the financial security is inadequate to satisfy such claims. Article 10, paragraph (c), of the 2004 Paris Convention envisages that the Contracting Party within whose territory the nuclear installation of the liable operator is situated would ensure the payment of claims for compensation for nuclear damage which have been established against the operator by providing the necessary funds to the extent that the insurance or other financial security is not available or sufficient to satisfy such claims. The amounts fall within the various limits established by the Convention.

390. For activities involving primarily States, the States themselves have accepted liability. Such is the case under the 1972 Convention on International Liability for Damage Caused by Space Objects. Furthermore, if the launching entity is an international organization, it has the same liability as a launching State, and independently of the launching international organization, those of its members that are parties to the Convention are also jointly and severally liable.[578]

"2. In the event of nuclear damage involving the nuclear fuel of, or radioactive products or waste produced in, a nuclear ship flying the flag of a Contracting State, the operation of which was not at the time of the nuclear incident licensed or authorized by such Contracting State, the owner of the nuclear ship at the time of the nuclear incident shall be deemed to be the operator of the nuclear ship for all the purposes of this Convention, except that his liability shall not be limited in amount.

"3. In such an event, the Contracting State whose flag the nuclear ship flies shall be deemed to be the licensing State for all the purposes of this Convention and shall, in particular, be liable for compensation for victims in accordance with the obligations imposed on a licensing State by article III and up to the limit laid down therein.

"4. Each Contracting State undertakes not to grant a licence or other authority to operate a nuclear ship flying the flag of another State. However, nothing in this paragraph shall prevent a Contracting State from implementing the requirements of its national law concerning the operation of a nuclear ship within its internal waters and territorial sea."

It may also be noted that CRAMRA, in its article 3, paragraph 8, provided that damage under the Convention which would not have occurred or continued if the sponsoring State had carried out its obligations under the Convention with respect to its operator shall, in accordance with international law, entail *liability* which will be *limited to that portion of liability not satisfied by the operator or otherwise.* The subsequent 1991 Protocol on Environmental Protection to the Antarctic Treaty prohibited any activity relating to mineral resources, other than scientific research.

578 The relevant paragraphs of article XXII read:

"3. If an international intergovernmental organization is liable for damage by virtue of the provisions of this Convention, that organization and those of its members which are States Parties to this Convention shall be jointly and severally liable; provided, however, that:

(a) Any claim for compensation in respect of such damage shall be first presented to the organization;

(b) Only where the organization has not paid, within a period of six months, any sum agreed or determined to be due as compensation for such damage, may the claimant State invoke the liability of the members which are States Parties to this Convention for the payment of that sum.

"4. Any claim, pursuant to the provision of this Convention, for compensation in respect of damage caused to an organization which has made a declaration in accordance with paragraph 1 of this article shall be presented by a State member of the organization which is a State Party to this Convention."

391. The 1982 United Nations Convention on the Law of the Sea provides in article 139 that States parties to the Convention shall ensure that activities in the Area, whether carried out by the State or its nationals, are in conformity with the Convention. When a State party fails to carry out its obligation, it will be liable for damage. The same liability is imposed upon an international organization for activities in the Area. In this case, States members of international organizations acting together bear joint and several liability. States members of international organizations involved in activities in the Area must ensure the implementation of the requirements of the Convention with respect to those international organizations.[579]

392. Similarly, article 263 of the Convention provides that States and international organizations shall be liable for damage caused by pollution of the marine environment arising out of marine scientific research undertaken by them or on their behalf.

393. Regulation 30 of the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area[580] provides in part that the responsibility and liability of the Authority shall be in accordance with the Convention. Furthermore, it is envisaged under clause 16 of the Standard Clauses for Exploration contract that the Authority would be liable for the actual amount of any damage to the Contractor arising out of its wrongful acts in the exercise of its powers and functions, including violations under article 168, paragraph 2, of the Convention.[581] Such liability takes

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[579] Article 139 of the Convention reads:

> "1. States Parties shall have the responsibility to ensure that activities in the Area, whether carried out by States Parties, or State enterprises or natural or juridical persons which possess the nationality of States Parties or are effectively controlled by them or their nationals, shall be carried out in conformity with this part. The same responsibility applies to international organizations for activities in the Area carried out by such organizations.
>
> "2. Without prejudice to the rules of international law and annex III, article 22, damage caused by the failure of a State Party or international organization to carry out its responsibilities under this part shall entail liability; States Parties or international organizations acting together shall bear joint and several liability. A State Party shall not however be liable for damage caused by any failure to comply with this part by a person whom it has sponsored under article 153, paragraph 2 (b), if the State Party has taken all necessary and appropriate measures to secure effective compliance under article 153, paragraph 4, and annex III, article 4, paragraph 4.
>
> "3. States Parties that are members of international organizations shall take appropriate measures to ensure the implementation of this article with respect to such organizations."

[580] See ISBA/6/A/18, annex.

[581] Article 168 reads in part:

> "2. The Secretary-General and the staff shall have no financial interest in any activity relating to exploration and exploitation in the Area. Subject to their responsibilities to the Authority, they shall not disclose, even after the termination of their functions, any industrial secret, proprietary data which are transferred to the Authority in accordance with annex III, article 14, or any other confidential information coming to their knowledge by reason of their employment with the Authority.
>
> "3. Violations of the obligations of a staff member of the Authority set forth in paragraph 2 shall, on the request of a State Party affected by such violation, or a natural or juridical person, sponsored by a State Party as provided in article 153, paragraph 2 (b), and affected by such violation, be submitted by the Authority against the staff member concerned to a tribunal designated by the rules, regulations and procedures of the Authority. The Party affected shall have the right to take part in the proceedings. If the tribunal so recommends, the Secretary-General shall dismiss the staff member concerned."

into account the contributory acts or omissions by the Contractor, its employees, agents and subcontractors, and all persons engaged in working or acting for them in the conduct of its operations under the contract. The Authority shall also provide indemnity against third-party liability concerning the conduct of operations under the contract.[582]

394. Following the invasion of Kuwait by Iraq, the Security Council, acting under Chapter VII of the Charter of the United Nations, stated, in its resolution 674 (1990), that under international law Iraq is "liable for any loss, damage or injury arising in regard to Kuwait and third States, and their nationals and corporations, as a result of the invasion and illegal occupation of Kuwait by Iraq" (para. 8).

395. In the subsequent resolution 687 (1991), the Security Council reaffirmed in paragraph 16 that "Iraq … is liable under international law for any *direct loss*, damage — including environmental damage and the depletion of natural resources — or injury to foreign Governments, nationals and corporations as a result of its unlawful invasion and occupation of Kuwait" (emphasis added). The Council also decided in paragraph 18 to create a fund to pay compensation for the claims falling within paragraph 16 and to establish a commission for the administration of the fund.

396. By its resolution 692 (1991), the Security Council, as contemplated in paragraph 18 of resolution 687 (1991), established the United Nations Compensation Fund as well as the United Nations Compensation Commission as its subsidiary organ functioning under its authority.[583]

397. In its decision 1,[584] the Governing Council of the United Nations Compensation Commission gave guidance to the Commissioners on the interpretation of "direct loss" as meaning losses resulting from the following situations:

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[582] Article 16 of the Standard Clauses for Exploration contract reads:

"…

"16.3 The Authority shall be liable for the actual amount of any damage to the Contractor arising out of its wrongful acts in the exercise of its powers and functions, including violations under article 168, paragraph 2, of the Convention, account being taken of contributory acts or omissions by the Contractor, its employees, agents and subcontractors, and all persons engaged in working or acting for them in the conduct of its operations under this contract.

"16.4 The Authority shall indemnify the Contractor, its employees, subcontractors, agents and all persons engaged in working or acting for them in the conduct of its operations under this contract, against all claims and liabilities of any third party arising out of any wrongful acts or omissions in the exercise of its powers and functions hereunder, including violations under article 168, paragraph 2, of the Convention.

"16.5 The Contractor shall maintain appropriate insurance policies with internationally recognized carriers, in accordance with generally accepted international maritime practice."

[583] For the institutional framework of the Commission, see Report of the Secretary-General pursuant to paragraph 19 of Security Council resolution 687 (1991), document S/22559, section I. See also Mojtaba Kazazi, "Environmental Damage in the practice of the UN Compensation Commission", in Bowman and Boyle, op. cit., note 92, pp. 111-131.

[584] Governing Council Decision 1, United Nations document S/AC.26/1991/1, para. 18. See also Governing Council Decision 7, document S/AC.26/1991/7/Rev.1, paras. 6, 21 and 34, concerning environmental losses.

"…

(c) Actions by officials, employees or agents of the Government of Iraq or its controlled entities during [the period 2 August 1990 to 2 March 1991] in connection with the invasion or occupation;

(d) The breakdown of civil order in Kuwait or Iraq during that period; …"

398. It has thus been suggested that Iraq is responsible for damage to the environment caused by acts of Iraqi servicemen, even if those servicemen were acting in a wholly private capacity, such as private soldiers looting and destroying property in their retreat.[585] In practice, claimants are only required to prove the direct causal link between the environmental loss and the invasion and occupation of Kuwait, and the value of the alleged loss.[586]

2. Judicial decisions and State practice outside treaties

399. Judicial decisions, official correspondence and inter-State relations show that, in certain circumstances, States are held accountable for the private activities conducted within their territorial jurisdiction and for the activities they themselves conduct within or beyond the limits of their territorial border. Even when States have refused to accept liability as a legal principle, they have nevertheless acted as though they accepted such liability, whatever the terms used to describe their position. Most of the cases and incidents examined in this section relate to activities conducted by States.

400. In its judgment of 9 April 1949 in the *Corfu Channel* case, the International Court of Justice found Albania responsible for failure to notify British shipping of a dangerous situation in its territorial waters, regardless of whether that situation had been caused by the Government of Albania. The Court found that it was the obligation of Albania to notify, for the benefit of shipping in general, the existence of mines in its territorial waters, not only by virtue of the Hague Convention No. VIII of 1907, but also of "certain general and well recognized principles, namely: elementary considerations of humanity, even more exacting in peace than in war ... and every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States".[587] The Court found that no attempt had been made by Albania to prevent the disaster and it therefore held Albania "responsible under international law for the explosions ... and for the damage and loss of human life".[588]

401. In its claim against the USSR in 1979 following the accidental crash on Canadian territory of the nuclear-powered Soviet satellite Cosmos 954, Canada sought to impose "absolute liability" on the Soviet Union by reason of the damage caused by the accident. In arguing the liability of the Soviet Union, Canada invoked

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585 Christopher Greenwood, "State Responsibility and Civil Liability for Environmental Damage Caused by Military Operations", *International Law Studies, Protection of the Environment During Armed Conflict*, Richard J. Grunawalt, John E. King and Ronald S. McClain (eds.), 1996, vol. 69, p. 397, at p. 409.

586 Kazazi, op. cit., p. 120.

587 *I.C.J. Reports 1949*, p. 22.

588 Ibid., p. 36. For diverse views as regards whether this judgment establishes strict liability for States, see paras. 227-229 above.

not only "relevant international agreements", including the 1972 Convention on International Liability for Damage caused by Space Objects, but also "general principles of international law".

402. In connection with the construction of a highway in Mexico crossing two canyons draining northward into the United States, the United States Government considered that, notwithstanding the technical changes that had been made in the project at its request, the highway construction, with the potential of failure in certain circumstances of flooding, did not offer sufficient guarantees for the security of property situated in United States territory and reserved its rights in the event of damage resulting from the construction of the highway. In a note dated 29 July 1959 addressed to the Minister for Foreign Relations of Mexico, the United States Ambassador to Mexico concluded:

> "In view of the foregoing, I am instructed to reserve all the rights that the United States may have under international law in the event that damage in the United States results from the construction of the highway."[589]

403. In the correspondence concerning the Rose Street Canal,[590] both the United States and Mexico reserved the right to invoke the accountability of the State whose construction activities might cause damage in the territory of the other State. However, in a communication dated 12 May 1955, to the mayor of the city of Douglas, in the State of Arizona, Assistant Secretary of State Holland wrote:

> "Since neither the United States nor the city of Douglas would have the right, without the consent of the Government of Mexico, to divert water from its natural course in the United States into Mexico to the detriment of citizens of the latter country, there would seem to be no doubt that Mexico has the right to prevent water coming into Mexico through the Rose Street canal by the construction at any time of a dike on the Mexican side of the international boundary. On the other hand, the principle of international law which obliges every State to respect the full sovereignty of other States and to refrain from creating or authorizing or countenancing the creation on its territory of any agency, such as the Rose Street canal, which causes injury to another State or its inhabitants, is one of long-standing and universal recognition."[591]

404. In the correspondence between Canada and the United States regarding the United States Cannikin underground nuclear tests on Amchitka island, in Alaska, Canada reserved its rights to compensation in the event of damage in the Pacific. Japan and New Zealand, in diplomatic protests, also reserved the right to hold the United States and France liable for any loss or damage inflicted by further nuclear tests. No claims were however made.[592]

405. The series of United States nuclear tests on Enewetak Atoll on 1 March 1954 caused injuries extending far beyond the danger area: they injured Japanese fishermen on the high seas and contaminated a great part of the atmosphere and a considerable quantity of fish, thus seriously disrupting the Japanese fish market. Japan demanded compensation. In a note dated 4 January 1955, the United States

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589 Whiteman, op. cit., vol. 6, p. 260, at p. 262.
590 Ibid., pp. 262-265.
591 Ibid., p. 265.
592 Birnie and Boyle, p. 474. See generally Whiteman, op. cit., vol. 4, pp. 556-605.

Government, completely avoiding any reference to legal liability, agreed to pay compensation for injury caused by the tests:

> "The Government of the United States of America has made clear that it is prepared to make monetary compensation as an additional expression of its concern and regret over the injuries sustained ... the United States of America hereby tenders, ex gratia, to the Government of Japan, without reference to the question of legal liability, the sum of two million dollars for purposes of compensation for the injuries or damages sustained as a result of nuclear tests in the Marshall Islands in 1954.
>
> "...
>
> "It is the understanding of the Government of the United States of America that the Government of Japan, in accepting the tendered sum of two million of dollars, does so in full settlement of any and all claims against the United States of America or its agents, nationals or juridical entities for any and all injuries, losses or damages arising out of the said nuclear tests."[593]

406. In the case of the injuries sustained in 1954 by the inhabitants of the Marshall Islands, then a Trust Territory administered by the United States, the latter agreed to pay compensation. A report of the Committee on Interior and Insular Affairs of the United States Senate stated that, owing to an unexpected wind shift immediately following the nuclear explosion, the 82 inhabitants of the Rongelap Atoll had been exposed to heavy radioactive fallout. After describing the injuries to persons and property suffered by the inhabitants and the immediate and extensive medical assistance provided by the United States, the report concluded: "It cannot be said, however, that the compensatory measures heretofore taken are fully adequate". The report disclosed that in February 1960 a complaint against the United States had been lodged with the High Court of the Trust Territory with a view to obtaining $8,500,000 as compensation for property damage, radiation sickness, burns, physical and mental agony, loss of consortium and medical expenses. The suit had been dismissed for lack of jurisdiction. The report indicated, however, that bill No. 1988 (on payment of compensation) presented in the House of Representatives was "needed to permit the United States to do justice to these people". On 22 August 1964, President Johnson signed into law an act under which the United States assumed "compassionate responsibility" to compensate inhabitants of the Rongelap Atoll, in the Trust Territory of the Pacific Islands, for radiation exposure sustained by them as a result of a thermonuclear detonation at Bikini Atoll in the Marshall Islands on 1 March 1954" and authorized $950,000 to be paid in equal amounts to the affected inhabitants of Rongelap.[594] According to another report, in June 1982, the Administration under President Reagan was prepared to pay $100 million to the Government of the Marshall Islands in settlement of all claims against the United States by islanders whose health and property had been affected by United States nuclear weapons tests in the Pacific between 1946 and 1963.[595]

407. In deliberating the case entitled *In the matter of the People of Enewetak, et al, Claimants for Compensation*, the Marshall Islands Nuclear Claims Tribunal considered a class action claim for damages to land resulting from or arising out of

[593] *Department of State Bulletin*, Washington, D.C., vol. 32, No. 812, 17 January 1955, pp. 90-91.
[594] Whiteman, op. cit., vol. 4, p. 567.
[595] *International Herald Tribune*, 15 June 1982, p. 5, col. 2.

the nuclear testing programme conducted by the United States between 1946 and 1958. The Marshall Islands Nuclear Claims Tribunal Act of 1987, as amended, conferred upon the Tribunal the duty and responsibility to "decide claims by, and disburse compensation to, the Government and citizens and nationals of Marshall Islands … for existing and prospective loss or damage to person or property which are based on, arise out of, or are in any way related to, the Nuclear Testing Program".[596]

408. The framework for these considerations was the Compact of Free Association by which the United States and the Marshall Islands had made provision for the "just and adequate settlement" of claims by Marshallese citizens. Under a related Agreement for the Implementation of Section 177 of the Compact of Free Association, a Claims Tribunal so established was required to "render final determination upon all claims past, present and future, of the Government, citizens and nationals of the Marshall Islands" and to make awards taking into account "the validity of the claim, any prior compensation made as a result of such claim, and such other factors as it may deem appropriate".[597]

409. The related Agreement also provided that "in determining any legal issue, the Claims Tribunal may have reference to the laws of the Marshall Islands, including traditional law, to international law and, in the absence of domestic or international law, to the laws of the United States".[598]

410. The Tribunal made a final determination of compensation in the sum of $324,949,311, including $194,154,811 for past and future loss of Enewetak Atoll to the claimants; $91,710,000 to restore Enewetak to a safe and productive state; and $34,084,500 for the hardships suffered by the people of Enewetak as a result of their relocation attendant to their loss of use.

411. In an exchange of notes dated 10 December 1993, Australia accepted an ex gratia payment of £20 million from the United Kingdom as settlement of all claims relating to the nuclear tests undertaken by the United Kingdom on Australian territory in the 1950s and 1960s.[599]

412. Although the Chernobyl disaster caused widespread harm to agricultural produce and livestock in Europe, and Governments paid their citizens for destroyed produce as a consequence of precautionary measures taken and also incurred clean-up costs, no claims were made against the former USSR, nor was any voluntary offer of compensation made by the Soviet Government. However, some countries such as Germany, Sweden and the United Kingdom reserved the right to submit claims.[600] In a written response delivered in the House of Commons on 21 July 1986, the Secretary of State for Foreign and Commonwealth Affairs noted that:

> "On 10 July we formally reserved our right with the Soviet Government to claim compensation on our own behalf and on behalf of our citizens for any losses suffered as a consequence of the accident at Chernobyl. The presentation of a formal claim, should we decide to make one, would not take

[596] *39 ILM* (2002) 1214.
[597] Ibid., p. 1215.
[598] Ibid.
[599] Birnie and Boyle, p. 494, footnote 195.
[600] Ibid., p. 474.

> place until the nature and full extent of any damage suffered has been assessed."[601]

413. This position was reiterated on 24 October 1986 when the Minister of Agriculture, Fisheries and Food observed: "We have reserved our position on whether the USSR will be required — it should be if the case is proved — to pay compensation."[602] In a subsequent communication to the same House, the Parliamentary Under-Secretary of State for Scotland stated:

> "The USSR is not a party to any of the international conventions relating to third-party liability on nuclear energy and is therefore not subject to any specific treaty obligation to compensate for damage caused outside its national boundaries."[603]

414. The Swedish Government was cognizant of the legal and technical uncertainties involved when it observed:

> "[I]n terms of treaties there is no international agreement existing, whether bilateral or multilateral, on the basis of which a Swedish claim against the USSR could be conceived. Insofar as customary international law is concerned, principles exist which might be invoked to support a claim against the USSR. The issues involved, however, are complex from the legal as well as the technical point of view and warrant careful consideration. In the present circumstances, the Government felt that priority should be given in the wake of the Chernobyl accident to endeavours of another nature."[604]

415. The arbitral award rendered on 27 September 1968 in the *Gut Dam* case also bears on State liability. In 1874, a Canadian engineer had proposed to his Government the construction of a dam between Adam Islands, in Canadian territory, and Les Galops Island, in the United States, in order to improve navigation on the St. Lawrence River. Following investigations and the exchange of many reports, as well as the adoption of legislation by the United States Congress approving the project, the Canadian Government undertook the construction of the dam in 1903. However, it soon became clear that the dam was too low to serve the desired purposes and, with United States permission, Canada increased its height. Between 1904 and 1951, several man-made changes affected the flow of water in the Great Lakes-St. Lawrence River Basin. While the dam itself was not altered in any way, the level of the waters in the river and in nearby Lake Ontario increased. In 1951-1952, the waters reached unprecedented levels which, in combination with storms and other natural phenomena, resulted in extensive flooding and erosion, causing injuries on both the north and the south shores of the lake. In 1953, Canada removed the dam as part of the construction of the St. Lawrence Seaway, but the United

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[601] House of Commons, *Hansard*, 21 July 1986, vol. 102, col. 5 (W), quoted in Philippe Sands, *Principles of International Environmental Law*, 2nd ed., Cambridge University Press, 2003, p. 888.

[602] Ibid., 24 October 1986, vol. 102, col. 1455, quoted in Sands, op. cit., p. 888.

[603] Ibid., 16 November 1987, vol. 122, col. 894, quoted in Sands, op. cit., p. 888.

[604] Quoted in Sands, op. cit., pp. 887-888. For comments of States concerning the question of international liability following the accident, see also IAEA documents GOV/INF/550 and Add.1 (1988) and Add.2 (1989). See also Sands, pp. 888-889, footnotes 102-105.

States claims for damages allegedly resulting from the presence of the Gut Dam continued to fester for some years.[605]

416. The Lake Ontario Claims Tribunal, established in 1965 to resolve the matter, recognized the liability of Canada, without finding any fault or negligence on the part of Canada. The Tribunal, of course, relied a great deal on the terms of the second condition stipulated in the instrument signed on 18 August 1903 and 10 October 1904, whereby the United States Secretary of War had approved construction of the dam, as well as on Canada's unilateral acceptance of liability. Furthermore, the Tribunal found Canada liable not only towards the inhabitants of Les Galops in connection with the injuries caused by the dam, but also towards all United States citizens. Such responsibility was, moreover, found not to be limited in time to some initial testing period. The Tribunal concluded that the only questions remaining to be settled were whether the Gut Dam had caused the damage for which claims had been filed and the amount of compensation.[606]

417. In some cases, States have denied responsibility and recourse has been had to civil claims. In the 1979 oil-well blowout and oil spill of the IXTOC I oil well in the Gulf of Mexico resulting in a fire and flow of oil into the sea, ultimately entering the territorial waters of the United States and reaching the shores of Texas, Mexico refused to accept any responsibility for injury caused to the United States and the matter was resolved in civil claims. In the Agreement concerning settlement of claims arising from the blowout between the United States and Sedco, the company which chartered the SEDCO drilling rig to the Mexican national oil company, Petroleos Mexicanos (Pemex), it was agreed to resolve claims pending between them. It also was understood that neither party in any way admitted or conceded fault, negligence or legal liability for the initial blowout, the subsequent pollution or any damages actually or allegedly suffered by any party.[607]

418. Other transboundary incidents have occurred owing to activities carried out by Governments within their territories with effects on a neighbouring State, but they have not given rise to official demands for compensation. These incidents have been minor and of an accidental nature.

419. In 1949, Austria made a formal protest to the Government of Hungary against the installation of mines in Hungarian territory close to the Austrian border and demanded their removal, but it did not claim compensation for injuries caused by the explosion of some of the mines on its territory. Hungary had apparently laid the mines to prevent illegal passage across the border. Austria was concerned that during a flood the mines might be washed into Austrian territory and endanger the lives of its nationals resident near the border. These protests, however, did not

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[605] See the report of the United States agent before the Lake Ontario Claims Tribunal, "Canada-United States Settlement of Gut Dam Claims (27 September 1968)", *8 ILM* (1969), 128-138.

[606] Cf. Gunther Handl, "State Liability for Accidental Transnational Environmental Damage by Private Persons", *74 AJIL* (1980), 525, at pp. 538-540, who points out that the Tribunal was not called upon to pronounce on the liability of Canada nor on the standard of liability, but was only called upon to arbitrate on damages. It therefore distorts the issues to suggest that Gut Dam is an illustration of the application of strict liability.

[607] *22 ILM* (1983) 580, at p. 583. Sedco agreed to pay $2 million in full and final settlement, and in exchange therefor the United States offered a full and unconditional release of Sedco, with full reservation of its rights against Perforaciones Marinas del Golfo (Permargo) (the Mexican drilling contractor) and Pemex. On 22 March 1983, Sedco also agreed to pay $2.14 million to settle four lawsuits filed by fishermen, resorts and others affected by the oil spill.

prevent Hungary from maintaining its minefields. In 1966, a Hungarian mine exploded in Austrian territory, causing extensive damage. The Austrian Ambassador lodged a strong protest with the Hungarian Foreign Ministry, accusing Hungary of violating the uncontested international legal principle according to which measures taken in the territory of one State must not endanger the lives, health and property of citizens of another State. Following a second accident, occurring shortly thereafter, Austria again protested to Hungary, stating that the absence of a public commitment by Hungary to take all measures to prevent such accidents in the future was totally inconsistent with the principle of "good-neighbourliness". Hungary subsequently removed or relocated all minefields away from the Austrian border.[608]

420. In October 1968, during a shooting exercise, a Swiss artillery unit erroneously fired four shells into the territory of Liechtenstein. The facts concerning this incident are difficult to ascertain. However, the Government of Switzerland, in a note to the Government of Liechtenstein, expressed regret for the involuntary violation of the frontier. The Swiss Government stated that it was prepared to compensate all damage caused and that it would take all necessary measures to prevent a recurrence of such incidents.[609]

421. Judicial decisions and official correspondence demonstrate that States have agreed to assume liability for the injurious impact of activities by private entities operating within their territory. The legal basis for such State liability appears to derive from the principle of territorial sovereignty, a concept investing States with exclusive rights within certain portions of the globe. This concept of the function of territorial sovereignty was emphasized in the *Island of Palmas* case.[610] The arbitrator in that case stated that territorial sovereignty:

> "... cannot limit itself to its negative side, i.e. to excluding the activities of other States; for it serves to divide between nations the space upon which human activities are employed, in order to assure them at all points the minimum of protection of which international law is the guardian."[611]

422. This concept was later formulated in a more realistic way, namely, that actual physical control is the sound basis for State liability and responsibility. The International Court of Justice, in its advisory opinion of 21 June 1971 in the *Namibia* case, stated:

> "Physical control of a territory, and not sovereignty or legitimacy of title, is the basis of State liability for acts affecting other States."[612]

423. From this perspective, the liability of States for extraterritorial damage caused by private persons under their control is an important issue to be examined in the context of the present study. The following are examples of State practice touching upon this source of State liability.

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[608] See Handl, "An international legal perspective on the conduct of abnormally dangerous activities in frontier areas: the case of nuclear power plant siting", *Ecology Law Quarterly*, vol. 7 (1978), pp. 23-24.

[609] *Annuaire suisse de droit international*, 1969-1970, vol. 26, p. 158.

[610] *Netherlands v. United States of America*, United Nations, *Reports of International Arbitral Awards*, vol. II, p. 829.

[611] Ibid., p. 839.

[612] *Legal Consequences for States of the continued presence of South Africa in Namibia (South West Africa) Notwithstanding Security Council resolution 276 (1970), Advisory Opinion, I.C.J. Reports 1971*, p. 54, para. 118 (a).

424. In 1948, a munitions factory in Arcisate, in Italy, near the Swiss frontier, exploded and caused varying degrees of damage in several Swiss communes. The Swiss Government demanded reparation from the Italian Government for the damage sustained; it invoked the principle of good-neighbourliness and argued that Italy was liable since it tolerated the existence of an explosives factory, with all its attendant hazards, in the immediate vicinity of an international border.[613]

425. In 1956, the Mura River, forming the international boundary between the former Yugoslavia and Austria, was extensively polluted by the sediments and mud which several Austrian hydroelectric facilities had released by partially draining their reservoirs in order to forestall major flooding. Yugoslavia claimed compensation for the economic loss incurred by two paper mills and for damage to fisheries. In 1959, the two States agreed on a settlement pursuant to which Austria paid monetary compensation and delivered a certain quantity of paper to the former Yugoslavia.[614] Although the settlement was reached in the framework of the Permanent Austro-Yugoslavian (now Slovenian Austrian) Commission for the Mura River, this is a case in which the injured State invoked the direct liability of the controlling State and the controlling State accepted the claim to pay compensation.

426. In 1971, the Liberian tanker *Juliana* ran aground and split apart off Niiagata, on the west coast of the Japanese island of Honshu. The oil of the tanker washed ashore and extensively damaged local fisheries. Liberia, the flag State, offered 200 million yen to the fishermen for damage, which they accepted.[615] In this affair, the Liberian Government accepted the claims for damage caused by the act of a private person. It seems that no allegations of wrongdoing on the part of Liberia were made at an official diplomatic level.

427. Following the 1972 accidental spill of 12,000 gallons of crude oil into the sea at Cherry Point, in the State of Washington, United States, and the resultant pollution of Canadian beaches, the Government of Canada addressed a note to the United States Department of State in which it expressed its grave concern about this "ominous incident" and noted that "the Government wishes to obtain firm assurances that full compensation for all damages, as well as the cost of clean-up operations, will be paid by those legally responsible".[616] Reviewing the legal implications of the incident before the Canadian Parliament, the Canadian Secretary of State for External Affairs stated:

> "We are especially concerned to ensure observance of the principle established in the 1938 *Trail Smelter* arbitration between Canada and the United States. This has established that one country may not permit the use of its territory in such a manner as to cause injury to the territory of another and shall be responsible to pay compensation for any injury so suffered. Canada accepted this responsibility in the *Trail Smelter* case and we would expect that the same principle would be implemented in the present situation. Indeed, this principle has already received acceptance by a considerable number of States and hopefully it will be adopted at the Stockholm Conference [United Nations

[613] Guggenheim, *Annuaire suisse* ..., op. cit., p. 169.
[614] See Handl, "State liability ...", pp. 545-546; *The Times* (London), 2 December 1971, p. 8, col. 1.
[615] *The Times* (London), 1 October 1974; *Revue générale de droit international public*, vol. 80 (1975), p. 842.
[616] *Canadian Yearbook of International Law*, vol. XI (1973), 333, at p. 334.

Conference on the Human Environment] as a fundamental rule of international environmental law."[617]

428. Canada, referring to the precedent of the *Trail Smelter* arbitration, claimed that the United States was responsible for the extraterritorial damage caused by acts occurring under its territorial control, regardless of whether the United States was at fault. The final resolution of the dispute did not involve the legal principle invoked by Canada; the private company responsible for the pollution offered to pay the costs of the clean-up operations; the official United States response to the Canadian claim remains unclear.

429. In the 1986 Sandoz disaster, fire broke out at a warehouse located in Schweizerhalle, outside Basel, Switzerland, belonging to Sandoz S.A, a pharmaceutical company. The warehouse contained agricultural chemicals, mainly pesticides. The use of water to douse the fire led to the release into the Rhine river of thousands of cubic metres of water heavily polluted with toxic substances. For several days, fishing and drinking water production, even 1,000 km downstream into the Netherlands, were stopped.[618] The International Commission for the Protection of the Rhine and the Council of Ministers of the Environment of the European Community held meetings subsequently in connection with the spill. There appeared to be no indication of the responsibility of Switzerland in the communiqués issued in respect of those meetings. Instead, both forums spoke of the civil liability of Sandoz.[619] The Commission decided that the damage had to be repaired or compensated quickly. It was reiterated that "victims would keep the right to claim directly from Sandoz, and that the good offices of the respective Governments did not imply any recognition of liability or engage the liability of the Governments".[620]

430. The Swiss Government indicated that it would offer its "good offices for the settlement of damages, and even envisaged working towards compensation for damages on an equity basis (i.e., in the cases where according to strict law no damages would need to be paid".[621] Subsequently, Switzerland agreed to make a "rapid and fair" settlement for damages caused by the accident. Sandoz received, and paid, substantial claims for damages.[622]

431. Immediately after the spill, the environment ministers of France and Germany announced their intentions to seek compensation against Sandoz and Switzerland.[623] The Government of Germany also maintained that the Swiss authorities had negligently omitted to obligate Sandoz to take safety measures and the Swiss Government acknowledged its lack of due diligence in preventing the accident

[617] Ibid.

[618] See Hans Ulrich Jessurun d'Oliviera, "The Sandoz Blaze: The Damage and the Public and Private Liabilities", F. Francioni and T. Scovazzi (eds.), *International Responsibility for Environmental Harm* (1991), pp. 429-445; Ricardo Pisillo-Mazzeschi, "Forms of International Responsibility for Environmental Harm", ibid., pp. 15-35; Aaron Schwabach, "The Sandoz Spill: The Failure of International Law to Protect the Rhine from Pollution", *16 Ecology Law Quarterly* (1989) 443-480.

[619] d'Oliviera, op. cit., p. 434.

[620] Ibid., p. 435.

[621] Ibid.

[622] Schwabach, "The Sandoz Spill ...", op. cit., p. 53.

[623] Ibid., p. 469.

through adequate regulation of its own pharmaceutical industries.[624] However, no claims against Switzerland were pursued.[625]

432. In 1973, a major contamination occurred in the Swiss canton of Bâle-Ville owing to the production of insecticides by a French chemical factory across the border. The contamination caused damage to the agriculture and environment of the canton and destroyed some 10,000 litres of milk production per month.[626] The facts of the case and the diplomatic negotiations that followed are difficult to ascertain. The Swiss Government apparently intervened and negotiated with the French authorities in order to halt the pollution and obtain compensation for the damage. The reaction of the French authorities is unclear; it appears, however, that persons injured brought charges in French courts.

433. During negotiations between the United States and Canada regarding a plan for oil prospecting in the *Beaufort Sea*, near the Alaskan border, the Canadian Government undertook to guarantee payment of any damage that might be caused in the United States by the activities of the private corporation that was to undertake the prospecting. Although the private corporation was to furnish a bond covering compensation for potential victims in the United States, the Canadian Government accepted liability on a subsidiary basis for payment of the cost of transfrontier damage should the bonding arrangement prove to be inadequate.

III. Exoneration from liability

434. Under domestic laws, some grounds for exoneration from liability have been anticipated. For example, in the United States, subsection 2703(a) of OPA provides for "complete defence", meaning that a responsible party is not liable if it shows by a preponderance of evidence that:

> "The discharge and resulting damage or removal costs were caused solely by:
>
> (1) An act of God;
>
> (2) An act of war;
>
> (3) An act or omission of a third party: other than an employee or agent of the responsible party or a third party whose act or omission occurs in connection with any contractual relationship with the responsible party (except where the sole contractual arrangement arises in connection with carriage by a common carrier by rail …)".

435. But a "third party" defence is available only if the responsible party establishes by a preponderance of the evidence that it:

> "A. exercised due care with respect to the oil concerned, taking into consideration the characteristics of the oil and in light of all relevant facts and circumstances; and
>
> B. took precautions against foreseeable acts or omissions of any such third party and the foreseeable consequences of those acts or omissions.
>
> (4) any combination of the above."

[624] Pisillo-Mazzeschi, "Forms of International Responsibility ...", op. cit., at p. 31.
[625] Schwabach, "The Sandoz Spill ...", op. cit., p. 469.
[626] See *Annuaire suisse de droit international*, 1974, vol. 30, p. 147.

436. In addition, subsection 2702(d)(1)(A), on the liability of third parties, provides that in any case in which a responsible party establishes that a discharge and the resulting removal costs and damages were caused solely by an act or omission of one or more third parties described in section 2703(a)(3), the third party shall be treated as the responsible party for the purposes of determining liability. The third-party defence of this provision seems illusory. Under subsection 2702(d)(1)(B)(i) and (ii), the responsible party shall pay damages to the claimant and shall be entitled by subrogation to all rights of the United States Government and the claimant to recover removal costs and damages from the third party.

437. These defences are not available if, under subsection 2703(c), the responsible party fails or refuses:

> "1. To report the incident as required by law if the responsible party knows or has reasons to know of the incident;
>
> "2. To provide all reasonable cooperation and assistance requested by a responsible official in connection with the removal activities; or
>
> "3. Without sufficient cause, to comply with an order issued under subsection (c) or (e) of section 1321 ... or the Intervention on the High Seas Act."

438. Furthermore, under subsection 2703(b), a responsible party is not liable to a claimant to the extent that the incident is caused by the *gross negligence or wilful misconduct of the claimant*. Under subsections 2709 and 2710 of OPA, where a responsible party does not have a complete defence, it may proceed against a third party for contribution in case the discharge was caused, at least in part, by the third party or for indemnity.

439. Similar defences are available under FWPCA, subsection 1321(f). They include:

> "(a) An act of God, (b) an act of war, (c) negligence on the part of the United States Government, or (d) an act or omission of a third party without regard to whether any such act or omission was or was not negligent, or any combination of the foregoing clauses ..."

440. CERCLA also provides the following defences in section 9607(b) for a person otherwise liable who can establish by a preponderance of the evidence that the release or threat of release of a hazardous substance and the damages resulting therefrom were caused solely by:

> "(1) An act of God;
>
> (2) An act of war;
>
> (3) An act or omission of a third party other than an employee or agent of the defendant or other than one whose act or omission occurs in connection with a contractual relationship existing directly or indirectly with the defendant, if a defendant establishes that:
>
> (a) He exercised due care with respect to the hazardous substance concerned, taking into consideration the characteristics of such hazardous substance, in light of all relevant facts and circumstances; and

(b) He took precautions against foreseeable acts or omissions of any such third party and the consequences that could foreseeably result from such acts or omissions; or

(4) Any combination of the above."[627]

441. The ELA of Germany provides for the following grounds for exoneration from liability: (a) damage caused by force majeure (*höhere Gewalt*);[628] and (b) if the damage is "only insubstantial" or "reasonable according to the local conditions".[629] This exclusion applies only if the facility is "operated properly", meaning that it has complied with all the required safety regulations.[630] In contrast, the Federal Soil Protection Act (BSG),[631] which is an administrative environmental legislation providing a uniform national system of rules for soil protection and clean-up of contaminated sites, contains fewer defences against liability. Under section 4(5), the objective of remediation may be reduced from full elimination to some less onerous measure, such as containment, where (a) at the time the pollution was caused, the defendant did not expect harm to occur because his actions were within the legal requirements; and (b) his good faith is worthy of protection, taking account of the circumstances of the case. BSG also provides for the defence of innocent owner. However, it is available to past, and not current, owners and occupiers. Proportionality and discretion on the part of the competent authorities may also be invoked for protection.

442. Under the Contaminated Soil Act 1999 of Denmark, *war, civil unrest, nuclear damage or natural disaster* as well as fire or criminal damage where the resulting harm was not caused by either reckless conduct on the part of the polluter or conduct subject to stricter liability rules elsewhere constitute defences to remediation orders. Also applicable are the *de minimis* ("insignificant proportion") exemptions and the innocent owner or innocent successor defences. In the earlier, 1994 Environmental Damage Compensation Act, defences included compulsory order of a public authority and deliberate or negligent contribution of the plaintiff (gross negligence in cases of personal injury, simple negligence for property damage).

443. The Belgian Law of 20 January 1999 on protection of the marine environment in the marine areas under Belgian jurisdiction includes as *defences: war, civil war, terrorism or a natural phenomenon of an exceptional, unavoidable and irresistible nature*; a deliberate act or omission of a third party with the intention of causing the

[627] Where an owner or operator has actual knowledge of a release of a hazardous material at the facility and subsequently transfers the property to another person without disclosing that information, the former owner or operator remains liable and cannot invoke the defence under subsection 9607(b)(3).

[628] Section 4 of the Act.

[629] See W. Hoffman, "Germany's new Environmental Liability Act: Strict Liability for Facilities Causing Pollution", *in 35 Netherlands International Law Review* (1991) 32, note 29.

[630] See section 5 of the Act. This exclusion applies only if the facility is "operated properly", meaning that it has complied with all the regulatory instructions and that there has been no interruption of the operation. See Hoffman, op. cit.

[631] The Act was adopted in March 1998. The majority of its provisions became effective on 1 March 1999. The Act has been further implemented by the Soil Protection and Contaminated Land Ordinance (BSV) of 13 July 1999. See generally Chris Clarke, "Update comparative …", op. cit., p. 42.

harm; and negligence or other prejudicial act on the part of an authority responsible for navigational aids.[632]

444. Under English common law, the *Rylands v. Fletcher* rule appears to recognize certain exceptions. Its application is excluded in works constructed or conducted under statutory authority. Acts of God or acts of third parties also exclude its application. Thus a rat gnawing a hole in a wooden gutter box sufficed as an act of God in *Carstairs v. Taylor*, and in *Rickards v. Lothian* an act of a vandal who blocked a washbasin and turned on the tap was enough to constitute an act of a third party thus excluding the application of *Rylands v. Fletcher*. Questions of remoteness, whether escape is an essential element of the rule, questions concerning "non-natural user" and whether personal injuries are recoverable under the rule have all been a subject of determination and may have a bearing on the application or non-application of the rule and therefore could constitute a basis for exoneration in the circumstances of a particular case.[633]

445. Under section 27(3)(e) the Environmental Protection Act of Mauritius, force majeure, third-party liability, and exclusive liability of the victim (*la faute du tiers, and la faute exclusive de la victime*) do not constitute defences for purposes of an action for damages in relation to spills.[634]

446. In inter-State relations, as under domestic law, there are certain circumstances in which liability may be ruled out. The principles governing exoneration from liability in inter-State relations are similar to those applying in domestic law, such as *war, civil insurrection, natural disasters of an exceptional character*, etc. *Contributory negligence* by the injured party is also held to extinguish the total or partial liability of the operator or the acting State in some multilateral conventions.

A. Treaty practice

447. Under paragraphs 2 and 3 of article III of the 1992 CLC, *war, hostilities, civil war, insurrection or natural phenomena of an exceptional, inevitable and irresistible character* are elements providing exoneration from liability for the owner, independently of negligence on the part of the claimant. When the damage is wholly caused by the negligence or other wrongful act of any Government or authorities responsible for the maintenance of lights or other navigational aids, the owner is exonerated from liability. The burden of proof is on the shipowner.

448. Paragraphs 2 and 3 of article III of the Convention read:

> "2. No liability for pollution damage shall attach to the owner if he proves that the damage:
>
> (a) Resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character, or
>
> (b) Was wholly caused by an act or omission done with the intent to cause damage by a third party, or

[632] Chris Clarke, op. cit., p. 65. See also generally Cousy and Droshout, in Koch and Koziol, pp. 43-74.

[633] See generally the judgement of Lord Hoffmann in *Transco plc v. Stockport Metropolitan …*, op. cit., for analysis and citations of various cases.

[634] Sinatambou, in Bowman and Boyle, p. 277.

(c) Was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function.

"3. If the owner proves that the pollution damage resulted wholly or partially either from an act or omission done with intent to cause damage by the person who suffered the damage or from the negligence of that person, the owner may be exonerated wholly or partially from his liability to such person."

449. Article III of the 1969 CLC, article 3 of the 2001 Bunker Oil Convention and article 7 of the 1996 HNS Convention also contain similar exemptions in respect of liability and contributory negligence.[635] In addition, under paragraph 2, subparagraph (d), of the HNS, liability shall not attach to the owner if the owner proves that:

"(d) The failure of the shipper or any other person to furnish information concerning the hazardous and noxious nature of the substances shipped either

(i) Has caused the damage, wholly or partly; or

(ii) Has led the owner not to obtain insurance in accordance with article 12,

provided that neither the owner nor its servants or agents knew or ought reasonably to have known of the hazardous and noxious nature of the substances shipped".

450. Article 3 of the 1977 Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources provides similar language in respect of the *operator of an installation*. Furthermore, the operator of an abandoned well is not liable for pollution damage if he proves that the incident which caused the damage occurred more than five years after the

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[635] See also article 6 of the 1952 Convention on Damage caused by Foreign Aircraft to Third Parties on the Surface, which reads:

"1. Any person who would otherwise be liable under the provisions of this Convention shall not be liable for damage if he proves that the damage was caused solely through the negligence or other wrongful act of omission of the person who suffers the damage or of the latter's servants or agents. If the person liable proves that the damage was contributed to by the negligence or other wrongful act or omission of the person who suffers the damage, or of his servants or agents, the compensation shall be reduced to the extent to which such negligence or wrongful act or omission contributed to the damage. Nevertheless there shall be no such exoneration or reduction if, in the case of the negligence or other wrongful act or omission of a servant or agent, the person who suffers the damage proves that his servant or agent was acting outside the scope of his authority.

"2. When an action is brought by one person to recover damages arising from the death or injury of another person, the negligence or other wrongful act or omission of such other person, or of his servants or agents, shall also have the effect provided in the preceding paragraph."

Furthermore, article 2, paragraphs 3 and 4, of the Additional Convention to CIV, provide:

"3. The railway shall be relieved wholly or partly of liability to the extent that the accident is due to the passenger's wrongful act or neglect or to behaviour on his part not in conformity with the normal conduct of passengers.

"4. The railway shall be relieved of liability if the accident is due to a third party's behaviour which the railway, in spite of taking the care required in the particular circumstances of the case, could not avoid and the consequences of which it was unable to prevent."

date on which the well was abandoned under the authority and in accordance with the requirements of the controlling State. If the well has been abandoned in other circumstances, the liability of the operator is governed by the applicable national law.

451. Under CRTD, the *carrier* shall not be liable if he can prove that:

> "(a) The damage resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character, or
>
> (b) The damage was wholly caused by an act or omission with the intent to cause damage by a third party; or
>
> (c) The consignor or any other person failed to meet his obligation to inform him of the dangerous nature of the goods, and that neither he nor his servants or agents knew or ought to have known of their nature."[636]

452. Exemptions are also provided for in respect of instruments concerning nuclear damage. Paragraph 3 of article IV of the 1963 Vienna Convention on Civil Liability for Nuclear Damage provides for exoneration from liability if the injury is caused by a nuclear incident *directly* due to an act of *armed conflict*, *hostilities, civil war or insurrection*. Unless the domestic law of the installation State provides to the contrary, the operator is not liable for nuclear damage caused by a nuclear incident directly due to a *grave natural disaster of an exceptional character*.[637] This provision was amended by the 1997 Protocol. Paragraph 3 of article IV of the 1997 Vienna Convention reads:

> "No liability under this Convention shall attach to an operator if he proves that the nuclear damage is directly due to an act of armed conflict, civil war or insurrection."

453. The 1997 Vienna Convention provided a model for the subsequent 2004 Paris Convention, article 9 of which states: "The operator shall not be liable for damage caused by a nuclear incident *directly due to an act of armed conflict, hostilities, civil*

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[636] Article 3 of the Convention reads in part:

> "3. No liability for pollution damage shall attach to the operator if he proves that the damage resulted from an act of war, hostilities, civil war, insurrection, or a natural phenomenon of an exceptional, inevitable and irresistible character.
>
> "4. No liability for pollution damage shall attach to the operator of an abandoned well if he proves that the incident which caused the damage occurred more than five years after the date on which the well was abandoned under the authority and in accordance with the requirements of the controlling State. Where a well has been abandoned in other circumstances, the liability of the operator shall be governed by the applicable national law.
>
> "5. If the operator proves that the pollution damage resulted wholly or partly either from an act or omission done with intent to cause damage by the person who suffered the damage or from the negligence of that person, the operator may be exonerated wholly or partly from his liability to such person."

[637] Paragraph 3 of article IV of the 1963 Convention provides:

> "3. (a) No liability under this Convention shall attach to an operator for nuclear damage caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war or insurrection.
>
> (b) Except in so far as the law of the Installation State may provide to the contrary, the operator shall not be liable for nuclear damage caused by a nuclear incident directly due to a grave natural disaster of an exceptional character."

war or insurrection." It replaces the earlier article 9 of the 1960 Paris Convention, which provides:

> "The operator shall not be liable for damage caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war, insurrection or, except in so far as the legislation of the Contracting Party in whose territory his nuclear installation is situated may provide to the contrary, a grave natural disaster of an exceptional character."

454. In both the 1997 and the 1963 Vienna Conventions, if the injury is caused as a result of the gross negligence of the claimant or an act or omission of such person with intent to cause damage, the competent court may, if its domestic law so provides, relieve the operator wholly or partly from his obligation to pay damage to such person. However, it is the operator who should prove the negligence of the claimant.[638]

455. Under article 1 of the 1971 Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, a person would be exonerated if the operator would otherwise be liable under the Paris Convention or the Vienna Convention or no less favourable national law. Article 4 has a provision on contributory negligence similar to article IV of the 1997 and 1963 Vienna Conventions.

456. The annex to the 1997 Convention on Supplementary Compensation for Nuclear Damage also provides for exemptions. Under article 3:

> "…
>
> "5. (a) No liability shall attach to an operator for nuclear damage caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war or insurrection.
>
> (b) Except insofar as the law of the Installation State may provide to the contrary, the operator shall not be liable for nuclear damage caused by a nuclear incident caused directly due to a grave natural disaster of an exceptional character.
>
> "…
>
> 7. The operator shall not be liable for nuclear damage:
>
> (a) To the nuclear installation itself and any other nuclear installation, including a nuclear installation under construction, on the site where that installation is located; and

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[638] Paragraph 2 of article IV of both the 1997 and the 1963 Conventions reads:

> "2. If the operator proves that the nuclear damage resulted wholly or partly either from the gross negligence of the person suffering the damage or from an act or omission of such person done with intent to cause damage, the competent court may, if its law so provides, relieve the operator wholly or partly from his obligation to pay compensation in respect of the damage suffered by such person."

See also paragraph 5 of article IV of both Conventions, under which the operator shall not be liable for nuclear damage:

> "(a) To the nuclear installation itself and any other nuclear installation, including a nuclear installation under construction, on the site where that installation is located; and
>
> (b) To any property on that same site which is used or to be used in connection with any such installation;".

(b) To any property on that same site which is used or to be used in connection with any such installation;

(c) Unless otherwise provided by national law, to the means of transport upon which the nuclear material involved was at the time of the nuclear incident. If national law provides that the operator is liable for such damage, compensation for that damage shall not have the effect of reducing the liability of the operator in respect of other damage to an amount less than either 150 million SDRs, or any higher amount established by the legislation of a Contracting Party.

"…

"10. The operator shall incur no liability for damage caused by a nuclear incident outside the provisions of national law in accordance with this Convention."

457. Under paragraph 6 of the same article 3, national law may relieve an operator wholly or partly from the obligation to pay compensation for nuclear damage suffered by a person if the operator proves the nuclear damage resulted wholly or partly from the gross negligence of that person or an act or omission of that person done with the intent to cause damage.

458. With regard to hazardous wastes, article 3 of the Basel Protocol also provides exemptions. There is no liability if it is proved that the damage was: (a) the result of an act of armed conflict, hostilities, civil war or insurrection; (b) the result of a natural phenomenon of exceptional, inevitable, unforeseeable and irresistible character; (c) wholly the result of compliance with a compulsory measure of a public authority of the State where the damage occurred; or (d) wholly the result of the wrongful intentional conduct of a third party, including the person who suffered the damage.

459. Some regional instruments also contain grounds for exoneration. Article 8 of the 1993 Lugano Convention provides grounds for exoneration from liability of the operator, including an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character; acts by a third party which are considered to be outside the control of the operator; and compliance with compulsory measures.[639] The administrative authorization to conduct the activity or compliance with the requirements of such authorization is not in itself a ground for exoneration from liability.[640]

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[639] Article 8 of the Lugano Convention reads:

"The operator shall not be liable under this Convention for damages which he proves:

(a) Was caused by an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character;

(b) Was caused by an act done with the intent to cause damage by a third party, despite safety measures appropriate to the type of dangerous activity in question;

(c) Resulted necessarily from compliance with a specific order or compulsory measure of a public authority;

(d) Was caused by pollution at tolerable levels under local relevant circumstances;

(e) Was caused by a dangerous activity taken lawfully in the interests of the person who suffered the damage, whereby it was reasonable towards this person to expose him to the risks of the dangerous activity."

[640] See explanatory note to the Convention.

460. The Convention also provides an exemption in respect of *de minimis* damage. Pollution at a tolerable level should be a ground for exemption. The level of pollution which is considered tolerable shall be determined in the light of local conditions and circumstances. The commentary to article 8 provides that the aim of this provision is to avoid extending the regime of strict liability to "acceptable inconveniences".[641] It is for the competent court to decide which inconveniences are acceptable having regard to local circumstances.[642] The Convention also permits an exemption from liability when a dangerous activity is carried out in the interests of the person suffering damage. This situation covers in particular activities undertaken in emergency cases, and those carried out with the consent of the person who has suffered damage.[643] Under article 9 of the Convention, the court may reduce or disallow compensation to an injured person if the injury was caused by the fault of the injured person, or by the fault of a person for whom he is responsible.

461. Under article 4 of the 2003 Kiev Protocol:

> "2. No liability in accordance with this article shall attach to the operator, if he or she proves that, despite there being in place appropriate safety measures, the damage was:
>
> (a) The result of an act of armed conflict, hostilities, civil war or insurrection;
>
> (b) The result of a natural phenomenon of exceptional, inevitable, unforeseeable and irresistible character;
>
> …"

462. Liability also does not attach where the damage was wholly the result of compliance with a compulsory measure of a public authority of the party where the industrial accident has occurred; or wholly the result of the wrongful intentional conduct of a third party.

463. Pursuant to paragraph 1 of its article 4, the 2004 EU Directive on environmental liability does not cover environmental damage or an imminent threat of such damage caused by:

> "(a) An act of armed conflict, hostilities, civil war or insurrection;
>
> (b) A natural phenomenon of exceptional, inevitable and irresistible character."

464. It also does not apply to activities whose main purpose is to serve national defence or international security. Nor does it apply to activities whose sole purpose is to protect from natural disasters.[644]

465. In cases where third-party liability or compliance with compulsory measures of a public authority is proved, the operator is able to recover the costs incurred. Under article 8 of the Directive, the operator may escape bearing the costs of

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[641] See *Explanatory Report to the Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment*, document of the Council of Europe, as adopted on 8 March 1993, p. 16.

[642] Ibid.

[643] Ibid.

[644] Article 4, para. 6.

preventive or remedial actions when he proves that the environmental damage or imminent threat of such damage:

> "(a) Was caused by a third party and occurred despite the fact that appropriate safety measures were in place; or
>
> (b) Resulted from compliance with a compulsory order or instruction emanating from a public authority other than an order or instruction consequent upon an emission or incident caused by the operator's own activities."

466. The Directive furthermore provides for a state-of-the art defence. Member States may allow the operator not to bear the costs of remedial actions where he demonstrates that he was not at fault or negligent and that the environmental damage was caused by: (a) an emission or event expressly authorized and is consistent with applicable national laws and regulations; or (b) an emission or activity or any manner of using a product in the course of an activity which the operator demonstrates was not considered likely to cause environmental damage according to the state of scientific and technical knowledge at the time when the emission was released or the activity took place.[645]

467. Under the 1972 Convention on International Liability for Damage caused by Space Objects, if the launching State proves that the damage caused to the claimant State was wholly or partly the result of gross negligence or of an act or omission of the claimant or its nationals with intent to cause damage, it will be exonerated from liability. However, there is no exoneration where the damage has resulted from activities conducted by a launching State which are not in conformity with international law.

468. Article 139 of the 1982 United Nations Convention on the Law of the Sea also provides for exoneration from liability of the State for damage caused by any failure of a person whom the State has sponsored to comply with regulations on seabed mining, if the State party has taken all necessary and appropriate measures to secure effective compliance under article 153, paragraph 4, and annex III, article 4, paragraph 2. Paragraph 2 (b) of article 153 deals with joint activities undertaken by the authority, or by natural or juridical persons, or by States parties to exploit seabed resources. Paragraph 4 of the same article provides for control by the authority over activities undertaken by States parties, their enterprises or nationals.

469. The Standard Clauses for Exploration contract also provide for exoneration in respect of force majeure, which is defined as "an event or condition that the Contractor could not reasonably be expected to prevent or control; provided that the event or condition was not caused by negligence or by a failure to observe good mining industry practice". Force majeure does not have the effect of vitiating the contract; instead the contractor is entitled to a time extension.[646]

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[645] Article 8.

[646] ISBA/6/A/18, annex. Section 17 reads:

> "Force majeure
>
> "17.1 The Contractor shall not be liable for an unavoidable delay or failure to perform any of its obligations under this contract due to force majeure. For the purposes of this contract, force majeure shall mean an event or condition that the Contractor could not reasonably be expected to prevent or control; provided that the event or condition was not caused by negligence or by a failure to observe good mining industry practice.

470. Exoneration from liability is stipulated in some bilateral agreements. It is provided for in the case of injuries resulting from operations of assistance to the other party, or in such circumstances as war, major calamities, etc. Under the 1959 Convention between France and Spain on mutual assistance in case of fire, the party called upon to provide assistance is exonerated from liability for any damage it might cause. Again, the 1961 Treaty between Canada and the United States relating to the Columbia River Basin provides, in article XVIII, that neither of the Contracting Parties shall be liable for injuries resulting from an act, an omission or a delay resulting from war, strikes, major calamity, act of God, uncontrollable force or maintenance curtailment.[647]

B. Judicial decisions and State practice outside treaties

471. The few judicial decisions and sparse official correspondence relevant to liability reveal few instances in which a claim for exoneration from liability has been invoked. In one case, *United States of America v. Shell Oil Company*,[648] the Ninth Circuit had an opportunity to make a determination whether the defence of "act of war" was applicable to Shell Oil Co., Union Oil Co. of California, Atlantic Richfield Co., and Texaco, Inc. in relation to the clean-up of the McColl Superfund Site in Fullerton, California. The site was contaminated with hazardous wastes associated with the production of aviation fuel during the Second World War. The oil companies operated aviation fuel refineries in the Los Angeles area during the war and dumped their wastes at the McColl site. In the 1950s, McColl, with the assistance of the oil companies, filled and capped the waste sumps to allow residential development of nearby areas, even though approximately 100,000 cubic yards of hazardous waste remained at the site. The United States Government began removing this waste from the site in the 1990s, at an eventual cost of close to $100 million.

"17.2 The Contractor shall, upon request, be granted a time extension equal to the period by which performance was delayed hereunder by force majeure and the term of this contract shall be extended accordingly.

"17.3 In the event of force majeure, the Contractor shall take all reasonable measures to remove its inability to perform and comply with the terms and conditions of this contract with a minimum of delay; provided that the Contractor shall not be obligated to resolve or terminate any labour dispute or any other disagreement with a third party except on terms satisfactory to it or pursuant to a final decision of any agency having jurisdiction to resolve the dispute.

"17.4 The Contractor shall give notice to the Authority of the occurrence of an event of force majeure as soon as reasonably possible, and similarly give notice to the Authority of the restoration of normal conditions."

[647] The article reads in part:

"1. Canada and the United States of America shall be liable to the other and shall make appropriate compensation to the other in respect of any act, failure to act, omission or delay amounting to a breach of the Treaty or of any of its provisions other than an act, failure to act, omission or delay occurring by reason of war, strike, major calamity, act of God, uncontrollable force or maintenance curtailment.

"2. Except as provided in paragraph 1, neither Canada nor the United States of America shall be liable to the other or to any person in respect of any injury, damage or loss occurring in the territory of the other caused by any act, failure to act, omission or delay under the Treaty whether the injury, damage or loss results from negligence or otherwise."

[648] 294 F.3d 1045 (9th Cir.2002).

472. The Court examined, inter alia, whether the oil companies enjoyed a defence to liability because the Government's activities in regulating wartime petroleum production constituted an "act of war" under section 107 of CERCLA, codified at 42 U.S.C. section 9607(b)(2). The oil companies argued that it was impossible to distinguish between acts of combat and acts taken pursuant to government direction. Thus, an "act of war" included any action by the federal Government under the authority of the Constitution, granting Congress the power "to declare war".

473. In dismissing the argument, the Court observed that any interpretation that any governmental act taken by authority of the War Powers Clause was an "act of war" was excessively broad. The Court agreed with an earlier rendering by the District Court that the "act of war" defence was not available to the oil companies. The Court recapitulated the district court's examination of the issue, noting that CERCLA used expansive language to impose liability, but used circumscribed and narrow language to confer defences. It noted that although the legislative history of CERCLA, and of its amendment in the Superfund Amendments and Reauthorization Act of 1986, did not explain the nature of the "act of war" defence, it did emphasize that CERCLA was to be a strict liability statute with narrowly construed exceptions. It also noted that the term "act of war" appeared to have been borrowed from international law, where it was defined as a "use of force or other action by one State against another" which "the State acted against recognizes ... as an act of war, either by use of retaliatory force or a declaration of war".

474. The Court thus ascribed a narrow meaning to "act of war".[649] Moreover, the Court noted that even if it were to decide to the contrary, it was necessary to show that the actions taken were caused "solely" by an act of war, as required under section 9607(b)(2) of CERCLA. On the contrary, it found that the oil companies had other disposal options for their acid waste, that they had dumped acid waste both before and after the war, that they had dumped acid waste from operations at the McColl site, and that they were not compelled by the Government to dump waste in any particular manner.

475. As concerns inter-State relations, in the few cases where the acting State has not paid compensation for injuries caused, the injured State does not appear to have agreed with such conduct or recognized it to be within the right of the acting State. Even after the injuries caused by the nuclear tests which, according to the United States Government, had been necessary for reasons of security, that Government paid compensation for one reason or another without seeking to evade liability.

476. In their reservation to the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy, Austria and Germany envisaged the possibility of providing for operator liability for a nuclear incident in the case of armed conflict, hostilities, civil war, insurrection or natural disaster:

> "Reservation of the right to provide, in respect of nuclear incidents occurring in the Federal Republic of Germany and in the Republic of Austria, respectively, that the operator shall be liable for damage caused by a nuclear

[649] In *Farbwerke Vormals Meister Lucius & Bruning v. Chem. Found. Inc.*, 283 U.S. 152 (1931), at p. 161, the Supreme Court characterized, *in dictum*, the United States' wartime seizure and assignment of patents owned by German companies as "act[s] of war". Thus, it was necessary to distinguish the unilateral acts of the United States from acts of mutually contracting parties.

incident directly due to an act of armed conflict hostilities, civil war, insurrection or a grave natural disaster of an exceptional character".

IV. Compensation

477. State practice relates to both the content and the procedure of compensation. Some treaties provide for a limitation of compensation in case of injuries. Treaties relate principally to activities generally considered essential to modern-day civilization, such as the transport of goods and transport services by air, land and sea. The signatories to such treaties have agreed to tolerate such activities, with the potential risks they entail, provided that the damage they may cause is compensated. However, the amount of the compensation to be paid for injuries caused is generally set at a level which, from an economic point of view, does not paralyse the pursuit of these activities or obstruct their development. Clearly, this is a deliberate policy decision on the part of the signatories to treaties regulating such activities and in the absence of such treaties, judicial decisions do not appear to have set limits on the amount of compensation. The study of judicial decisions and official correspondence has not revealed any substantial limitation on the amount of compensation, although some sources indicate that it must be "reasonable" and that the parties have a duty to "mitigate damages".

A. Content

1. Compensable injuries

478. In a number of domestic laws, compensable injuries include at least death, personal injuries and property damage for torts incurring strict liability. For example, the 1990 German ELA provides in section 1 that "if anyone suffers death, personal injury, or property damage due to an environmental impact emitted from one of the facilities named in appendix 1, then the owner of the facility shall be liable to the injured person for the damages caused thereby".[650]

479. In the United States, some federal legislation goes even further and includes cost of clean-up and damage to the environment as well. Under section 2707 (a) of OPA, the responsible party is liable for removal costs; "removal costs" are defined as "the costs of removal that are incurred after a discharge of oil, the costs to prevent, minimize, or mitigate oil pollution from such incident".[651] A responsible party may recover removal costs incurred by it from the Oil Spill Liability Trust Fund where it is entitled to a complete defence. Moreover section 9607 (a) of CERCLA states that the owner and operator of a vessel or facility from which there is a release or a threatened release of a hazardous substance which causes the incurrence of response costs shall be liable for:

> "(A) All costs of removal or remedial action incurred by the United States Government or a state or an Indian tribe not inconsistent with the national contingency plan;

[650] See M. Kloepfer, op. cit., note 164.
[651] 33 U.S.C.A., sect. 2701 (31).

(B) Any necessary costs of response incurred by any other person consistent with the national contingency plan;

" ...

(D) The costs of any health assessment or health defects study carried out under section 9604 (i) of the Act."

480. Section 311 (f) of FWPCA of the United States also provides for recovery of the expenses of replacing and restoring natural resources that had been damaged or destroyed.

481. Section 2706 of OPA states that a governmental entity may recover "damages for injury to, destruction of, loss of, or loss of use of, natural resources, including the reasonable costs of assessing the damage". Subsection 2706 (2) of the Act defines "natural resources" as including "land, fish, wildlife, biota, air, water, groundwater, drinking-water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States (including the resources of the exclusive economic zone), any state or local government or Indian tribe, or any foreign Government." As regards measure of natural resource damages, as spelled out under subsection 2706 (d) of the Act, they consist of the following:

"(A) The cost of restoring, rehabilitating, replacing, or acquiring the equivalent of, the damaged natural resources;

(B) The diminution of those natural resources pending restoration; plus

(C) The reasonable cost of assessing those damages."

482. Under subsection 2702 (b) (2), the United States Government, a state and a political subdivision are authorized to recover "damages equal to the net loss of taxes, royalties, rents, fees, or net profit shares due to the injury, destruction, or loss of real property, personal property, or natural resources ..." and "damages for net costs of providing increase or additional public services during or after removal activities, including protection from fire, safety, or health hazards, caused by a discharge of oil".

483. The United States CERCLA also provides in section 9607 (a) for damages for injury to natural resources: "(C) Damages for injuries to, destruction of, or loss of natural resources, including the reasonable cost of assessing such injury, destruction, or loss resulting from such a release". Damages recovered may only be used to restore, replace or acquire the equivalent of the damage to natural resources.

484. In the case of the *Exxon Valdez* oil tanker, the United States Government, while taking steps in the clean-up operation, conducted a study on measuring damages to the environment.[652] The study was never released, as the case was settled out of court. The settlement called upon Exxon to pay $25 million in criminal penalties and $100 million in restitution to federal and state agencies for repairs to the damaged environment of Prince William Sound.[653] In consideration of

[652] See John Lancaster, "Value of Intangible Losses from Exxon Valdez Spill Put at $3 Billion", *Washington Post*, 20 March 1991, p. A-4, and Frank B. Cross, "Natural Resources Damage Valuation", *42Vand. L. Rev.* (1989), 297-320.

[653] Michael Parrish, "Exxon reaches 1.1 billion Spill Settlement Deal", *Los Angeles Times*, 1 October 1991, p. A-1.

the $2.5 billion spent by Exxon by the time of settlement for cleaning up the spill, another $125 million in criminal fines was forgiven.[654] This settlement was only with federal and state authorities and did not include private claims.

485. Damage to private individuals either in the form of personal injuries or loss of property has also been considered recoverable under domestic law. For example, under section 2702 (b) of OPA, any person may recover "damages for injury to, or economic losses resulting from the destruction of real or personal property which shall be recoverable by a claimant who owns or leases that property". Furthermore, any person who uses natural resources which have been injured, destroyed or lost is allowed to recover damages for loss of *subsistence* use of natural resources, without regard to the ownership or management of the resources. The subsection also provides that any person may recover "damages equal to the *loss of profits or impairment of earning capacity* due to the injury, destruction, or loss of real property, personal property, or natural resources".[655]

486. CERCLA did not expressly create the right of action for damages for private persons except, under certain circumstances, for removal costs. However, subsection 9607 (h) of the Act was amended to remedy this problem. It now provides that the owner or operator of a vessel shall be liable under maritime tort law and as provided under section 9614 of the Act, notwithstanding any provision on limitation of liability or the absence of any physical damage to the proprietary interest of the claimant.[656]

487. The Environmental Damage Compensation Act of Finland, in addition to covering personal injury and damage to property, also covers pure economic loss, except where such losses are insignificant. Damage caused by criminal behaviour is always compensable. Chapter 32 of the Environmental Code of Sweden also provides for compensation for personal injury, damage to property and pure economic loss. Pure economic loss not caused by criminal behaviour is compensable only to the extent that it is significant. The Compensation for Environmental Damage Act of Denmark covers personal injury and loss of support, damage to property, other economic loss and reasonable costs for preventive measures or for the restoration of the environment. The ELA of Germany does not cover pure economic loss. Section 252 of the German Civil Code, however, provides that any loss of profit is to be compensated.[657]

(a) Treaty practice

488. Under a number of conventions, material injury such as loss of life or loss of or damage to property is compensable injury. Article I, paragraph 1 (k), of the 1963 Vienna Convention on Civil Liability for Nuclear Damage defines nuclear damage[658] as follows:

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[654] Ibid.

[655] Emphasis added.

[656] Robert Force, "Insurance and Liability for Pollution in the United States", in *Transnational Environmental Liability and Insurance*, Ralph P. Kröner (ed.), 1993, p. 34.

[657] See generally Peter Wetterstein, "Environmental Damage in the Legal Systems of the Nordic Countries and Germany", in Bowman and Boyle, pp. 222-242.

[658] A few conventions dealing with nuclear materials include express provisions concerning damage other than nuclear damage caused by a nuclear incident or jointly by a nuclear incident and other occurrences. To the extent that those injuries are not reasonably separate from nuclear damage,

"(i) Loss of life, any personal injury[659] or any loss of, or damage to, property which arises out of or results from the radioactive properties or a combination of radioactive properties with toxic, explosive or other hazardous properties of

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they are considered nuclear damage and consequently compensable under the conventions. For example, article IV, paragraph 4, of the 1963 Vienna Convention on Civil Liability for Nuclear Damage provides:

"4. Whenever both nuclear damage and damage other than nuclear damage have been caused by a nuclear incident or jointly by a nuclear incident and one or more other occurrences, such other damage shall, to the extent that it is not reasonably separable from the nuclear damage, be deemed, for the purposes of this Convention, to be nuclear damage caused by that nuclear incident. Where, however, damage is caused jointly by a nuclear incident covered by this Convention and by an emission of ionizing radiation not covered by it, nothing in this Convention shall limit or otherwise affect the liability, either as regards any person suffering nuclear damage or by way of recourse or contribution, of any person who may be held liable in connection with that emission of ionizing radiation."

See also article IV of the 1962 Convention on the Liability of Operators of Nuclear Ships, which provides:

"Whenever both nuclear damage and damage other than nuclear damage has been caused by a nuclear incident or jointly by a nuclear incident and one or more other occurrences and the nuclear damage and such other damage are not reasonably separable, the entire damage shall, for the purposes of this Convention, be deemed to be nuclear damage exclusively caused by the nuclear incident covered by this Convention and by an emission of ionizing radiation or by an emission of ionizing radiation in combination of the toxic, explosive or other hazardous properties of the source of radiation not covered by it, nothing in this Convention shall limit or otherwise affect the liability, either as regards the victims or by way of recourse or contribution, of any person who may be held liable in connection with the emission of ionizing radiation or by the toxic, explosive or other hazardous properties of the source of radiation not covered by this Convention."

[659] The Additional Convention to CIV provides for the payment of necessary expenses such as the cost of medical treatment and transport, and compensation for loss due to partial or total incapacity to work and increased expenditure on the injured person's personal requirements necessitated by the injury. In the event of the death of the passenger, the compensation must cover the cost of transport of the body, burial or cremation. If the deceased passenger had a legally enforceable duty to support other persons who are now deprived of such support, such persons are entitled to compensation for those to whom the deceased was providing support on a voluntary basis: Articles 3 and 4 of the Convention read:

"*Article* 3. *Damages in case of death of the passenger*

"1. In the case of the death of the passenger, the damages shall include:

(a) Any necessary expenses following on the death, in particular the cost of transport of the body, burial and cremation;

(b) If death does not occur at once, the damages defined in article 4.

"2. If, through the death of the passenger, persons towards whom he had, or would have had in the future, a legally enforceable duty to maintain are deprived of their support, such persons shall also be indemnified for their loss. Rights of action for damages by persons whom the passenger was maintaining without being legally bound to do so shall be governed by national law.

"*Article* 4. *Damages in case of personal injury to the passenger*

"In the case of personal injury or any other bodily or mental harm to the passenger, the damages shall include:

(a) Any necessary expenses, in particular the cost of medical treatment and transport;

(b) Compensation for loss due to total or partial incapacity to work, or to increased expenditure on his personal requirements necessitated by the injury."

nuclear fuel or radioactive products or waste in, or of nuclear material coming from, originating in, or sent to, a nuclear installation;

"…

"(iii) If the law of the Installation State so provides, loss of life, any personal injury or any loss of, or damage to, property which arises out of or results from other ionizing radiation emitted by any other source of radiation inside a nuclear installation."

489. The 1997 Protocol to Amend the 1963 Vienna Convention on Civil Liability for Nuclear Damage (1997 Vienna Convention) replaces article I, paragraph 1 (k), of the 1963 Vienna Convention with a broader definition of nuclear damage. Thus, article I, paragraph 1 (k), of the 1997 Vienna Convention reads:

"(k) 'Nuclear damage' means:

(i) Loss of life or personal injury;

(ii) Loss of or damage to property; and each of the following to the extent determined by the law of the competent court;

(iii) Economic loss arising from loss or damage referred to in subparagraph (i) or (ii), insofar as not included in those subparagraphs, if incurred by a person entitled to claim in respect of such loss or damage;

(iv) The costs of measures of reinstatement of impaired environment, unless such impairment is insignificant, if such measures are actually taken or to be taken, and insofar as not included in subparagraph (ii);

(v) Loss of income deriving from an economic interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of that environment, and insofar as not included in subparagraph (ii);

(vi) The costs of preventive measures, and further loss or damage caused by such measures;

(vii) Any other economic loss, other than any caused by the impairment of the environment, if permitted by the general law on civil liability of the competent court,

in the case of subparagraphs (i) to (v) and (vii) above, to the extent that the loss or damage arises out of or results from ionizing radiation emitted by any source of radiation inside a nuclear installation, or emitted from nuclear fuel or radioactive products or waste in, or of nuclear material coming from, originating in, or sent to, a nuclear installation, whether so arising from the radioactive properties of such matter, or from a combination of radioactive properties with toxic, explosive or other hazardous properties of such matter".

490. This definition, which goes beyond damage to loss of life, or personal injury and loss of or damage to property, is largely replicated in article 1 of the annex to

the 1997 Supplementary Compensation Convention.[660] It also covers economic loss, loss of income, measures of prevention and measures of reinstatement. Measures of reinstatement are defined as any reasonable measures which have been approved by the competent authorities of the State where the measures were taken, and which aim to reinstate or restore damaged or destroyed components of the environment, or to introduce, where reasonable, the equivalent of these components into the environment. The law of the State where the damage is suffered shall determine who is entitled to take such measures.

491. The 1960 Paris Convention does not contain a definition of nuclear damage. This is rectified in the 2004 Paris Convention. A new article I, paragraph (vii), defines nuclear damage as:

> "1. Loss of life or personal injury;
>
> 2. Loss of or damage to property;
>
> and each of the following to the extent determined by the law of the competent court:
>
> 3. Economic loss arising from loss or damage referred to in subparagraph 1 or 2 above insofar as not included in those subparagraphs, if incurred by a person entitled to claim in respect of such loss or damage;
>
> 4. The costs of measures of reinstatement of impaired environment, unless such impairment is insignificant, if such measures are actually taken or to be taken, and insofar as not included in subparagraph 2 above;
>
> 5. Loss of income deriving from a direct economic interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of that environment, and insofar as not included in subparagraph 2 above;

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660 "'Nuclear damage' means:

(i) Loss of life or personal injury;

(ii) Loss of or damage to property;

and each of the following to the extent determined by the law of the competent court:

(iii) Economic loss arising from loss or damage referred to in subparagraph (i) or (ii), insofar as not included in those subparagraphs, if incurred by a person entitled to claim in respect of such loss or damage;

(iv) The costs of measures of reinstatement of impaired environment, unless such impairment is insignificant, if such measures are actually taken or to be taken, and insofar as not included in subparagraph (ii);

(v) Loss of income deriving from an economic interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of that environment, and insofar as not included in subparagraph (ii);

(vi) The costs of preventive measures, and further loss or damage caused by such measures;

(vii) Any other economic loss, other than any caused by the impairment of the environment, if permitted by the general law on civil liability of the competent court,

in the case of subparagraphs (i) to (v) and (vii) above, to the extent that the loss or damage arises out of or results from ionizing radiation emitted by any source of radiation inside a nuclear installation, or emitted from nuclear fuel or radioactive products or waste in, or of nuclear material coming from, originating in, or sent to, a nuclear installation, whether so arising from the radioactive properties of such matter, or from a combination of radioactive properties with toxic, explosive or other hazardous properties of such matter."

6. The costs of preventive measures, and further loss or damage caused by such measures, in the case of subparagraphs 1 to 5 above, to the extent that the loss or damage arises out of or results from ionizing radiation emitted by any source of radiation inside a nuclear installation, or emitted from nuclear fuel or radioactive products or waste in, or of nuclear substances coming from, originating in, or sent to, a nuclear installation, whether so arising from the radioactive properties of such matter, or from a combination of radioactive properties with toxic, explosive or other hazardous properties of such matter".

492. The 2004 Paris Convention also makes measures of reinstatement and preventive measures compensable. The definition of measures of reinstatement is similar to the definition in the 1997 Vienna Convention.

493. In cases where nuclear damage and damage other than nuclear damage arise from a nuclear incident or jointly with some other occurrence, such damage, to the extent that it cannot reasonably be separated from the nuclear damage, is deemed to be nuclear damage for the purposes of the Convention. Both the Vienna and the Paris Conventions regimes have provisions dealing with this aspect.[661]

494. The 1992 CLC, basing its definition on the 1984 Protocol, which never entered into force, expands the concept of "pollution damage" as contained in the 1969 Convention and defines it as:

"(a) Loss or damage caused outside the ship by contamination resulting from the escape or discharge of oil from the ship, wherever such escape or discharge may occur, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken;

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[661] Article IV, para. 4, of the 1963 Vienna Convention; article IV, para. 4, of the 1997 Vienna Convention; article 3 (b) of the 1960 Paris Convention and article 3 (b) of the 2004 Paris Convention.

Article IV, para. 4, of the 1997 Vienna Convention reads:

"Whenever both nuclear damage and damage other than nuclear damage have been caused by a nuclear incident or jointly by a nuclear incident and one or more other occurrences, such other damage shall, to the extent that it is not reasonably separable from the nuclear damage, be deemed, for the purposes of this Convention, to be nuclear damage caused by that nuclear incident. Where, however, nuclear damage is caused jointly by a nuclear incident covered by this Convention and by an emission of ionizing radiation not covered by it, nothing in this Convention shall limit or otherwise affect the liability of any person suffering nuclear damage or by way of recourse or contribution, of any person who may be held liable in connection with that emission of ionizing radiation."

Article IV, para. 4, of the 1963 Vienna Convention is similar.

Article 3 (b) of the 2004 Paris Convention reads:

"Where nuclear damage is caused jointly by a nuclear incident and by an incident other than a nuclear incident, that part of the damage which is caused by such other incident shall, to the extent that it is not reasonably separable from the nuclear damage caused by the nuclear incident, be considered to be nuclear damage caused by the nuclear incident. Where nuclear damage is caused jointly by a nuclear incident and by an emission of ionizing radiation not covered by this Convention, nothing in this Convention shall limit or otherwise affect the liability of any person in connection with that emission of ionizing radiation."

Article 3 (b) of the 1960 Paris Convention is similar except that it covered "nuclear damage or loss".

(b) The costs of preventive measures and further loss or damage caused by preventive measures".

495. The 2001 Bunker Oil Convention has a similar definition.[662] The concept of "damage" has also been defined in paragraph 10 of article 1 of CRTD as:

"(a) Loss of life or personal injury ...;

(b) Loss of or damage to property ...;

(c) Loss or damage by contamination to the environment caused by the dangerous goods, provided that compensation for impairment of the environment other than for loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken;

(d) The costs of preventive measures."

Under the last clause of the article, where it is not reasonably possible to separate damage caused by the dangerous goods from that caused by other factors, all such damage shall be deemed to be caused by the dangerous goods. The same definition has been adopted for "damage" in paragraph 6 of article 1 of the HNS Convention.

496. Under the Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources, not only "pollution damage" but also preventive measures are compensable.[663] Preventive measures are defined as "any reasonable measures taken by any person in relation to a particular incident to prevent or minimize pollution damage with the exception of well-control measures and measures taken to protect, repair or replace an installation".[664]

497. The Basel Protocol defines "damage", in article 2, paragraph 2 (c), as:

"(i) Loss of life or personal injury;

(ii) Loss of or damage to property other than property held by the person liable in accordance with the present Protocol;

(iii) Loss of income directly deriving from an economic interest in any use of the environment, incurred as a result of impairment of the environment, taking into account savings and costs;

(iv) The costs of measures of reinstatement of the impaired environment, limited to the costs of measures actually taken or to be undertaken;

(v) The costs of preventive measures, including any loss or damage caused by such measures, to the extent that the damage arises out of or results from hazardous properties of the waste involved in the transboundary movement and disposal of hazardous waste and other wastes subject to the Convention".

498. Measures of reinstatement include any measures that aim at assessing, reinstating or restoring damaged or destroyed components of the environment. It is noted that domestic law may indicate who will be entitled to take such measures.

[662] Article 1, para. 9.
[663] Ibid., para. 6.
[664] Ibid., para. 7.

499. The 2003 Kiev Protocol has a similar provision.[665] However, it provides a more expansive definition of measures of reinstatement, encompassing any reasonable measures aiming to reinstate or restore damaged or destroyed components of transboundary waters to the conditions that would have existed had the industrial accident not occurred, or where this is not possible, to introduce, where appropriate, the equivalent of these components into the transboundary waters. It is noted that domestic law may indicate who will be entitled to take such measures. Moreover, instead of covering the costs of preventive measures, the provision includes the cost of response measures, which are defined as any reasonable measures taken by any person, including public authorities, following an industrial accident, to prevent, minimize or mitigate possible loss or damage or to arrange for environmental clean-up. It is also noted that domestic law may indicate who will be entitled to take such measures.

500. The Lugano Convention defines damage in article 2 (7) as:

"(a) Loss of life or personal injury;

(b) Loss or damage to property other than to the installation itself or property held under the control of the operator, at the site of the dangerous activity:

(c) Loss or damage by impairment of the environment in so far as this is not considered to be damage within the meaning of subparagraphs (a) or (b), provided that compensation for impairment of the environment, other than for loss of profit from such impairment, shall be limited to the costs of measures of reinstatement actually undertaken;

(d) The costs of preventive measures and further loss or damage caused by preventive measures,

to the extent that the loss or damage referred to in subparagraphs (a) to (c) of this paragraph arises out of or results from the hazardous properties of the dangerous substances, genetically modified organisms or micro-organisms or arises or results from waste."[666]

501. Paragraph 8 of article 2 defines "measures of reinstatement" as "any reasonable measures aiming to reinstate or restore damaged or destroyed components of the environment or to introduce, where reasonable, the equivalent of these components into the environment". Paragraph 9 of article 2 defines "preventive measures" as "any reasonable measures taken by any person after an incident has occurred to prevent or minimize loss or damage".

502. The Convention does not address the question of threshold of impairment to the environment in article 2. It attempts to deal with the issue in article 8 on

[665] Article 2, para. 2 (g). Para. 10, "Environment", includes:
- Natural resources both abiotic and biotic, such as air, water, soil, fauna and flora and the interaction between the same factors;
- Property which forms part of the cultural heritage; and
- The characteristic aspects of the landscape.

[666] Article 2, para. 10, "Environment", includes:
- Natural resources both abiotic and biotic, such as air, water, soil, fauna and flora and the interaction between the same factors;
- Property which forms part of the cultural heritage; and
- The characteristic aspects of the landscape.

exemptions where paragraph (d) exonerates the operator from liability if the operator can prove that damage "was caused by pollution at tolerable levels under local relevant circumstances".

503. The 2004 EU Directive on environmental liability does not cover or affect any right relating to cases of personal injury or of damage to private property or any economic loss. It applies only to environmental damage, which is defined by reference to damage to *protected and natural habitats* on the basis of criteria set out in an annex, excluding previously identified adverse effects, and damage to water as well as damage to land. Such damage should bring about a significantly measurable adverse change in a natural resource or measurable impairment of a natural resource service which may occur directly or indirectly.[667] Pursuant to articles 5 and 6

[667] Article 2 reads:

"For the purpose of this Directive the following definitions shall apply:

(1) 'environmental damage' means:

(a) Damage to protected species and natural habitats, which is any damage that has significant adverse effects on reaching or maintaining the favourable conservation status of such habitats or species. The significance of such effects is to be assessed with reference to the baseline condition, taking account of the criteria set out in annex I;

Damage to protected species and natural habitats does not include previously identified adverse effects which result from an act by an operator which was expressly authorized by the relevant authorities in accordance with provisions implementing article 6 (3) and (4) or article 16 of Directive 92/43/EEC or article 9 of Directive 79/409/EEC or, in the case of habitats and species not covered by Community law, in accordance with equivalent provisions of national law on nature conservation.

(b) Water damage, which is any damage that significantly adversely affects the ecological, chemical and/or quantitative status and/or ecological potential, as defined in Directive 2000/60/EC, of the waters concerned, with the exception of adverse effects where article 4 (7) of that Directive applies;

(c) Land damage, which is any land contamination that creates a significant risk of human health being adversely affected as a result of the direct or indirect introduction, in, on or under land, of substances, preparations, organisms or micro-organisms".

Annex I provides the following criteria in respect of article 2, paragraph (1) (a):

"The significance of any damage that has adverse effects on reaching or maintaining the favourable conservation status of habitats or species has to be assessed by reference to the conservation status at the time of the damage, the services provided by the amenities they produce and their capacity for natural regeneration. Significant adverse changes to the baseline condition should be determined by means of measurable data such as:

- The number of individuals, their density or the area covered,
- The role of the particular individuals or of the damaged area in relation to the species or to the habitat conservation, the rarity of the species or habitat (assessed at local, regional and higher level including at Community level),
- The species' capacity for propagation (according to the dynamics specific to that species or to that population), its viability or the habitat's capacity for natural regeneration (according to the dynamics specific to its characteristic species or to their populations),
- The species' or habitat's capacity, after damage has occurred, to recover within a short time, without any intervention other than increased protection measures, to a condition which leads, solely by virtue of the dynamics of the species or habitat, to a condition deemed equivalent or superior to the baseline condition.

Damage with a proven effect on human health must be classified as significant damage.

The following does not have to be classified as significant damage:

- Negative variations that are smaller than natural fluctuations regarded as normal for the species or habitat in question,

respectively, the operator is required to take preventive and remedial action in cases where there is an imminent threat of environmental damage occurring or where environmental damage has occurred. "Preventive measures" are defined as any measures that are taken to respond to an event, act or omission that has created an imminent threat of environmental damage, with a view to preventing or minimizing that damage; while "remedial measures" means any action, or combination of actions, including mitigating or interim measures to restore, rehabilitate or replace damaged natural resources and/or impaired services, or to provide an equivalent alternative to those "resources or services". An annex to the Directive provides an indication of such measures.[668]

– Negative variations due to natural causes or resulting from intervention relating to the normal management of sites, as defined in habitat records or target documents or as carried on previously by owners or operators,
– Damage to species or habitats for which it is established that they will recover, within a short time and without intervention, either to the baseline condition or to a condition which leads, solely by virtue of the dynamics of the species or habitat, to a condition deemed equivalent or superior to the baseline condition."

[668] Article 2, paras. (10) and (11). Annex II provides:

"*Remedying of environmental damage*

"This annex sets out a common framework to be followed in order to choose the most appropriate measures to ensure the remedying of environmental damage.

1. Remediation of damage to water or protected species or natural habitats

Remedying of environmental damage, in relation to water or protected species or natural habitats, is achieved through the restoration of the environment to its baseline condition by way of primary, complementary and compensatory remediation, where:

(a) 'Primary' remediation is any remedial measure which returns the damaged natural resources and/or impaired services to, or towards, baseline condition;

(b) 'Complementary' remediation is any remedial measure taken in relation to natural resources and/or services to compensate for the fact that primary remediation does not result in fully restoring the damaged natural resources and/or services;

(c) 'Compensatory' remediation is any action taken to compensate for interim losses of natural resources and/or services that occur from the date of damage occurring until primary remediation has achieved its full effect;

(d) 'Interim losses' means losses which result from the fact that the damaged natural resources and/or services are not able to perform their ecological functions or provide services to other natural resources or to the public until the primary or complementary measures have taken effect. It does not consist of financial compensation to members of the public.

Where primary remediation does not result in the restoration of the environment to its baseline condition, then complementary remediation will be undertaken. In addition, compensatory remediation will be undertaken to compensate for the interim losses.

Remedying of environmental damage, in terms of damage to water or protected species or natural habitats, also implies that any significant risk of human health being adversely affected be removed.

1.1. Remediation objectives

Purpose of primary remediation

1.1.1. The purpose of primary remediation is to restore the damaged natural resources and/or services to, or towards, baseline condition.

Purpose of complementary remediation

1.1.2. Where the damaged natural resources and/or services do not return to their baseline condition, then complementary remediation will be undertaken. The purpose of complementary remediation is to provide a similar level of natural resources and/or services, including, as appropriate, at an alternative site, as would have been provided if the damaged site had been returned to its baseline condition. Where possible and

appropriate the alternative site should be geographically linked to the damaged site, taking into account the interests of the affected population.

Purpose of compensatory remediation

1.1.3. Compensatory remediation shall be undertaken to compensate for the interim loss of natural resources and services pending recovery. This compensation consists of additional improvements to protected natural habitats and species or water at either the damaged site or at an alternative site. It does not consist of financial compensation to members of the public.

1.2. Identification of remedial measures

Identification of primary remedial measures

1.2.1. Options comprised of actions to directly restore the natural resources and services towards baseline condition on an accelerated time frame, or through natural recovery, shall be considered.

Identification of complementary and compensatory remedial measures

1.2.2. When determining the scale of complementary and compensatory remedial measures, the use of resource-to-resource or service-to-service equivalence approaches shall be considered first. Under these approaches, actions that provide natural resources and/or services of the same type, quality and quantity as those damaged shall be considered first. Where this is not possible, then alternative natural resources and/or services shall be provided. For example, a reduction in quality could be offset by an increase in the quantity of remedial measures.

1.2.3. If it is not possible to use the first choice resource-to-resource or service-to-service equivalence approaches, then alternative valuation techniques shall be used. The competent authority may prescribe the method, for example monetary valuation, to determine the extent of the necessary complementary and compensatory remedial measures. If valuation of the lost resources and/or services is practicable, but valuation of the replacement natural resources and/or services cannot be performed within a reasonable time frame or at a reasonable cost, then the competent authority may choose remedial measures whose cost is equivalent to the estimated monetary value of the lost natural resources and/or services.

The complementary and compensatory remedial measures should be so designed that they provide for additional natural resources and/or services to reflect time preferences and the time profile of the remedial measures. For example, the longer the period of time before the baseline condition is reached, the greater the amount of compensatory remedial measures that will be undertaken (other things being equal).

1.3. Choice of the remedial options

1.3.1. The reasonable remedial options should be evaluated, using best available technologies, based on the following criteria:

- The effect of each option on public health and safety,
- The cost of implementing the option,
- The likelihood of success of each option,
- The extent to which each option will prevent future damage, and avoid collateral damage as a result of implementing the option,
- The extent to which each option benefits to each component of the natural resource and/or service,
- The extent to which each option takes account of relevant social, economic and cultural concerns and other relevant factors specific to the locality,
- The length of time it will take for the restoration of the environmental damage to be effective,
- The extent to which each option achieves the restoration of site of the environmental damage,
- The geographical linkage to the damaged site.

1.3.2. When evaluating the different identified remedial options, primary remedial measures that do not fully restore the damaged water or protected species or natural habitat to baseline or that restore it more slowly can be chosen. This decision can be taken only if the natural resources and/or services foregone at the primary site as a result of the

504. In paragraph 35 of its Decision 7, the Governing Council of the United Nations Compensation Commission provided guidance for Commissioners in deciding on questions concerning direct environmental damage and the depletion of natural resources as a result of Iraq's unlawful invasion and occupation of Kuwait. Compensation includes losses or expenses resulting from:

> "(a) Abatement and prevention of environmental damage, including expenses directly relating to fighting oil fires and stemming the flow of oil in coastal and international waters;
>
> (b) Reasonable measures already taken to clean and restore the environment or future measures which can be documented as reasonably necessary to clean and restore the environment;
>
> (c) Reasonable monitoring and assessment of the environmental damage for the purposes of evaluating and abating the harm and restoring the environment;
>
> (d) Reasonable monitoring of public health and performing screenings for the purposes of investigation and combating increased health risks as a result of environmental damage; and
>
> (e) Depletion of or damage to natural resources."[669]

505. Paragraph 2 of principle 9 of the Principles relevant to the Use of Nuclear Power Sources in Outer Space, as contained in General Assembly resolution 47/68,

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decision are compensated for by increasing complementary or compensatory actions to provide a similar level of natural resources and/or services as were foregone. This will be the case, for example, when the equivalent natural resources and/or services could be provided elsewhere at a lower cost. These additional remedial measures shall be determined in accordance with the rules set out in section 1.2.2.

1.3.3. Notwithstanding the rules set out in section 1.3.2 and in accordance with article 7 (3), the competent authority is entitled to decide that no further remedial measures should be taken if:

(a) The remedial measures already taken secure that there is no longer any significant risk of adversely affecting human health, water or protected species and natural habitats, and

(b) The cost of the remedial measures that should be taken to reach baseline condition or similar level would be disproportionate to the environmental benefits to be obtained.

2. Remediation of land damage

The necessary measures shall be taken to ensure, as a minimum, that the relevant contaminants are removed, controlled, contained or diminished so that the contaminated land, taking account of its current use or approved future use at the time of the damage, no longer poses any significant risk of adversely affecting human health. The presence of such risks shall be assessed through risk-assessment procedures taking into account the characteristic and function of the soil, the type and concentration of the harmful substances, preparations, organisms or micro-organisms, their risk and the possibility of their dispersion. Use shall be ascertained on the basis of the land use regulations, or other relevant regulations, in force, if any, when the damage occurred.

If the use of the land is changed, all necessary measures shall be taken to prevent any adverse effects on human health.

If land use regulations, or other relevant regulations, are lacking, the nature of the relevant area where the damage occurred, taking into account its expected development, shall determine the use of the specific area.

A natural recovery option, that is to say an option in which no direct human intervention in the recovery process would be taken, shall be considered."

[669] See Governing Council Decision 7, United Nations document S/AC.26/1991/7/Rev.1.

provides for *restitution in integrum*. The relevant part of the paragraph states that "[the liable State shall] provide such reparation in respect of the damage as will restore the..[the injured party] to the condition which would have existed if the damage had not occurred." Paragraph 3 of principle 9 also provides that "compensation shall include reimbursement of the duly substantiated expenses for search, recovery and clean-up operations, including expenses for assistance received from third parties".

506. Non-material injuries may also be compensable. Thus it is clearly stated in article 5 of the 1966 Additional Convention to the 1961 International Convention concerning the Carriage of Passengers and Luggage by Rail (CIV) that under national law compensation may be required for mental, physical pain and suffering and for disfigurement:

> "National law shall determine whether and to what extent the railway shall be bound to pay damages for injuries other than those for which there is provision in articles 3 and 4, in particular for mental or physical pain and suffering (*pretium doloris*) and for disfigurement."

507. Under article I of the 1963 Vienna Convention on Civil Liability for Nuclear Damage, any other loss or damage is compensable under the law of the competent court. Hence, if the law of the competent court provides for compensability of *non-material injury*, such injury is compensable under the Convention. In article I, paragraph 1 (k) (ii), of the Convention "nuclear damage" is defined as:

> "(ii) Any other loss or damage so arising or resulting if and to the extent that the law of the competent court so provides."

(b) Judicial decisions and State practice outside treaties

508. Some domestic judicial decisions have dealt with the question of how to evaluate costs of clean-up and restoration. The issue of assessing compensation was discussed as early as 1880 in *Livingstone v. Rawyards Coal Co.* in a well-known exposition by Lord Blackburn:

> "where any injury is to be compensated by damages, in settling the sum of money to be given for reparation of damages you should as nearly as possible get at that sum of money which will put the party who has been injured, or who has suffered, in the same position as he would have been in if he had not sustained the wrong for which he is now getting his compensation or reparation."[670]

509. In 1908, in another English case, *Lodge Holes Colliery Co. v. Mayor of Wednesbury*[671] the defendants' mining operations caused a public road to collapse. The local authorities restored the road to its former level, but at great cost. The House of Lords held that the principle of *restitutio in integrum* did not entitle the plaintiffs to the cost of precise restoration, regardless of the cost. The plaintiffs were entitled to recover from the defendants only the cost of construction of an equally suitable road.[672] This reasoning was applied in 1980 in the case of *Dodd Properties*

[670] (1880)5 App.Cas.25, at p. 39.

[671] (1908) AC 323, cited in Colin de la Rue, "Environmental Damage Assessment", in *Transnational Environmental Liability and Insurance*, op. cit., p. 71.

[672] Ibid.

(Kent) v. Canterbury City Council.[673] In assessing the damages to the building of the plaintiffs caused by pile-driving operations of the defendants, the court stated:

> "The plaintiffs are ... not bound to accept a shoddy job or put up with an inferior building for the sake of saving expense to the defendants. But I [the judge] do not consider that they are entitled to insist on complete and meticulous restoration when a reasonable building owner would be content with less extensive work which produces a result which does not diminish to any, or any significant, extent the appearance, life or utility of the building, and when there is also a vast difference in the cost of such work and the cost of meticulous restoration."[674]

510. A similar question arose in the United States First Circuit Court of Appeals in 1980 in the case of *Commonwealth of Puerto Rico v. The S.S. Zoe Colocotroni*.[675] The case concerned an oil tanker which ran aground because of its unseaworthy condition, causing pollution damage to the coast of Puerto Rico. First, the Puerto Rico authorities were awarded $6 million, of which only $78,000 was needed for cleaning up. The remainder was to cover the cost of replanting mangroves and replacing marine organisms killed by the spill. The Court of Appeals did not endorse this approach. Emphasizing the need for a sense of proportion in assessing such costs, the Court observed:

> "[Recoverable costs are costs] reasonably to be incurred ... to restore or rehabilitate the environment in the affected area to its pre-existing condition, or as close thereto as is possible without grossly disproportionate expenditures. The focus in determining such a remedy should be the steps a reasonable and prudent sovereign or agency would take to mitigate the harm done by the pollution, with attention to such factors as technical feasibility, harmful side effects, compatibility with or duplication of such regeneration as is naturally to be expected, and the extent to which efforts beyond a certain point would become either redundant or disproportionately expensive."[676]

511. In *Blue Circle Industries Plc v Ministry of Defence*,[677] the Court of Appeal in the United Kingdom had an opportunity to decide on the meaning and assessment of damage in a case involving the escape of floodwaters from a nuclear weapons site belonging to the defendant onto the neighbouring property, including a marshland of the plaintiff, which caused its land to be contaminated with radioactive material.

512. Although the contamination did not pose a threat to health, it was above the levels permitted by statutory regulations. According to the evidence, the "incident resulted in levels of radioactivity well above the normal background levels and above the regulatory threshold. However, even before any remedial work, and applying pessimistic assumptions, they were well below levels which would have posed any risk to health".[678] The plaintiff spent £350,000 in remedial work undertaken to remove the contaminated topsoil. When the plaintiff subsequently intended to sell the property, negotiations with a potential buyer collapsed when evidence of the contamination emerged. The plaintiff subsequently brought a claim

[673] (1980) 1WLR, p. 33, cited in ibid.
[674] Quoted in ibid.
[675] 628 F.2 d, p. 652 (1st Cir. 1980), cited in ibid. The description of this case is taken from ibid.
[676] Quoted in ibid.
[677] [1998] 3 All ER, 385.
[678] Ibid., p. 392.

against the defendant for breach of duty arising under the Nuclear Installations Act 1965 for the cost of the remediation and all other costs associated with the contamination, including the loss in value of the property. The Court held that contamination of the plaintiff's land by radioactive material from an overflowing pond on the defendant's land was a breach of the duty imposed by section 7 (1) (a) of the Act 1965 not to damage property by an "occurrence involving nuclear matter".

513. It was argued on behalf of the defendant that the marshland had not been *physically* damaged by the radioactive properties of plutonium. It was physically the same as before although it had been mixed with a very small amount of plutonium. The radioactivity was not such as to cause harm and it had not changed the properties of the soil. The Court referred to an earlier case, *Merlin v. British Nuclear Fuels, Plc*,[679] in which the plaintiffs had claimed that their house had been damaged by radioactive material that had been discharged into the Irish Sea from the Sellafield nuclear power plant and subsequently deposited in the house as dust. In that case, the judge had reached the conclusion that under the Act it was necessary to establish that there had been damage to tangible property. Although indeed the house had been contaminated, such contamination did not amount to damage to property for which compensation could be awarded under the Act. The fact that the house was less valuable was the economic result of the presence of radioactive material, not the result of the damage to the house from the radioactive properties of the material.

514. The Court distinguished *Merlin*, noting that in that case the dust was in the house and the judge did not hold that the house and the radioactive material were so intermingled as to mean that the characteristics of the house had in any way been altered. On such account, it was possible on the "same facts for the judge to hold that the cause of the reduction in the value of the plaintiffs' house resulted from stigma, not from damage to the house itself".[680]

515. The Court observed that the physical damage to property contemplated in section 7 (1) (a):

> "is not limited to particular types of damage. Damage within the Act will occur provided there is some alteration in the physical characteristics of the property, in its case the marshland, caused by the radioactive properties which render it less useful or less valuable.
>
> The plutonium intermingled with the soil in the marsh to such an extent that it could not be separated from the soil by any practical process."[681]
>
> "The damage was not mere economic damage ... The land itself was physically damaged by the radioactive properties of the plutonium which had been admixed with it. The consequence was economic, in the sense that the property was worth less and required the owner to expend money to remove the topsoil, but the damage was physical."[682]

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[679] [1990]3 All ER 711.

[680] Ibid., p. 393.

[681] [1998] 3 All ER 385, at p. 393. See also *Hunter v. Canary Wharf Ltd* [1996]1, All ER 482, at p. 499.

[682] Ibid., pp. 393-394.

516. Concerning the assessment of damages, the Court noted that the Act imposed a duty not to damage property by radioactive properties. Once it was established that such damage had occurred, the person in breach must be liable for the foreseeable losses caused by the breach of statutory duty providing they were not too remote.[683] The Court noted that for the plaintiff to recover, it must have an interest in the land damage. Thus, such losses would not be limited to damage to the marshland but would include damages for consequential loss and would be affected by the "size, commodiousness and value of the property".

517. Consequently, the Court rejected the defendant's contention that loss for which compensation should be paid should be limited to the "cost of reinstatement of the marshland or the diminution in its value". Instead, it considered it appropriate that the plaintiff be compensated by an award of "damages which would put them in the same position as they would have been in if they had not sustained the injury".[684] That included loss resulting from diminution in the value and saleability of the land. It was considered a foreseeable consequence of the contamination that the plaintiff would be unable to sell the estate until remedial work had been completed.[685]

518. As regards the determination of the presence of loss of profits, in the United Kingdom, the rule of "remoteness" has tended to exclude claims for "pure economic loss" except as an action in contract.[686] This is illustrated in the case of *Weller and Co.* v. *Foot and Mouth Disease Research Institute*,[687] where cattle had been infected with foot-and-mouth disease by a virus that escaped from the defendants' premises. The British Government made an order closing two markets in the area, causing a loss of profits to the plaintiff auctioneers. The court held that the defendant owed a duty of care to the cattle owners but not to the auctioneers, who did not have any proprietary interest which could have been damaged by the escape of the virus.[688] It has been observed that this rule of "remoteness" is normally applied with considerable flexibility, taking into account policy considerations.[689]

519. Existing judicial decisions and State practice also reveal that only material injuries are compensable. Material injuries here refer to physical, tangible or quantitative injuries, as opposed to intangible harm to the dignity of the State. Material injuries which have been compensated in the past include loss of life, personal injury and loss of or damage to property. This has not, however, prevented States from claiming compensation for non-material injuries.

520. State practice shows that in some cases involving potential or actual nuclear contamination or other damage caused by nuclear accidents, which have given rise to great anxiety, reparation has neither been made nor claimed for non-material

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683 Ibid., p. 394.

684 Ibid., p. 395.

685 But cf. the judgement of Chadwick LJ, who doubted whether the relevant statutory language gave rise to questions of foreseeability: "… I am not persuaded that it is relevant to ask whether the wrongdoer, or anyone else, did foresee or should have foreseen that the damage to the relevant property would have led to the result that the claimant has been put in the position in which he finds himself … The question, in my view, is one of causation, not foreseeability: is the position in which the claimant now finds himself the result of the damage to the relevant property which has actually occurred?" Ibid., at p. 406.

686 See Colin de la Rue, op. cit., p. 73.

687 I Q.B. 1966, p. 569, cited in ibid., p. 73.

688 Ibid.

689 Ibid.

injury. The outstanding examples are the Palomares incident and the *Marshall Islands* case. The Palomares incident involved the collision between a United States B-52G nuclear bomber and a KC-135 supply plane during a refuelling operation off the coast of Spain, resulting in the dropping of four plutonium-uranium 235 hydrogen bombs, with a destructive power of 1.5 megatons (75 times the power of the Hiroshima bomb).[690] This incident not only created substantial material damage, but also gave rise to fears and anxiety throughout the western Mediterranean basin for two months, until the sources of potential damage had been neutralized. Two of the bombs that fell on land ruptured and discharged their TNT, scattering uranium and plutonium particles near the Spanish coastal village of Palomares, thereby causing imminent danger to the health of the inhabitants and the ecology of the area. Immediate remedial action was taken by the United States and Spain, and it was reported that the United States removed 1,750 tons of mildly radioactive Spanish soil and buried it in the United States.[691] The third bomb struck the ground intact, but the fourth bomb was lost somewhere in the Mediterranean. After a two-month search by submarines and growing apprehension among the nations of the Mediterranean area, the bomb was located, but was lost during the operation for nine more days. Finally, after 80 days of the threat of detonation of the bomb, the device was retrieved.

521. Apparently, the United States did not pay any compensation for the apprehension caused by the incident, and there was no formal "open discussion" between Spain and the United States about the legal liability. The accident, however, is unique; if the bomb had not been retrieved, the extent of its damage could not have been measured in monetary terms. The United States could not have left the dangerous "instrument" of its activity in or near Spain and discharged its responsibility by paying compensation.

522. Following the nuclear tests in the atmosphere undertaken by the United States in Enewetak Atoll, in the Marshall Islands, the Government of Japan did not demand compensation for non-material injuries. In a note concerning the payment of damages through a global settlement, the United States Government referred to a final settlement with the Government of Japan for "any and all injuries, losses, or damages arising out of the said nuclear tests". It was left to the Japanese Government to determine which individual injuries deserved compensation.

523. Following the testing on 1 March 1954, the Government of Japan announced that injuries from radioactive fallout had been sustained on that date by members of the crew of a Japanese fishing vessel, the *Daigo Fukuryu Maru*, which at the time of the test was outside the danger zone previously defined by the United States. On 23 September 1954, the chief radio operator of the vessel, Aikichi Kuboyama, died. By an Agreement effected by exchange of notes on 4 January 1955, which entered into force the same day, the United States tendered, ex gratia, "as an additional expression of its concern and regret over the injuries sustained" by Japanese fishermen as a result of the nuclear tests in 1954 in the Marshall Islands, the sum of $2 million for purposes of compensation for the injuries or damages sustained, and in full settlement of any and all claims on the part of Japan for any and all injuries,

[690] For further details on this accident, see T. Szulc, *The Bombs of Palomares* (New York, Viking, 1967), and Flora Lewis, *One of our H-bombs is Missing* (New York, McGraw Hill, 1967).

[691] "Radioactive Spanish earth is buried 10 feet deep in South Carolina", *The New York Times*, 12 April 1966, p. 28, col. 3.

losses, or damages arising out of the said nuclear tests. "The sum paid was to be distributed in such an equitable manner as might be determined by the Government of Japan and included provision for a solatium on behalf of each of the Japanese fishermen involved and for the claims advanced by the Government of Japan for their medical and hospitalization expenses.[692]

524. In the *Trail Smelter* arbitration, the tribunal rejected the United States proposal that *liquidated damages* be imposed on the operator of the smelter whenever emissions exceeded the pre-defined limits, regardless of any injuries it might cause. The tribunal stated that it had:

> "… carefully considered the suggestions made by the United States for a regime by which a pre-fixed sum would be due whenever the concentrations recorded would exceed a certain intensity for a certain period of time or a certain greater intensity for any twenty-minute period.
>
> "It has been unable to adopt this suggestion. In its opinion, and in that of its scientific advisers, such a regime would unduly and unnecessarily hamper the operations of the Trail Smelter and would not constitute a 'solution fair to all parties concerned'."[693]

525. The tribunal took the view that only *actual injuries* incurred deserved compensation.

526. States have sometimes demanded reparation for non-material damage. When the Soviet nuclear-powered satellite Cosmos 954 crashed on Canadian territory, Canada demanded compensation for the injuries it had sustained by reason of the crash, including violation by the satellite of its territorial sovereignty. Basing its claim on "international precedents", Canada stated:

> "The intrusion of the Cosmos 954 satellite into Canada's airspace and the deposit on Canadian territory of hazardous radioactive debris from the satellite constitutes a violation of Canada's sovereignty. This violation is established by the mere fact of the trespass of the satellite, the harmful consequences of this intrusion being the damage caused to Canada by the presence of hazardous radioactive debris and the interference with the *sovereign right of Canada* to determine the acts that will be performed on its territory. *International precedents recognize that a violation of sovereignty gives rise to an obligation to pay compensation*."[694]

527. In the *Trail Smelter* arbitration, in reply to the United States claim for damages for wrong done in violation of its sovereignty, the tribunal held that it *lacked jurisdiction*. The tribunal found it unnecessary to decide on the main contention for "damages in respect of the wrong done the United States in violation of sovereignty" independently of the Convention.[695] In its view, the only question to be decided was the interpretation of the Convention. It construed the words "damage caused by the Trail Smelter" in article III of the Convention as not encompassing money expended for investigation. It therefore decided that "neither as a separable

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692 Whiteman, op. cit., vol. 4, p. 565.

693 United Nations, *Reports of International Arbitral Awards*, vol. III, p. 1974.

694 *18 ILM* (1979), 907, para. 21.

695 Convention for the Settlement of Difficulties arising from Operation of Smelter at Trail, B.C., signed at Ottawa on 15 April 1935, with ratifications exchanged on 3 August 1935. For the text, see United Nations, *Reports of International Arbitral Awards*, vol. III, p. 1907.

item of damage nor as an incident to other damage should any award be made for that which the United States terms 'violation of sovereignty'."[696]

528. In declining to rule, in law and in fact, on whether indemnity for damage for "violation of sovereignty" could be awarded if specifically alleged, the tribunal did not seem to exclude such possibility. In an earlier case, "*I'm alone*",[697] a British vessel of Canadian registry was sank on 22 March 1929, on the high seas, in the Gulf of Mexico by the United States revenue cutter *Dexter*. The vessel *I'm alone* had been used for several years in running rum, illegally into and for sale in the United States. For some period in December 1928 and during the early months of 1929 up to the time of its sinking, the ship had been carrying liquor from Belize to a point in the Gulf of Mexico off the coast of the State of Louisiana, where the liquor would be offloaded into a smaller craft and smuggled into the United States. From September 1928 to March 1929, the *I'm Alone* was de facto owned, controlled, and at the critical times, managed, and its movements directed and its cargo dealt with and disposed of, by a group of persons who were predominantly American citizens.

529. Under the 1924 Convention between the United States of America and Great Britain to Aid in the Prevention of the Smuggling of Intoxicating Liquors into the United States,[698] Great Britain agreed that it would not raise any objection to the boarding of private vessels under British flag outside the limits of territorial waters by the United States authorities, its territories or possessions for purposes of arresting the illegal importation of alcoholic beverages. The Convention also granted a British vessel the right to compensation for loss or injury suffered through improper or unreasonable exercise of the rights under the Convention. As envisaged under article IV of the Convention, in the joint final report of the Commissioners in the case dated 5 January 1935 and filed with the Secretary of State at Washington and the Minister of External Affairs for Canada at Ottawa on 9 January 1935, it was considered in view of the facts that no compensation ought to be paid in respect of the loss of the ship or the cargo.

530. However, the act of sinking the ship by officers of the United States Coast Guard was considered an unlawful act for which the United States "ought formally to acknowledge its illegality" and to apologize for to Canada. As material amends in respect of the wrong, it was recommended that the United States pay US$ 25,000. Compensation was also recommended for payment to Canada for the benefit of crew members none of whom were part of the conspiracy to smuggle liquor. In the view of the Commissioners, the sinking of the ship, which was admittedly intentional, was not justified by anything in the Convention or by any principle of international law.

531. State practice reveals remedies for instances of *potential material damage*. This category of practice is parallel to the role of *injunction* in judicial decisions, as in the *Nuclear Tests* cases. There can certainly be no material injury prior to the operation of a particular injurious activity. Nevertheless, in a few instances, negotiations have taken place to secure the adoption of protective measures, and even to demand the halting of the proposed activity. Such demands have been based on the gravity of the potential damage entailed. The general feeling seems to be that

[696] United Nations, *Reports of International Arbitral Awards*, vol. III, pp. 1932-1933.

[697] *S.S. "I'm Alone"* case (*Canada* v. *United States of America*), United Nations, *Reports of International Arbitral Awards,* vol. III, pp. 1611-1618.

[698] Ibid.

States must take reasonable protective measures to ensure, outside the limits of their territorial sovereignty, the safety and harmlessness of their lawful activities. Of course, the potential harm must be incidental and unintentional; nonetheless, the potentially injured States have the right to demand that protective measures be taken.

532. State practice regarding liability for reparation of actual damage is more settled. There is clearer acceptance of the explicit or implicit liability of States for their behaviour. In connection with a few incidents, States have also accepted responsibility for reparation of *actual damage* caused by the activities of private persons in their territorial jurisdiction or under their control. In the River Mura incident, the former Yugoslavia claimed damages from Austria for the *economic loss* incurred by two paper mills and by the fisheries, as a result of the extensive pollution caused by the Austrian hydroelectric facilities. In the tanker *Juliana* incident, the flag State, Liberia, offered 200 million yen to the Japanese fishermen in compensation for the damage which they had suffered as a result of the *Juliana* running aground and washing its oil onto the coast of Japan.

533. Compensation has been made where an activity occurring in the shared domain has required the *relocation of people*. In connection with the United States nuclear tests in the Enewetak Atoll, the compensation entailed payment for temporary usage of land and for *relocation costs*.

534. This matter has been a subject of further detailed consideration in the context of Marshall Islands Nuclear Claims Tribunal established under the 1987 Marshall Islands Nuclear Claims Tribunal Act. The Tribunal has had occasion to make a final determination of compensation to the claimants for past and future loss of use of the Enewetak Atoll; for restoration of Enewetak to a safe and productive state; and for the hardships suffered by the people of Enewetak as a result of their relocation attendant to their loss of use.[699]

535. In December 1947, the people of Enewetak were removed from the atoll to Ujelang Atoll. At the time of their removal, the acreage of the Atoll was 1,919.49 acres. On their return, on 1 October 1980, after 43 tests of atomic devices had been conducted, 815.33 acres were returned for use, another 949.8 acres were not available for use and an additional 154.36 acres had been vaporized.[700]

536. Concerning the loss of use of lands, the Tribunal based its determination on a joint appraisal report conducted by a team of appraisers, one selected by the claimants and the other by the defender of the fund established under the Act. The value of the loss was calculated by multiplying the relevant annual rental value by the affected acreage and by the period of years' use of land was lost. The period of loss consisted of past loss (12 December 1947 to the date of valuation) and future loss (from the date of valuation to such time in the future as the affected property was returned to the people of Enewetak in usable condition). This period was determined by the parties to be 30 years from the effective date of the evaluation (17 May 2026). The Tribunal also made adjustments for the deferred nature of the compensation for past loss and a discount for future loss.

537. In determining the annual rental value, the appraisers acknowledged that the circumstances of property ownership in the Marshall Islands challenged traditional

[699] *39 ILM* (2000) 1214.
[700] Ibid.

appraisal methods: the customary system of land tenure was collective and did not include the concept of market value. Although land ownership was forbidden by law, over time, the transfer of user rights or possessing interests in land for money had gained a measure of social acceptance. Consequently, the appraisers developed a database of comparable transactions from these transfers. Thus, the islands were categorized as rural, with a highest and best use of agricultural and residential uses. For rural lands there was no significant difference in pricing on the basis of the size of the parcel or the basis of use, whether residential or agricultural.

538. Over 470 transactions were collected for review, and of these 174 were determined as comparable although there was a paucity of information for lost use in the earlier years. This problem was overcome by the use of "trending analysis", which combined "pure exponential trend fit to the database and an exponential fit for the first 20 years of lost use" and subsequently the government rental rate was used as a benchmark. The correlated approach resulted in annual rental values ranging from $41 per acre in 1947 to $4,105 per acre in 1996.

539. The valuation also took into account the effect of the lost use of the proceeds from the annual rentals. Three periods were agreed upon for the valuation, namely 21 December 1947 to 30 September 1980 (1,919.49 acres); 1 October 1980 to 24 January 1997 (1,104.16 acres); and 24 January 1997 to 16 May 2026 (1,104.16 acres).

540. The Tribunal also considered in the loss of use calculations, the acreage of the vaporized islands. The Tribunal elected to treat such islands as temporarily lost. In the context of the class action, such islands were regarded as part of an environmental whole consisting of the entire atoll ecosystem. Thus the atoll as a whole was a relevant unit for purposes of characterization of loss. Moreover, it was considered that the problems of determining a fee simple value in the Marshall Islands, where such transactions were virtually unknown and not subject to market analysis, precluded the evaluation of such loss.[701] Based on the annual rental rates, the affected acreage and the number of years to the date of the hearing, the rental values for part lost use (including interest) amounted to $304,000,000. This amount was further adjusted against compensation already received by the people of Enewetak. This included prior compensation in the sum of $175,000 made on or about 19 November 1956; $1,020,000 made on or about 19 August 1969; $750,000 made on or about 30 September 1976; $750,000 made on or about 18 December 1978; annual payments of $3,250,000 from 1987 through 1999 made pursuant to the related agreement; and $10 million for resettlement of Enjebi Island.[702]

541. Also taken into account in the adjustment was the use of Ujelang Atoll by the people of Enewetak from 21 December 1947 to 30 September 1980. The annual per acre value for the use of Ujelang was determined to be 58 per cent of the annual per acre value of Enewetak. This reduction was based upon the relative scarcity of resources in Ujelang and the relative lack of access to off-island resources because of poor transportation to the atoll. The annualized use value for each year between 1947 and 1980 was set off against the respective annual loss of use values for Enewetak. Accordingly, the value of past lost use was adjusted to $149,000,000.

[701] Ibid., p. 1217.
[702] Ibid., pp. 1217-1218.

542. In determining compensation for denied future use, the Tribunal preferred to make a final determination on the matter and therefore declined to follow the suggestion of the claimants that the value of future lost use be calculated as the "annual rental for land not available at the minimum of $3,000 per acre until the lands become fully usable, plus interest of at least 6.86 per cent on such annual rental until paid". It determined that leaving undecided the question of how long the future use would last was not consistent with its responsibility to make a final determination in the claim.

543. It therefore based its calculations on a time period of 30 years. The value for lost future use was determined to be $50,154,811. This amount took into account anticipated payments of $3,250,000 annually in 2000 and 2001 under the related Agreement.[703]

544. The Tribunal also considered questions concerning resettlement as an element of compensation. The claimants had contended that such determinations were essential in order to put the Enewetak people in a situation similar to their situation prior to their relocation in 1947. They were basically unable to engage in their traditional economic activities because of the residual radioactivity and the perception in the marketplace that anything produced was contaminated. After reviewing the positions of the two sides, the Tribunal denied the claim for $52 million to provide for residences and community infrastructure. It noted that it:

> "agrees with claimants that the economic situation of the community is an important element of consideration in the overall structure of compensation in this case. However, it disagrees that this element of damage should be addressed through the type of resettlement costs proposed by claimants. The economic values inherent in the request for claimants' resettlement costs are addressed through the award of loss of use … To allow additional compensation for resettlement costs on the order of those requested by claimants would amount to a duplicative award".[704]

545. The Tribunal also considered the question of compensation concerning hardship as a result of relocation to Ujelang and conditions on the atoll. It found that the nature of the hardships were more than a simple annoyance; they were closely related to the underlying subject matter of land damages and could not be addressed through the Tribunal's personal injury programme as suggested by the defender of the Fund. They were community-wide and differed from personal injury damages. The Tribunal noted that:

> "The injuries at issue here are those arising out of the relocation to Ujelang and the hardships endured there by the people because of its remoteness and lack of adequate resources to support the population sent there. The damages are a consequence of the loss of their land and their relocation attendant to that loss."[705]

546. The Tribunal quantified the damages by paying an annual amount for each person on Ujelang for each of the 33 years between 1947 and 1980 that the people of Enewetak were on Ujelang. Based on the cases cited and the Tribunal's personal injury programme and in order to be fair and consistent to all personal injury

[703] Ibid., p. 1218.
[704] Ibid., p. 1225.
[705] Ibid., pp. 1227-1228.

claimants, whose maximum award was $125,000 for serious medical conditions most likely to lead to death, the Tribunal ascertained that an individual should not receive hardship damages exceeding that amount. It also distinguished between two periods of hardships. Between 1956 and 1972, a period of greatest hardship, $4,500 was determined as an annual amount per person. For the period preceding and following this period, the amount was $3,000. Thus an individual who was on Ujelang for all the 33 years would receive $123,000. Based upon the annual population figures for 33 years beginning in 1947, the damages were calculated at $34,084,500.

547. In the *Trail Smelter* arbitration, the tribunal awarded the United States damages in respect of physical damage to cleared and uncleared land and buildings by reason of the reduction in crop yield and in the rental value of the land and buildings and, in one instance, of *soil impairment*. The denial of damages for other injuries, it appears, resulted mainly from *failure of proof*. With respect to damage to cleared land used for crops, the tribunal found that damage through reduction in crop yield due to fumigation had occurred in varying degrees during each of the years 1932 to 1936, but found no proof of damage in 1937. The properties owned by individual farmers which allegedly had suffered damage had been divided by the United States into three classes: (a) properties of "farmers residing on their farms"; (b) properties of "farmers who do not reside on their farms"; (ab) properties of "farmers who were driven from their farms"; and (c) properties of large owners of land. The Tribunal did not adopt that division. Instead, it "adopted as the measure of indemnity to be applied on account of damage in respect of cleared land used for crops, the measure of damages which the American courts apply in cases of nuisance or trespass of the type here involved, viz., the amount of reduction in the value of use or rental value of the land caused by fumigations".[706]

548. The tribunal found that, in the case of farm land, reduction in the value of its use was in general equivalent to the amount of the reduction of the crop yield arising from injury to crops, less the cost of marketing the same.[707] In the opinion of the tribunal, the *failure* of farmers to increase their seeded land in proportion to such increase in other localities might also be taken into consideration. This is an example of the *duty to mitigate the injury*.

549. With regard to the problem of abandonment of properties by their owners, the tribunal noted that practically all such properties listed appeared to have been abandoned prior to 1932. In order to deal with that problem as well as with that of farmers who had been unable to increase their seeded land, the tribunal, not having to adjudicate on individuals' claims, decided to estimate, on the basis of the *statistical data* available, the *average acreage* on which it was reasonable to believe that crops would have been seeded and harvested during the period under consideration but for the fumigations.[708]

550. Concerning claims for special damage for *impairment of the soil content* through increased acidity produced by the sulphur dioxide contained in the waters, the tribunal considered that the evidence put forward in support of that contention was not conclusive, except for one small area in respect of which an indemnity was allowed for *reduction in the value* of farms in proximity to the frontier line that were

[706] Ibid., pp. 1924-1925.
[707] Ibid., p. 1925.
[708] Ibid.

injured by serious increase in the acidity of the soil by reason of exposure to the fumigations.[709] The tribunal also awarded an indemnity for special damage for *reduction in the value* of the use or rental value of farms by reason of proximity to the fumigations.[710]

551. With regard to the claim that the fumes had inhibited the growth and reproduction of timber, the tribunal adopted the measure of damages applied in United States courts, namely, reduction in value of the land itself due to such destruction and impairment:

> "(b) With regard to damage due to destruction and impairment of growing timber (not of merchantable size), the Tribunal has adopted the measure of damages applied by American courts, viz., the reduction in value of the land itself due to such destruction and impairment. Growing timberland has a value for firewood, fences, etc., as well as a value as a source of future merchantable timber. No evidence has been presented by the United States as to the locations or as to the total amounts of such growing timber existing on 1 January 1932, or as to its distribution into types of conifers — yellow pine, Douglas fir, larch or other trees. While some destruction or impairment, deterioration, and retardation of such growing timber has undoubtedly occurred since such date, it is impossible to estimate with any degree of accuracy the amount of damage. The Tribunal has, however, taken such damage into consideration in awarding indemnity for damage to land containing growing timber."[711]

552. The United States had *failed to prove* damage with respect to the alleged lack of production as well as in respect of livestock.[712] Again, proof of damage to property in the town of Northport was also insufficient.[713]

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[709] Ibid.

[710] Ibid., p. 1926.

[711] Ibid., pp. 1929-1931.

[712] "(c) With respect to damage due to the alleged lack of production, the Tribunal has carefully considered the contentions presented. The contention made by the United States that fumigation prevents germination of seed is, in the opinion of the Tribunal, not sustained by the evidence. Although the experiments were far from conclusive, Hedgecock's studies tend to show, on the contrary, that, while seedlings were injured after germination owing to drought or fumes, the actual germination did take place." (ibid., p. 1920)
"(3) With regard to 'damages in respect of livestock', claimed by the United States, the Tribunal is of the opinion that the United States has failed to prove that the presence of fumes from the Trail Smelter has injured either the livestock or the milk or wool productivity of livestock since 1 January 1932, through impaired quality of crop or grazing. So far as the injury to livestock is due to reduced yield of crop or grazing, the injury is compensated for in the indemnity which is awarded herein for such reduction of yield." (ibid., p. 1931)

[713] "(4) With regard to 'damages in respect of property in the town of Northport', the same principles of law apply to assessment of indemnity to owners of urban land as apply to owners of farm and other cleared land, namely, that the measure of damage is the reduction in the value of the use or rental value of the property, due to fumigations. The Tribunal is of the opinion that there is no proof of damage to such urban property; that even if there were such damage, there is no proof of facts sufficient to enable the Tribunal to estimate the reduction in the value of the use or rental value of such property; and that it cannot adopt the method contended for by the United States of calculating damages to urban property." (ibid.)

553. With regard to damages in respect of business enterprises, the United States had claimed that the businessmen had suffered loss of business and impairment of the value of goodwill because of the reduced economic status of the residents of the damaged area. The tribunal found that such damage "due to reduced economic status" was too indirect, remote and uncertain to be appraised and not such for which an indemnity could be awarded. In the opinion of the tribunal, the argument that indemnity should be obtained for an injury to or reduction in a man's business due to the inability of his customers or clients to buy — which inability or impoverishment had been caused by a nuisance, even if proved — was too indirect and remote to become the basis, in law, for an award of indemnity.[714]

554. Further, the tribunal determined that the United States contention of *pollution of waterways had not been proved* and it did not consider the request for indemnity for *money expended in the investigation undertaken* concerning the problems created by the smelter. This claim was made in connection with its *action for violation of sovereignty*. The Tribunal, however, did not seem to exclude the possibility of *granting indemnity for the expenses of processing claims*. It recognized that in some cases involving the question of damage to individual claimants, international arbitration might award damages.

555. For the tribunal, the difficulty lay not so much in the content of the claim as in its characterization as damages in a case of arbitration between two independent Governments where each had incurred expenses and "where it is to the mutual advantage of the two Governments that a conclusion and permanent disposition of an international controversy should be reached".[715]

556. In the *Alabama* case, the tribunal awarded damages in respect of net freights lost and other undefined damage resulting from Great Britain's failure to exercise "due diligence". However, damages in respect of the costs of pursuit of the Confederate cruisers outfitted in British ports were denied because such costs could not be distinguished from the ordinary expenses of the war, as were damages in respect of prospective earnings, since they depended on future and uncertain contingencies.[716]

557. In its claim against the Soviet Union for injuries resulting from the crash of the Soviet nuclear-powered satellite Cosmos 954 on Canadian territory, Canada stressed the duty to *mitigate damages*:

> "Under general principles of international law, Canada had a duty to take the necessary measures to prevent and reduce the harmful consequences of the damage and thereby to mitigate damages. Thus, with respect to the debris, it was necessary for Canada to undertake without delay operations of search, recovery, removal, testing and clean-up. These operations were also carried out in order to comply with the requirements of the domestic law of Canada. Moreover, article VI of the Convention [on International Liability for Damage caused by Space Objects] imposes on the claimant State a duty to observe reasonable standards of care with respect to damage caused by a space object."[717]

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[714] Ibid.
[715] Ibid., p. 1933.
[716] Moore, op. cit., p. 658.
[717] *18 ILM* (1979) 899, at pp. 905-906, para. 17.

558. The Canadian claim also indicated that:

> "[i]n calculating the compensation claimed, Canada has applied the relevant criteria established by general principles of international law according to which fair compensation is to be paid, by including in its claim only those costs that are reasonable, proximately caused by the intrusion of the satellite and deposit of debris and capable of being calculated with a reasonable degree of certainty."[718]

559. The Atlantic Richfield Corporation (ARCO), which operated the refinery at Cherry Point, in the State of Washington, where some 12,000 gallons of crude oil had spilled into the sea in 1972, paid an initial clean-up bill of $19,000 submitted by the municipality of Surrey to cover its operations. ARCO later agreed to pay another $11,696.50, to be transmitted by the United States to the Canadian Government, for its *costs incurred in connection with the clean-up operation*, but refused to reimburse an additional item of $60 designated "bird loss (30 birds at $2 a bird)". The payment was made "without admitting any liability in the matter and without prejudice to its rights and legal position".[719]

560. In some cases, claims for ecological damage have been made. The jurisprudence, however, seems inconsistent. In two cases, the *Patmos* and the *Haven*, the courts in question had an opportunity to make determinations bearing on the interpretation of the 1969 CLC/1971 Fund Convention. In both cases, the Italian Government sought to claim from the IOPC Fund. In the *Patmos* litigation, which arose from the collision between the Greek oil tanker *Patmos* and the Spanish tanker *Castillo de Monte Aragón* in the Strait of Messina on 21 March 1985, during which more than 1,000 tons of oil spilled into the sea, with a few tons reaching shore on the coast of Sicily, the Italian Government first lodged a claim for ecological damage in the Tribunal of Messina. Measures were taken by the Government to contain the spill from polluting the coast. The claim, which was based on the 1969 CLC, was dismissed, with the court construing article II as referring to damage done *on the territory* and not *to the territory* or the territorial waters of the Contracting Parties. This was interpreted as meaning that the damage had to be done to things which lay on the territory or in the territorial sea. Had Italy suffered damage to its shores, over which it had proprietary rights, as opposed to rights of territorial sovereignty, a claim for damages would have laid. The court also ruled out compensation for damage to marine flora and fauna, which were considered *res communis omnium*.

561. Moreover, it held that Italy had not suffered any direct or indirect economic damage or loss of income. Nor had it incurred expenses in the clean-up of its shores.[720] The court noted that IOPC Fund resolution No. 3 of 1980 did not allow it

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[718] Ibid., p. 907, para. 23.

[719] *Canadian Yearbook of International Law*, vol. 11 (1973), pp. 333-334; and *Montreal Star*, 9 June 1972.

[720] See generally Andrea Bianchi, "Harm to the Environment in Italian Practice: The Interaction of International Law and Domestic Law", in Peter Wetterstein, "*Harm to the Environment* …", op. cit., p. 103, at pp. 113-129. See also Maria Clara Maffei, "The Compensation for Ecological Damage in the 'Patmos' case", Francioni and Scovazzi, *International Responsibility* …, op. cit., pp. 383-390; and David Ong, "The Relationship between Environmental Damage and Pollution: Marine Oil Pollution Laws in Malaysia and Singapore", in Bowman and Boyle, p. 191, at pp. 201-204. The information regarding the *Patmos,* the *Antonio Gramsci,* the *Haven* and the *Amoco Cadiz* is largely based on these articles; Sands, "Principles …", op. cit., pp. 918-922.

to assess compensation to be paid by the Fund "*on the basis of an abstract quantification of damage calculated in accordance with theoretical models*". As such, the court did not rely on expert evidence provided by the defence or order an independent expert report.

562. The IOPC Fund Assembly had adopted the 1980 resolution soon after the Executive Committee of the Fund had opposed a claim by the former Soviet Union in respect of damage arising from the 1979 *Antonio Gramsci* incident.[721] On 6 February 1979, the tanker *MT Antonio Gramsci* had run aground in the Baltic Sea and 570 tons of its crude oil spilled into the ice-covered sea. The oil continued to drift and spread in the ice and eventually covered an area of more than 3,500 square kilometres. In that case, the Government of the former Soviet Union lodged a claim within its courts of an abstract nature for compensation for ecological damage, the amount of which was calculated on the basis of a mathematical formula contained in its statute which presumed that a certain quantity of oil discharged into the sea would pollute a given quantity of water (at a rate of 2 rubles per cubic metre of polluted water estimated according to the quantity of oil spilled). The Fund opposed the claim, noting that it did not fall within the definition of "pollution damage" under the 1969 CLC. It also noted that the CLC regime did not allow damages to be quantified through the use of mathematical models.

563. While the resolution was referred to in the Tribunal in the *Patmos* case, the Court of Appeal of Messina ignored the resolution when the Italian Government, through the relevant ministry, successfully appealed against the decision of the lower court. The Court of Appeal defined pollution damage in paragraph 6 of article I of the 1969 CLC broadly as encompassing environmental values relating to the conservation of flora and fauna. It did so by taking into account the provisions of the 1969 International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties.[722] It essentially construed "related interests" in articles I and II of the Intervention Convention, under which Contracting States are allowed to take measures to, inter alia, prevent pollution to their coastline or *related interests*, as including damage to the coast and *related interests* of coastal States. It noted also that although the notion of environmental damage could not be established by resorting to any mathematical or accounting method, it could be evaluated in the light of the economic relevance per se of the destruction, deterioration or alteration of the environment for the community benefiting from

[721] The second *Antonio Gramsci* incident occurred on 6 February 1987, when another Soviet-registered tanker ran aground off the southern coast of Finland, spilling about 600 to 700 tons of oil. The Finnish Government claimed compensation for surveys of the environment. The Fund views such expenses as falling outside the definition of "pollution damage". The claim by the Soviet Union used the same assessment. The Fund and the shipowner's insurer contested the validity of the calculation. Expert testimony also showed that the quantity of oil recovered according to the assessment used by the Soviet Union was much less than actually used in the calculation of the claim and the quantity recovered consisted partially of water. Thus, there was some indication that the calculations might in fact have been speculative. The Fund brought the 1980 resolution to the attention of the claimant. It also noted that the member State [the Soviet Union] was not a party to the Fund Convention at that time and had abstained from submitting claims for compensation of damage to the environment in order to comply with the interpretation of the Fund Assembly. The matter was closed in 1990 following a compromise settlement with the owner of the *Antonio Gramsci*. See generally Wu Chao, op. cit., pp. 365-366.

[722] *9 ILM* (1970) 25.

its resources. Since environmental damage could not be the object of a pecuniary appraisal since it had no market value, it could only be compensated on the basis of an equitable appraisal. The Court also authorized the preparation of an expert report in order to appraise environmental damage in more concrete terms.[723]

564. On the basis of the report of the group of experts, the Court of Appeal issued the final award in 1994. It held that in the light of the expert evidence and of the relevant acts submitted to it, environmental damage affecting marine life had been established even though it had not been quantified in precise terms. The expert report noted that the chemical and physical alterations of the marine environment could cause disturbances which could potentially affect pelagic organisms living in the different layers of the sea as well as the seabed. The Court, relying on the expert evidence, although it did not endorse fully all the findings, awarded damages on the basis of an equitable appraisal under article 1226 of the Italian Civil Code, which allowed such an approach in cases where damage could not be quantified in precise terms. The appraisal was made on the basis of, inter alia, such objective criteria provided by the expert evidence as damage to the benthos, the quantity of fish destroyed and the market value of the fish (reduced to an estimated wholesale value at the time of the accident). An award of 2,100 million lire was made for environmental damage.

565. In the *Haven* case, the IOPC Fund objected to a claim by Italy for ecological damage. In that case, the *M/S Haven*, flying the flag of Cyprus and owned by Venha Maritime Ltd. of Monrovia, Liberia, sank several kilometres off the coast of the commune Arenzano, near Genoa on the western Ligurian Riviera, on 11 April 1991, following an explosion which led to its breaking up and burning. Italian State authorities, including the regional government of Liguria, some provinces and communes lodged claims for compensation for quantifiable and unquantifiable elements of damage to the marine environment under the 1969 CLC in the provisional sum of 100,000 million lire. It was also claimed that as a result of the 1986 Law on environmental protection it was necessary to take into account the seriousness of the fault and the profit accruing to the person liable when such environmental damage was being estimated on an equitable basis. In denying the claim, the IOPC Fund maintained that no right to compensation for unquantifiable elements of damage to the marine environment existed under the 1969 CLC/Fund Convention regime. Moreover, the Italian law in question introduced a punitive element in the calculation of compensation which could not have been intended by the framers of the 1969 CLC/1971 Fund Convention regime. This view was supported at a session of the Executive Committee of the Fund by France, the

[723] The Court of Appeal held that

> "the environment must be considered as a unitary asset, separate from those of which the environment is composed (territory, territorial waters, beaches, fish, etc.) and includes natural resources, health and landscape. The right to the environment belongs to the State, in its capacity as representative of the collectivities. The damage to the environment prejudices immaterial values, which cannot be assessed in monetary terms according to market prices, and consists of the reduced possibility of using the environment. The damage can be compensated on an equitable basis, which may be established by the Court on the grounds of an opinion of experts … The definition of 'pollution damage' as laid down in article 1(6) is wide enough to include damage to the environment of the kind described above."

Summary of the Judgement of the Court of Appeal, document FUND/EXC.30/2, 29 November 1991, para. 4.15.

United Kingdom and Japan as well as by the observer of the shipping, insurance and freight companies.

566. It was maintained by the Italian delegation that the 1969 CLC and the 1971 Fund Convention did not exclude compensation for environmental damage which was non-quantifiable and that under Italian law damage to the marine environment was compensable for both quantifiable and non-quantifiable elements.

567. The Court of First Instance in Genoa found in April 1996 that "pollution damage" in the 1969 CLC and the 1971 Fund Convention encompassed natural resource and environmental damage. It awarded 40,000 million lire, about one third the clean-up cost, since the clean-up did not repair all the damage caused. In the final out-of-court settlement reached in 1999, all sides reserved their positions, in particular with the IOPC Fund reaffirming that there was no right of compensation for environmental damage under the 1969 CLC/1971 Fund Convention regime, while the Italian Government reaffirmed its right to compensation for environmental damage and claimed that equitable compensation for such damage was an acceptable head of liability. In addition to paying the 40 million lire indicated by the court in Genoa, the shipowner and the insurance company made an ex gratia payment of 25,000 million lire without admitting liability beyond the limits established by the 1969 CLC.

568. The *Amoco Cadiz* disaster was also a subject of litigation in the United States. On the morning of 16 March 1978, the supertanker *Amoco Cadiz* broke apart in a severe storm, spilling most of its load of 220,000 tons of crude oil into the sea off the coast of Brittany, France. The spill damaged approximately 180 miles of coastline, destroying fisheries, oyster and seaweed beds, as well as bathing beaches, despite the efforts of 10,000 French soldiers deployed to clean the beaches. The clean-up lasted more than six months and involved equipment and resources from all over the country. Although the accident occurred in French territorial waters, victims lodged claims in the United States in order to avoid the application of the CLC regime and its limitations on compensation. The French Government, French individuals, businesses and associations sued the owner of the *Amoco Cadiz*, Amoco Transport Company ("Amoco Transport"), and its American parent Standard Oil Company ("Standard Oil") in the Northern District Court of Illinois (the jurisdiction of Standard Oil). The Court found that Amoco Transport, a Liberian corporation, was merely a nominal owner of the *Amoco Cadiz* and that Standard Oil controlled the design, construction, operation and management of the tanker and treated it as if it belonged to Standard Oil. The Court found Standard Oil liable in tort for the negligent supervision of its subsidiaries. In 1988, the Court ordered the Amoco Oil Corporation to pay $85.2 million in fines — $45 million for the costs of the spill and $39 million in interest.

569. The Court denied compensation for non-economic damage. It thus dismissed claims concerning lost image and ecological damage. It noted that it was "true that the commune was unable for a time to provide clean beaches for the use of its citizens, and that it could not maintain the normal peace, quiet, and freedom from the dense traffic which would have been the normal condition of the commune absent the cleanup efforts", but concluded that the "loss of enjoyment claim by the communes is not a claim maintainable under French law".[724]

[724] Maffei, op. cit., p. 393.

570. Concerning lost image, the Court observed that the plaintiffs' claim was compensable in measurable damage, to the extent that it could be demonstrated that the loss of image had resulted in specific consequential harm to the commune in that tourists and visitors who might otherwise have come stayed away. Yet this was precisely the subject matter of the individual claims for damages by hotels, restaurants, campgrounds, and other businesses within the communes.[725]

571. As regards ecological damage, the Court dealt with problems of evaluating "the species killed in the intertidal zone by the oil spill" and observed that "this claimed damage is subject to the principle of *res nullius* and is not compensable for lack of standing of any person or entity to claim therefor".[726]

572. All decisions on jurisdiction and liability, grounded in negligence, were affirmed on appeal by the Seventh Circuit. The computation of damages was also affirmed. There were however a few exceptions. For example, France was found to be entitled to an additional 3.5 million francs (before interest) for the expense of the clean-up. Moreover, the French plaintiffs were entitled to compound pre-judgement interest at a rate of 11.9 per cent per annum as from 1 January 1980. Some awards were also vacated for lack of standing in respect of the French trade associations appearing as plaintiffs.[727]

573. In the case entitled *In the Matter of the People of Enewetak* before the Marshall Islands Nuclear Claims Tribunal, the Tribunal had on opportunity to consider whether restoration was an appropriate remedy for loss incurred by the people of the Enewetak atoll arising from nuclear tests conducted by the United States. It awarded clean-up and rehabilitation costs as follows: $22.5 million for soil removal; $15.5 million for potassium treatment; $31.5 million for soil disposal (causeway); $10 million for clean-up of plutonium; $4.51 million for surveys; and $17.7 million for soil rehabilitation and re-vegetation.

574. The Tribunal first reviewed the relevant parts of the Restatement (Second) Torts § 929 (1)(a) and determined that there were persuasive personal reasons in favour of restoration of the damaged land and that the diminution in market value was not an appropriate measure of damage: in the first place, for "Marshall Islanders in general, and the Enewetak people in particular, land is a part of one's person and one's entire identity. It is an integral part of a person's sense of who they are in the world and how their life makes sense and part of a certain culture. One's sense of self, both personal and cultural, is deeply embedded in a particular parcel of land on a particular atoll."[728] Moreover, it found that traditionally Marshall Islanders did not sell land rights, which acquired by birthright. It thus found that the diminution in value approach to damages could not be applied because there was no market in fee simple property to provide comparable values to assess the loss. Moreover, a market approach would not provide a true measure of loss because it would not account for the deeply personal reasons of the Enewetak people for restoring their land.[729]

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[725] Ibid.

[726] Ibid., p. 394.

[727] In the matter of: Oil spill by the Amoco Cadiz off the coast of France on 16 March 1978. United States Court of Appeals for the Seventh Circuit, 954F.2d 1279.

[728] *39 ILM* (2000) 1214, at p. 1219.

[729] Ibid., p. 1220.

575. The applicable law provided that "in determining any legal issue, the Claims Tribunal may have reference to the laws of the Marshall Islands, including traditional law, to international law and, in the absence of domestic or international law, to the laws of the United States".[730] The Tribunal first considered the question of radiological clean-up costs. It accepted the position of the International Atomic Energy Agency on the applicable protection standard that:

> "As a basic principle, policies and criteria for radiation protection of populations outside national borders from releases of radioactive substances should be at least as stringent as those for the population within the country of release."[731]

576. Thus, the Tribunal found support for restoration by reference to United States statutes on the environment, in particular certain policies and criteria of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and applied "the current standards of the United States that would apply to Enewetak, were it within the United States".[732]

577. Expert testimony indicated that the major source of radiation exposure to residents of Enewetak would be ingestion of locally grown food. This was considered particularly significant because the soils of the atoll allowed a high uptake of certain radionuclides by local plants. Cesium 137 was the primary radionuclide of concern. Based on United States standard computer analysis, a concentration of cesium in the soil between 0.32 and 0.35 picocuries per cubic gram (including background) would result in an annual effective dose equivalent of 15 millirem assuming a local only diet.

578. Although an exclusively local diet was unlikely, the Tribunal considered it the appropriate working assumption to capture the "reasonably maximally exposed individual". The results of two expert reports conducted in Enewetak showed minor differences in the levels of concentration: assuming a local diet, one report showed a cesium concentration of 0.247 to 0.274 picocuries per cubic gram (depending on the methodology utilized for determination of exposure) above background would result in an exposure of 15 millirem per year to the reasonably maximally exposed individual, and with background of 0.08 picocuries per cubic gram added in, the amount would range between 0.327 and 0.354 picocuries per cubic gram. The other methodology determined that a concentration of 0.35 picocuries per cubic gram would lead to an exposure of 15 millirem per year based upon a local food-only diet.

579. The parties therefore developed their remediation scenarios utilizing this concentration target. The basic techniques included removal of contaminated soil, application of potassium to the soil to reduce the plant uptake of cesium, and phytoremediation (the use of plants to strip the radioactive contaminants from the soil). While phytoremediation is a promising developing technology, its

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[730] Ibid., p. 1215.

[731] Ibid., p. 1220.

[732] Ibid. Under the Environmental Protection Agency "Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination": Cleanup should generally achieve a level of risk with the 10^{-2} to 10^{-6} carcinogenic risk range based on the reasonable maximum exposure for an individual … If a dose assessment is conducted at the site then 15 millirem per year (mrem/yr) effective dose equivalent (EDE) should generally be the maximum dose limit for humans.

effectiveness in Enewetak, a coral atoll environment, could not be reliably evaluated.

580. On the other hand, the application of potassium to the soil to block the uptake of cesium 137 had been tested considerably, and was found to reduce such uptake by a factor of 10. However, it was ineffective where concentrations were higher. Moreover, potassium only blocked uptake without "cleaning up" the soil. Soil removal was also a tested technology which had been used in earlier clean-up efforts on the atoll, but it involved excavation and significant disposal of contaminated soil, resulting in ecological disruption because of the removal of the topsoil from the environment. It was also costly.

581. The Tribunal decided to proceed with a combined solution, involving shielding and dilution and soil removal.[733] Thus the Tribunal ordered the payment of $22 million for soil removal; $15.5 million for potassium treatment for 100 years, including a sound soil management programme; and $4.51 million for radiological surveys to support the clean-up effort. Such surveys included:

> "A characterization survey consisting of field measurements and laboratory analysis ... to provide information as to the exact location and nature of the contamination to allow compliance with guideline levels. An ongoing remedial action support survey … to support the clean-up effort while it is being performed. Finally, a survey to insure that areas subjected to remediation have met required clean-up levels."[734]

582. Concerning the removal and disposal of contaminated soil, the Tribunal analysed the various options considered by the parties, including lagoon dumping, ocean dumping, disposal (with no waste stabilization) on an uninhabited island in the atoll, use of contaminated soil as backfill to extend land mass, construction of a causeway, crater entombment and disposal in the United States.

583. It was generally observed that disposal in the United States would be more expensive than local disposal of the contaminated soil, with dumping in the lagoon the most inexpensive option. The latter option was ruled out, though, because of legal and political concerns about ocean dumping of radioactive waste.[735]

584. The Tribunal found that the causeway construction alternative "more fully protects the residents from the risk of harm of exposure to radiation compared to other feasible local disposal options". Considering that the major pathway for exposure was ingestion of foods, particularly plants, which had absorbed radioactive substances from the soil, a causeway could separate the contaminated soil from agriculturally productive areas, thereby protecting the people from exposure. At a cost of $31.5 million, the causeway option proved to be the most effective disposal alternative.[736]

585. The option of on-site disposal at an uninhabited island was disregarded because no site had been identified nor was there a landowner who would consent to such disposal. The Tribunal also recognized that this was not the preferred option for the people of Enewetak. It also disregarded the option of crater entombment.

[733] Ibid., p. 1221.
[734] Ibid., p. 1222.
[735] Ibid., p. 1223.
[736] Ibid.

Although that had precedents, it would not enhance the productivity of the community. Moreover, no site had been identified and the procedure would be more costly ($84.7 million) than the causeway option.

586. In respect of the island of Runit, the Tribunal noted residual plutonium 239 was to be found. The radiation levels exceeded the acceptable limits and the island remained quarantined from use. The Tribunal noted that clean-up of the plutonium was feasible through soil sorting methods and dissolving the coral soil to separate out the plutonium for disposal. It awarded $10 million for these purposes.[737]

587. In addition to the costs of removal of contaminated soil and its disposal, the Tribunal determined that the land must be restored to productivity. While the backfill to replace the removed soil would be dredged from the lagoon, it was felt that it would not contain sufficient organic material to be agriculturally productive. Out of the two possibilities considered — importing topsoil off-island or rehabilitating the soil through agricultural means — the Tribunal expressed preference for the latter:

> "This approach would restore the soil through natural means, utilizing local resources and involving landowners and a local workforce. The method has been tested … on Enewetak. The unit cost of this approach is estimated to be $29,000 per acre [compared to $40,062 per acre for topsoil importation], although it is acknowledged that it would take up to 50 years to completely restore the land to the level where it is self-sustaining. However, the import option would not include the cost of re-vegetation or maintenance and care. Additionally, there is the concern that imported soil may introduce foreign pests or plants inappropriate to the Enewetak ecological system."[738]

588. The Tribunal determined the cost of soil rehabilitation and re-vegetation of affected lands to be $17.7 million, as requested by the claimants.[739]

589. In some situations, compensation could be pursued and considered in the context of an overall settlement to be agreed upon between the parties to a dispute. In the *Case concerning the Gabčíkovo-Nagymaros Project*,[740] the International Court of Justice, in considering the question of determining the consequences of its judgement as they bore upon the payment of damages, affirmed as a well-established rule of international law that an injured State is entitled to obtain compensation from the State which has committed an internationally wrongful act for the damage which it has caused. Having concluded that both parties had committed internationally wrongful acts, and noting also that those acts had given rise to the damage sustained by the parties, the Court determined that Slovakia was entitled to compensation for the damage suffered by Czechoslovakia as well as by itself as a result of Hungary's decision to suspend and subsequently abandon the works at Nagymaros and Dunakiliti, as those actions had caused the postponement of the putting into operation of the Gabčíkovo power plant, and changes in its mode of operation once in service. On its part, Hungary was entitled to compensation for the damage sustained as a result of the diversion of the Danube, since

[737] Ibid.
[738] Ibid.
[739] Ibid.
[740] *Case concerning the Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, *I.C.J. Reports* 1997, p. 7, at paras. 151-154.

Czechoslovakia, by putting into operation Variant C, and Slovakia, in maintaining it in service, had deprived Hungary of its rightful part in the shared water resources, and both had exploited those resources essentially for their own benefit.

590. However, given that there had been intersecting wrongs by both parties, the Court observed that the issue of compensation could be resolved satisfactorily in the framework of an overall settlement if each of the parties were to renounce or cancel all financial claims and counterclaims. At the same time, the Court pointed out that the settlement of accounts for the construction of the works was different from the issue of compensation, and must be resolved in accordance with the 1977 Treaty and related instruments.

2. Forms of compensation

591. In State practice, compensation for extraterritorial damage caused by activities conducted within the territorial jurisdiction or under the control of States has been paid either in the form of a lump sum to the injured State, so that it might settle individual claims, or directly to the individual claimants. The forms of compensation prevailing in relations between States are similar to those existing in domestic law. Indeed, some conventions provide that national legislation is to govern the question of compensation. When damages are monetary, States have generally sought to select readily convertible currencies.

(a) Treaty practice

592. While there are references to the forms of compensation in multilateral conventions, they are not very detailed. Attempts have been made in the conventions to make the compensation provisions useful to the injured party in terms of currency and of its transferability from one State to another. Under the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy, for example, the nature, form and extent of the compensation as well as its *equitable distribution* must be governed by *national law*. Furthermore, the compensation must be freely *transferable* between the Contracting Parties.[741] The 2004 Paris Convention contains similar provisions.[742] It further provides that the sums to which article 7 concerning liability relates may be converted into national currency in round figures. Each Contracting Party shall also ensure that rights of

[741] The relevant provisions of the Convention are:

"*Article 7*

"…

"*(g)* Any interest and costs awarded by a court in actions for compensation under this Convention shall not be considered to be compensation for the purposes of this Convention and shall be payable by the operator in addition to any sum for which he is liable in accordance with this article."

"*Article 11*

"The nature, form and extent of the compensation, within the limits of this Convention, as well as the equitable distribution thereof, shall be governed by national law.

"*Article 12*

"Compensation payable under this Convention, insurance and reinsurance premiums, sums provided as insurance, reinsurance, or other financial security required pursuant to article 10, and interest and costs referred to in article 7 *(g)*, shall be freely transferable between the monetary areas of the Contracting Parties."

[742] Articles 7 (h), 11 and 12.

compensation may be enforced without bringing separate proceedings according to the origin of the funds provided for such compensation.[743] These provisions find precedent in the 1997 Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage (incorporating the amendments of the 1997 Protocol), where the amounts established for liability may be converted into national currency in round figures. Moreover, each Contracting Party shall also ensure that rights of compensation may be enforced without bringing separate proceedings according to the origin of the funds provided for such compensation.[744]

593. Under paragraph 1 of article VIII of the 1997 Vienna Convention, and article VIII of the 1963 Vienna Convention, the *nature, form and extent of compensation*, as well as its *equitable distribution*, are governed by the competent courts of the Contracting Parties:

> "Subject to the provisions of this Convention, the nature, form and extent of the compensation, as well as the equitable distribution thereof, shall be governed by the law of the competent court."[745]

594. Following an amendment introduced through article 10 of the 1997 Protocol amending the 1963 Vienna Convention, the 1997 Convention envisages in paragraph 2 of article VIII that priority in the distribution of compensation shall be given to claims in respect of loss of life or personal property.

595. Article 8 of the 2004 Brussels Convention provides:

> "Any person who is entitled to benefit from the provisions of this Convention shall have the right to full compensation in accordance with national law for nuclear damage suffered, provided that where the amount of such damage exceeds or is likely to exceed 1,500 million euro, a Contracting Party may establish equitable criteria for apportioning the amount of compensation that is available under this Convention. Such criteria shall be applied whatever the origin of the funds and, subject to the provisions of article 2, without discrimination based on the nationality, domicile or residence of the person suffering the damage".

596. Moreover, under article 9, the system of payment of public funds shall be that of the Contracting Party whose courts have jurisdiction. However, each Contracting Party shall ensure that persons suffering nuclear damage may enforce their rights to compensation without having to bring separate proceedings according to the origin of the funds provided for such compensation.[746]

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[743] Articles 7 (i) and (j).

[744] Articles V A and B.

[745] Article VIII of the 1963 Vienna Convention provides:

> "Subject to the provisions of this Convention, the nature, form and extent of the compensation, as well as the equitable distribution thereof, shall be governed by the law of the competent court."

[746] See also articles 8 and 9 of the 1963 Brussels Convention:

"*Article 8*

"Any persons who is entitled to benefit from the provisions of this Convention shall have the right to full compensation in accordance with national law for damage suffered, provided that, where the amount of damage exceeds or is likely to exceed:

(i) 300 million Special Drawing Rights; or

(ii) If there is aggregate liability under article 5(d) of the Paris Convention and a higher sum results therefrom, such higher sum,

597. The 1962 Convention on the Liability of Operators of Nuclear Ships states the value in gold of the franc, the currency in which compensation must be paid. It also provides that the awards may be converted into each national currency in round figures and that conversion into national currencies other than gold shall be effected on the basis of their gold value.[747]

598. The Additional Convention to the CIV provides that, for certain injuries, compensation may be awarded in the form of a lump sum. However, if *national law* permits, payment of an *annuity* or, if the injured passenger so requests, compensation shall be awarded as an annuity. Such forms of damages are also provided for injuries suffered by persons for whose support the deceased passenger was legally responsible, as well as for the medical treatment and transport of an injured passenger and for loss due to his total or partial incapacity to work.[748]

599. If so agreed between the parties concerned, compensation under the 1972 Convention on International Liability for Damage Caused by Space Objects may be paid in any currency; otherwise, it is to be paid in the currency of the *claimant State*.

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any Contracting Party may establish equitable criteria for apportionment. Such criteria shall be applied whatever the origin of the funds and, subject to the provisions of article 2, without discrimination based on the nationality, domicile or residence of the person suffering the damage.

"*Article 9*

"(a) The system of disbursements by which the public funds required under article 3(b)(ii) and (iii) and (f) are to be made available shall be that of the Contracting Party whose courts have jurisdiction.

"(b) Each Contracting Party shall ensure that persons suffering damage may enforce their rights to compensation without having to bring separate proceedings according to the origin of the funds provided for such compensation.

"(c) No Contracting Party shall be required to make available the public funds referred to in article 3(b)(ii) and (iii) so long as any of the funds referred to in article 3(b)(i) remain available."

[747] Paragraph 4 of article III of the Convention reads:

"4. The franc mentioned in paragraph 1 of this article is a unit of account constituted by sixty-five and one half milligrams of gold of millesimal finess nine hundred. The amount awarded may be converted into each national currency in round figures. Conversion into national currencies other than gold shall be effected on the basis of their gold value at the date of payment."

[748] The relevant provisions of the Convention read:

"*Article 6. Form and limit of damages in case of, or personal injury to the passenger*

"1. The damages under article 3 (2) and article 4 (b) shall be awarded in the form of a lump sum; however, if national law permits payment of an annuity, damages shall be awarded in this form if so requested by the injured passenger or the claimants designated in article 3 (2)."

"*Article 9. Interest and refund of compensation*

"1. The claimant shall be entitled to claim interest on compensation which shall be calculated at the rate of 5 per cent per annum. Such interest shall accrue from the date of the claim, or, if a claim has not been made, from the date on which legal proceedings are instituted, save that for compensation due under articles 3 and 4, interest shall accrue only from the day on which the events relevant to its assessment occurred, if that day is later than the date of the claim or the date on which legal proceedings were instituted.

"2. Any compensation improperly obtained shall be refunded."

If the claimant State agrees, the compensation may be paid in the *currency of the State from which compensation is due*.[749]

(b) Judicial decisions and State practice outside treaties

600. Forms of compensation are referred to in judicial decisions and official correspondence in only a few cases, such as the compensation afforded Japan by the United States for injuries arising out of the Pacific nuclear tests and the compensation required of the United Kingdom in the *Alabama* case.[750] In each case, a lump sum payment was made to the State, which could then pay equitable compensation to the injured individuals. On the other hand, in "*I'm Alone*" compensation was recommended for payment to Canada for the benefit of the captain and other crew members or their representatives. Specific amounts were indicated for each individual. In *Vellone Citizens Welfare Forum v. Union of India*, the Supreme Court mandated the central Government to constitute an authority under the relevant environment legislation to compute compensation for "reversing the ecology" and for payment to individuals. It further directed that:

> "A statement showing the total amount to be recovered, the names of the polluters from whom the amount is to be recovered, the amount to be recovered from the polluter, the persons from whom the compensation is to be paid and the amount payable to each of them shall be forwarded to the Collectors/District Magistrates of the area concerned.
>
> "…
>
> "The authority shall direct the closure of the industry owned/managed by a polluter in case he evades or refuses to pay the compensation awarded against him. This shall be in addition to the recovery from him of areas of land revenue."[751]

601. In 1981, Canada agreed to a lump payment of Can$ 3 million from the former Soviet Union in full and final settlement of all matters connected with the disintegration of the Soviet satellite Cosmos 954 in Canada.[752]

602. In addition to monetary compensation, compensation has occasionally taken the form of removing the danger or effecting *restitutio in integrum*. That was the case, for example, in the Palomares incident, in 1966, when nuclear bombs were dropped on Spanish territory and near the coast of Spain following a collision between a United States nuclear bomber and a supply plane. In a situation where the damage or danger of damage is so grave, the primary compensation is *restitution*, that is, removing the cause of the damage and restoring the area to its condition prior to the incident. The United States removed the causes of danger from Spain by

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[749] Article XIII of the Convention reads:

> "Unless the claimant State and the State from which compensation is due under this Convention agree on another form of compensation, the compensation shall be paid in the currency of the claimant State or, if that State so requests, in the currency of the State from which compensation is due."

[750] Moore, op. cit., p. 568.

[751] Supreme Court of India, Air 1996 SC 2715, para. 25.

[752] See Canada-Union of Soviet Socialist Republics: Protocol on Settlement of Canada's Claim for Damage Caused by "Cosmos 954", 20 ILM (1981), p. 689.

retrieving the bombs and by removing the contaminated Spanish soil and burying it in its own territory.[753]

603. Following the nuclear tests conducted in the Marshall Islands, the United States reportedly spent nearly $110 million to clean up several of the islands of the Enewetak Atoll so that they might once again become habitable. However, one of the islands of the Runit Atoll, which had been used to bury nuclear debris, was declared off-limits for 20,000 years.[754] Although a clean-up operation does not constitute restitution, the intention and the policy underlying it are similar. Following the accidental pollution of the Mura River, Austria, in addition to paying monetary compensation for the damage caused to the fisheries and paper mills of the former Yugoslavia, delivered a certain quantity of paper to Yugoslavia.

604. In the *Amoco Cadiz* litigation, the Petroleum Insurance Limited (PIL), the subrogee of Royal Dutch Shell, sought to recover from the Amoco Oil Corporation for loss of cargo, claiming negligence and breach of contract. In October 1987, the Northern District Court of Illinois entered a judgement in favour of PIL in the sum of £11,212,349.50. The District Court had first computed the damages in dollars and converted the award in pounds since English law required the Court to use the money in which the "loss is felt". It converted in 1989 using the exchange rate prevailing in 1978, which proved prejudicial to PIL. On appeal, the United States Court of Appeal for the Seventh Circuit determined that the approach taken had not produced certainty. It also had not honoured the currency choice of the parties in which to transact business and bear risks, which was the dollar. "Having computed the loss in dollars, it should have entered judgement in dollars." Moreover, it had not adhered to the domestic norm of making the judgement creditor whole. The circuit court therefore reserved the district court's decision and instructed it to enter judgement in favour of PIC denominated in dollars.

3. Limitation on compensation

605. As in domestic law, State practice has provided for limitations on compensation, particularly in connection with activities which, although important to present-day civilization, can be injurious, as well as with activities capable of causing accidental but devastating injuries, such as those involving the use of nuclear materials. The provisions on limitation of compensation have been carefully designed to fulfil two objectives: (a) to protect industries from an unlimited liability that would paralyse them financially and discourage their future development; and (b) to ensure reasonable and fair compensation for those who suffer injuries as a result of those potentially dangerous activities.[755]

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[753] *The New York Times*, 12 April 1966, p. 28, col. 3.

[754] *International Herald Tribune*, 15 June 1982, p. 5, col. 2.

[755] The preamble to the 1957 International Convention relating to the Limitation of the Liability of Owners of Seagoing Ships clearly indicates the objectives of the Contracting Parties as:

> "Having recognized the desirability of determining by agreement certain uniform rules relating to the limitation of liability of owners of seagoing ships;
>
> "Having decided to conclude a Convention for this purpose ..."

Article 1 of the Convention only reiterates the preamble. Under article 1, paragraph 3, the limitation of liability of the seagoing ship will cease if it is proved that the injury was caused by the negligence of the shipowner or of persons for whose conduct he is responsible. The question upon whom lies the burden of proving whether there has been a fault is to be determined by the law of the forum.

606. The United States OPA provides for limitation of liability. However, limitation cannot be invoked if, under section 2704 (c) (1), the incident was proximately caused by:

"(A) The gross negligence or wilful misconduct of, or

(B) The violation of an applicable Federal safety, construction or operating regulation by,

the responsible party, an agent or employee of the responsible party, or a person acting pursuant to a contractual relationship with the responsible party."

607. Under section 2704 (c) (2) of OPA, the responsible party is not entitled to limit its liability if it "fails or refuses":

"(A) To report the incident as required by law and the responsible party knows or has reason to know of the incident;

(B) To provide all reasonable cooperation and assistance requested by a responsible official in connection with removal activities; or

(C) Without sufficient cause, to comply with an order issued under subsection (c) or (e) of section 1321 of this title or the Intervention on the High Seas Act."

608. The limitation of liability provided under section 2714 (a) of OPA may also be lost in accordance with section 2714 (c) by the wilful misconduct or violation of a safety regulation by an employee of the responsible party or by an independent contractor performing services for the responsible party.

609. The United States CERCLA contains, in section 9607 (c) (1), provisions on limitation of liability. The subsection also authorizes the imposition of *punitive damages* if a liable person fails without sufficient cause properly to provide removal or remedial action upon order of the President in an amount at least equal to and not more than three times the amount of costs incurred as a result of the failure to take proper action. As in OPA, the right to limit liability is lost if the defendant fails to cooperate or provide assistance to public officials.

610. Section 15 of the 1990 German ELA also provides for limitations of liability.

(a) Treaty practice

611. The 1992 CLC provides for limitation of liability. Since the amount of limitation in the earlier 1969 CLC was viewed as too low, it was amended by the 1984 Protocol to increase the maximum amount of compensation available in case of oil pollution and was intended to attract some States in particular the United States to join the Protocol. Article 6 of the 1984 Protocol amended paragraph 2 of article V of the 1969 CLC by providing that:

"The owner shall not be entitled to limit his liability under this Convention if it is proved that the pollution damage resulted from *his personal act or omission, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result*."[756]

[756] Emphasis added.

612. However, in March 1989, when the *Exxon Valdez* ran aground in Prince William Sound, Alaska, there was a strong public reaction. This led to a decision by the United States Congress to reject the Protocol and to enact the Oil Pollution Act of 1990, which introduced limits on liability substantially higher than the 1984 Protocol and provided unlimited liability in more circumstances than the earlier instrument, such as in situations of gross negligence, wilful misconduct and violations of applicable federal regulations.[757] The 1984 Protocol never entered into force and the limits situation was not improved by the 1992 CLC. That Convention increased the aggregate amount per incident and retained in paragraph 2 of article V a provision such as the one cited above. The limits established by the 1992 CLC, however, appear meagre in view of the fact that the total clean-up costs of *Exxon Valdez* alone were estimated at US$ 2.5 billion. The 2003 Protocol to the Fund Convention, which provides a third tier supplementary regime, is intended to "maintain the viability of the international oil pollution liability and compensation system". It was recognized that the maximum afforded by the 1992 Fund Convention "might be insufficient to meet compensation needs in certain circumstances in some Contracting States to that Convention".

613. Both HNS and CRTD contain limits on liability. In the case of the HNS, the owner shall not be entitled to limit liability if it is proved that the damage resulted from the personal act or omission of the owner. Such act or omission should be with the intent to cause damage, or recklessly and with the knowledge that such damage would probably result.[758] With CRTD, limitation of liability is not applicable if, under article 10 of the Convention, "it is proved that the damage resulted from his personal act or omission or an act or omission of his servants or agents, committed with the intent to cause such damage or recklessly and with knowledge that such damage would probably result, provided that, in the case of such act or omission of a servant or agent, it is also proved that he was acting within the scope of his employment."

614. Article 9, paragraph 3, and article 13 of HNS require the owner to constitute a fund for the total sum representing the limit of liability and to carry compulsory insurance. Article 13 of CRTD also requires compulsory insurance from the carrier which should be equivalent to the maximum amount of liability.[759] Article 14 provides that every State party shall designate one or several competent authorities to issue or approve certificates attesting that the carrier has valid insurance.

615. In the field of nuclear energy, article 7 of the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy limits the liability of the operator. It

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[757] Birnie and Boyle, p. 388.

[758] Article 9, para. 2.

[759] Article 13 of the Convention reads:

> "1. The carrier's liability shall be covered by insurance or other financial security, such as a bank guarantee, if the dangerous goods are carried in the territory of a State Party.
>
> "2. The insurance or other financial security shall cover the entire period of the carrier's liability under this Convention in the sums fixed by applying the limits of liability prescribed in article 9 and shall cover the liability of the person named in the certificate as carrier or, if that person is not the carrier as defined in article 1, paragraph 8, of such person as does incur liability under this Convention.
>
> "3. Any sums provided by insurance or by other financial security maintained in accordance with paragraph 1 of this article shall be available only for the satisfaction of claims under this Convention."

also provides that the aggregate of compensation required to be paid in respect of damage caused by a nuclear incident shall not exceed the maximum liability established in accordance with the article.[760] Article 7 of the 2004 Paris Convention requires each Contracting State to provide under its legislation a liability minimum of not less than 700 million euro per incident. Moreover, the minimum liability for low-risk installations and transport activities is enhanced to 70 million euro and 80 million euro respectively. The 1963 and 1997 Vienna Conventions also provide for limited liability. The liability of an individual under both Conventions is not affected by an act or omission done with intent to cause damage.[761]

616. The Basel Protocol establishes liability based on a strict liability regime and on fault. Insurance and other financial guarantees are compulsory in respect of the former. Fault liability is imputed to any person who caused or contributed to damage by his lack of compliance with the implementation provisions of the Basel Convention or by his wrongful, intentional, reckless or negligent acts or omissions.

617. The 2003 Kiev Protocol also establishes liability on the basis of strict liability and fault liability. Financial limits apply to the former and not to the latter.[762]

618. The liability of the operator is also limited under article 6 of the Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources. Under paragraph 4, the operator will not be entitled to limit his liability if it is proved that the pollution damage occurred as a result of an act or omission of the operator himself, done deliberately with actual knowledge that pollution damage will result. Two elements are thus required to remove the limitation on liability: (a) an act or omission of the operator, and (b) actual knowledge that pollution damage will result. Hence the negligence of the operator does not, under this Convention, remove the limitation on liability.

619. The original draft of the Lugano Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment contained a provision on limitation of liability. The provision was deleted in the final draft.

620. Under the 1952 Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface, if the total amount of claims established exceeds the limit of liability, they shall be reduced in proportion to their respective amounts in respect of claims exclusively for loss of life or personal injury or exclusively for damage to property. But if the claims concern both loss of life or personal injury and damage to property, one half of the total sum shall be allocated preferentially for loss of life or personal injury. The remainder shall be distributed proportionately among the claims in respect of damage to property and the portion not already covered of the claims in respect of loss of life and personal injury.[763]

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[760] Article 7 (a) of the Convention defines the minimum and maximum amounts of compensation:

> "(a) The aggregate of compensation required to be paid in respect of damage caused by a nuclear incident shall not exceed the maximum liability established in accordance with this article."

[761] Article IV (7) of the 1997 Vienna Convention and article IV (7) (a) of the 1963 Vienna Convention.

[762] Article 9.

[763] Article 14 of the Convention reads:

> "If the total amount of the claims established exceeds the limit of liability applicable under the provisions of this Convention, the following rules shall apply, taking into account the provisions of paragraph 2 of article 11:

621. The 1966 Additional Convention to CIV provides for limitation of liability. However, if the damage is caused by the wilful misconduct or gross negligence of the railway, the limitation of liability is removed.[764]

622. Article 10 of the Convention nullifies any agreement between passengers and the railway in which the liability of the railway is precluded or has been limited to a lower amount than that provided for in the Convention.[765]

(b) Judicial decisions and State practice outside treaties

623. Judicial decisions and official correspondence reveal no limitation on compensation other than that agreed upon in treaties or specified in national legislation. Some references have been made to equitable, fair and adequate compensation. By a broad interpretation, limitation on compensation may sometimes be compatible with equitable and fair compensation.

(a) If the claims are exclusively in respect of loss of life or personal injury or exclusively in respect of damage to property, such claims shall be reduced in proportion to their respective amounts.

(b) If the claims are both in respect of loss of life or personal injury and in respect of damage to property, one half of the total sum distributable shall be appropriated preferentially to meet claims in respect of loss of life and personal injury and, if insufficient, shall be distributed proportionately between the claims concerned. The remainder of the total sum distributable shall be distributed proportionately among the claims in respect of damage to property and the portion not already covered of the claims in respect of loss of life and personal injury."

[764] Articles 7 and 8 read:

"*Article 7. Limit of damages in case of damage to or loss of articles*

"When, under the provisions of this Convention, the railway is liable to pay damages for damage to, or for total or partial loss of any articles which the passenger who has sustained an accident had either on him or with him as hand luggage, including any animals which he had with him, compensation for the damage may be claimed up to the sum of 2,000 francs per passenger."

"*Article 8. Amount of damages in case of wilful misconduct or gross negligence*

"The provisions of articles 6 and 7 of this Convention or those of the national law which limit compensation to a fixed amount shall not apply if the damage results from wilful misconduct or gross negligence of the railway."

[765] Articles 10 and 12 read:

"Any terms or conditions of carriage or special agreements concluded between the railway and the passenger which purport to exempt the railway in advance, either totally or partially, from liability under this Convention, or which have the effect of reversing the burden of proof resting on the railway, or which provide for limits lower than those laid down in article 6 (2) and article 7, shall be null and void. Such nullity shall not, however, avoid the contract of carriage, which shall remain subject to the provisions of CIV and this Convention.

"*Article 12. Bringing of actions not within the provisions of this Convention*

"No action of any kind shall be brought against a railway in respect of its liability under article 2 (1) of this Convention, except subject to the conditions and limitations laid down in this Convention. The same shall apply to any action brought against persons for whom the railway is liable under article 11."

B. Authorities competent to award compensation

624. Article 33, paragraph 1, of the Charter of the United Nations provides for a wide choice of peaceful modes of dispute settlement, from the most informal to the most formal:

> "1. The parties to any dispute, the continuance of which is likely to endanger the maintenance of international peace and security, shall, first of all, seek a solution by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice."

625. State practice reveals that these modes of settlement of disputes have been utilized to resolve questions of liability and compensation relating to acts with extraterritorial injurious consequences. International courts, arbitral tribunals, joint commissions as well as domestic courts have decided on those questions. Generally, on the basis of prior agreements among States, the Permanent Court of International Justice, the International Court of Justice and arbitral tribunals have dealt with disputes relating to the utilization of and activities on the continental shelf, in the territorial sea, etc. When there have been ongoing activities, usually among neighbouring States, such as the use of shared waters, for which there are established institutions constituted by States, claims arising from these activities have normally been referred to the joint institution or commission concerned. Domestic courts have been used on issues involving civil liability and in particular the liability of the operator.

1. Local courts and authorities

(a) Treaty practice

626. A number of multilateral agreements designate local courts and authorities as competent to decide on questions of liability and compensation. With regard to activities, primarily of a commercial nature, in which the actors are private entities and the primary liability is that of the operator, local courts have been recognized as appropriate decision makers. This is typical of the civil liability conventions.

627. Under the 1992 CLC, only the courts of the Contracting State or States in whose territory, including the territorial sea, the exclusive economic zone or an area beyond and adjacent to the territorial sea not extending more than 200 nautical miles, the pollution damage has occurred, or preventive measures have been taken to prevent or minimize damage, are to entertain claims for compensation. Thus, each Contracting State has to ensure that its courts possess the necessary jurisdiction. Once a fund has been established in accordance with the requirements of article V of the Convention, the courts of the State where the fund is established have *exclusive* jurisdiction to decide on all matters relating to its apportionment and distribution.[766]

628. Under article XI of the Convention, the domestic courts also have jurisdiction in respect of ships owned by a Contracting State and used for commercial purposes.

[766] Article IX. Article IX of the 1969 CLC had a similar provision, except that the jurisdiction *ratione materiae* did not extend to the EEZ and its equivalent.

629. Similarly, the 1992 Fund Convention provides that the domestic courts of the Contracting States are competent to decide on actions against the Fund, and that the Contracting States must endow their courts with the necessary jurisdiction to entertain such actions. The Fund is not bound by a judgement or decision in proceedings to which it has not been party or by any settlement to which it is not a party. However, in a case where the Fund is notified in such a manner as to be able to effectively intervene as a party in the proceedings, the Fund may be bound by a judgement rendered to the extent that it may not dispute the facts and findings of such judgement.[767]

630. Under the 2003 Protocol to the Fund Convention, actions shall be brought against the owner of a ship before a court competent under article IX of the 1992 CLC, which shall have "*exclusive jurisdictional competence over any action against the Supplementary Fund*" (emphasis added).[768] In addition, the court where the Supplementary Fund is Headquartered or the court of a Contracting State to the Protocol would have competence.[769]

631. The provisions of the 2001 Bunker Oil Convention are similar to article IX of the 1992 CLC. Since it does not have a fund, it does not have a corresponding provision concerning jurisdiction in respect of the fund.[770] Like the 1992 CLC, the 1996 HNS, pursuant to its article 38, also confers jurisdiction on the courts of the

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[767] Article 7. Article 7 of the 1971 Fund Convention had a substantially similar provision.

[768] Article 7.

"1. The provisions of article 7, paragraphs 1, 2, 4, 5 and 6 of the 1992 Fund Convention shall apply to actions for compensation brought against the Supplementary Fund in accordance with article 4, paragraph 1, of this Protocol."

[769] Article 7.

"2. Where an action for compensation for pollution damage has been brought before a court competent under article IX of the 1992 Liability Convention against the owner of a ship or his guarantor, such court shall have exclusive jurisdictional competence over any action against the Supplementary Fund for compensation under the provisions of article 4 of this Protocol in respect of the same damage. However, where an action for compensation for pollution damage under the 1992 Liability Convention has been brought before a court in a Contracting State to the 1992 Liability Convention but not to this Protocol, any action against the Supplementary Fund under article 4 of this Protocol shall at the option of the claimant be brought either before a court of the State where the Supplementary Fund has its headquarters or before any court of a Contracting State to this Protocol competent under article IX of the 1992 Liability Convention.

"3. Notwithstanding paragraph 1, where an action for compensation for pollution damage against the 1992 Fund has been brought before a court in a Contracting State to the 1992 Fund Convention but not to this Protocol, any related action against the Supplementary Fund shall, at the option of the claimant, be brought either before a court of the State where the Supplementary Fund has its headquarters or before any court for a Contracting State competent under paragraph 1."

[770] Article 9 provides:

"1. Where an incident has caused pollution damage in the territory, including the territorial sea, or in an area referred to in article 2(a)(ii) of one or more States Parties, or preventive measures have been taken to prevent or minimize pollution damage in such territory, including the territorial sea, or in such area, actions for compensation against the shipowner, insurer or other person providing security for the shipowner's liability may be brought only in the courts of any such States Parties.

"2. Reasonable notice of any action taken under paragraph 1 shall be given to each defendant.

"3. Each State Party shall ensure that its courts have jurisdiction to entertain actions for compensation under this Convention."

territory in which the incident has occurred or where preventive measures have been taken. Where the incident has occurred exclusively outside the territory of any State, jurisdiction is also established on the basis of the State of registration, or of the flag State for unregistered ships, as well as on the basis of the habitual residence or principal place of business of the owner.[771] An action against the HNS Fund or taken by the HNS Fund shall be brought only before a court having jurisdiction under article 38 in respect of actions against the owner who is liable for damage caused by the relevant incident or before a court in a State party which would have been competent if an owner had been liable.[772]

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[771] Article 38:

"1. Where an incident has caused damage in the territory, including the territorial sea or in an area referred to in article 3(b), of one or more States Parties, or preventive measures have been taken to prevent or minimize damage in such territory including the territorial sea or in such area, actions for compensation may be brought against the owner or other person providing financial security for the owner's liability only in the courts of any such States Parties.

"2. Where an incident has caused damage exclusively outside the territory, including the territorial sea, of any State and either the conditions for application of this Convention set out in article 3(c) have been fulfilled or preventive measures to prevent or minimize such damage have been taken, actions for compensation may be brought against the owner or other person providing financial security for the owner's liability only in the courts of:

(a) The State Party where the ship is registered or, in the case of an unregistered ship, the State Party whose flag the ship is entitled to fly; or

(b) The State Party where the owner has habitual residence or where the principal place of business of the owner is established; or

(c) The State Party where a fund has been constituted in accordance with article 9, paragraph 3.

"3. Reasonable notice of any action taken under paragraph 1 or 2 shall be given to the defendant.

"4. Each State Party shall ensure that its courts have jurisdiction to entertain actions for compensation under this Convention.

"5. After a fund under article 9 has been constituted by the owner or by the insurer or other person providing financial security in accordance with article 12, the courts of the State in which such fund is constituted shall have exclusive jurisdiction to determine all matters relating to the apportionment and distribution of the fund."

[772] Article 39:

"1. Subject to the subsequent provisions of this article, any action against the HNS Fund for compensation under article 14 shall be brought only before a court having jurisdiction under article 38 in respect of actions against the owner who is liable for damage caused by the relevant incident or before a court in a State Party which would have been competent if an owner had been liable.

"2. In the event that the ship carrying the hazardous or noxious substances which caused the damage has not been identified, the provisions of article 38, paragraph 1, shall apply mutatis mutandis to actions against the HNS Fund.

"3. Each State Party shall ensure that its courts have jurisdiction to entertain such actions against the HNS Fund as are referred to in paragraph 1.

"4. Where an action for compensation for damage has been brought before a court against the owner or the owner's guarantor, such court shall have exclusive jurisdiction over any action against the HNS Fund for compensation under the provisions of article 14 in respect of the same damage.

"5. Each State Party shall ensure that the HNS Fund shall have the right to intervene as a party to any legal proceedings instituted in accordance with this Convention before a competent court of that State against the owner or the owner's guarantor.

"6. Except as otherwise provided in paragraph 7, the HNS Fund shall not be bound by any judgement or decision in proceedings to which it has not been a party or by any settlement to which it is not a party.

632. Under article 19 of the CRTD, actions for compensation may only be brought in the courts of any State party "(a) where the damage was sustained as a result of the incident; or (b) where the incident occurred; or (c) where preventive measures were taken to prevent or minimize damage; or (d) where the carrier has his habitual residence". Each Contracting State is also required to ensure that its courts possess the necessary jurisdiction to entertain such actions for compensation.

633. In the nuclear field, the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy confers jurisdiction over actions concerning the liability of the operator *only* on the courts of the Contracting State in whose territory the nuclear incident occurred or, in cases where the incident occurs outside the territory of the Contracting States or the place of the nuclear incident cannot be determined with certainty, on those of the Contracting State in whose territory the nuclear installation is located. When the nuclear incident has occurred during transportation, jurisdiction lies, unless otherwise provided, with the courts of the Contracting State in whose territory the nuclear substances involved were at the time of the incident. Article 13 of the Convention indicates in detail how jurisdiction is divided among the *domestic* courts of the Contracting Parties, according to the place of occurrence of the nuclear incident.[773] The 2004 Paris Convention also provides that jurisdiction shall only lie with the courts of the Contracting Party in whose territory the nuclear incident occurred.[774]

634. Similarly, the 1997 Vienna Convention provides, in article XI, that jurisdiction in respect of the liability of the operator lies with the domestic courts of the Contracting Party in whose territory the nuclear incident occurred.[775]

635. Article XI also confers jurisdiction only on courts of that Contracting Party if a nuclear incident occurs within the area of the exclusive economic zone or its equivalent for actions concerning nuclear damage occurring in such areas. The Contracting State is required to notify the depositary of such area prior to the occurrence of a nuclear incident. The extension to the exclusive economic zone or its equivalent was introduced by the 1997 Protocol.[776]

"7. Without prejudice to the provisions of paragraph 5, where an action under this Convention for compensation for damage has been brought against an owner or the owner's guarantor before a competent court in a State Party, each party to the proceedings shall be entitled under the national law of that State to notify the HNS Fund of the proceedings. Where such notification has been made in accordance with the formalities required by the law of the court seized and in such time and in such a manner that the HNS Fund has in fact been in a position effectively to intervene as a party to the proceedings, any judgement rendered by the court in such proceedings shall, after it has become final and enforceable in the State where the judgement was given, become binding upon the HNS Fund in the sense that the facts and findings in that judgement may not be disputed by the HNS Fund even if the HNS Fund has not actually intervened in the proceedings."

[773] Annex II to the Convention provides that it should not be interpreted as depriving a Contracting Party, on whose territory damage was caused by a nuclear incident occurring on the territory of another Contracting Party, of any recourse which might be available to it under international law.

[774] Article 13 (a).

[775] See also article IX of the 1963 Vienna Convention.

[776] Article 12, para. 1 bis, of the Protocol.

636. If the incident occurred outside the territory of any Contracting Party, or outside the exclusive economic zone or its equivalent, or if the place of the incident cannot be determined with certainty, the courts of the installation State of the operator liable have jurisdiction.

637. If in the circumstances jurisdiction would still lie with the courts of more than one Contracting Party, under the terms of paragraph 3 of article XI, jurisdiction shall be determined as follows:

> "(a) If the nuclear incident occurred partly outside the territory of any Contracting Party, and partly within the territory of a single Contracting Party, the courts of that single contracting Party will have jurisdiction; and
>
> (b) In any other case, jurisdiction will lie with the courts of that Contracting Party which is determined by agreement between the Contracting Parties whose courts would be competent under article XI."

638. The Contracting Party whose courts have jurisdiction shall also ensure that only one of its courts shall have jurisdiction in relation to any one nuclear incident.[777] This provision was also introduced by the 1997 Protocol.[778] Article 13 of the 2004 Paris Convention has largely similar provisions.[779]

639. The 1997 Supplementary Compensation also confers jurisdiction over actions concerning nuclear damage from a nuclear incident to courts of the Contracting Party within which the nuclear incident has occurred.[780] Moreover, under article XIII, paragraph 2:

> "2. Where a nuclear incident occurs within the area of the exclusive economic zone of a Contracting Party or, if such a zone has not been established, in an area not exceeding the limits of an exclusive economic zone, were one to be established by that Party, jurisdiction over actions concerning nuclear damage from that nuclear incident shall, for the purposes of this Convention, lie only with the courts of that Party. The preceding sentence shall apply if that Contracting Party has notified the Depositary of such area prior to the nuclear incident. Nothing in this paragraph shall be interpreted as permitting the exercise of jurisdiction in a manner which is contrary to the international law of the sea, including the United Nations Convention on the Law of the Sea. However, if the exercise of such jurisdiction is inconsistent with the obligations of that Party under article XI of the Vienna Convention or article 13 of the Paris Convention in relation to a State not Party to this Convention, jurisdiction shall be determined according to those provisions."

640. Where the incident occurs outside the territory of any Contracting Party, or outside the exclusive economic zone or its equivalent, or where the place of the incident cannot be determined with certainty, the courts of the installation State have jurisdiction.[781]

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[777] Article XI, para. 4.
[778] Article 12, para. 4, of the Protocol.
[779] Article 13 (b)-(f).
[780] Article XIII, para. 1, of the Supplementary Convention.
[781] Ibid., para. 3.

641. In cases where jurisdiction will lie with the courts of more than one Contracting Party, such Contracting Parties shall determine which Contracting Party's courts shall have jurisdiction.[782]

642. Under article X of the 1962 Convention on the Liability of Operators of Nuclear Ships, the claimant has the option to bring an action for compensation either before the courts of the licensing State or before the courts of the Contracting State or States in whose territory nuclear damage has been sustained.

643. Under article 17 of the Basel Protocol, claims for compensation may be brought in the courts of a Contracting Party only where the damage was suffered, or where the incident occurred; or where the defendant has his habitual residence or has his principal place of business. Each Contracting Party shall ensure that its courts possess the necessary jurisdiction to entertain such claims for compensation. The 2003 Kiev Protocol has a substantially similar provision:

> "1. Claims for compensation under the Protocol may be brought in the courts of a Party only where:
>
> (a) The damage was suffered;
>
> (b) The industrial accident occurred; or
>
> (c) The defendant has his or her habitual residence, or, if the defendant is a company or other legal person or an association of natural or legal persons, where it has its principal place of business, its statutory seat or central administration.
>
> "2. Each Party shall ensure that its courts possess the necessary competence to entertain such claims for compensation."[783]

644. The Additional Convention to CIV provides that, unless otherwise agreed upon by States, or stipulated in the licence of the railway, the domestic courts of the State in whose territory the accident to the passenger occurs are competent to entertain actions for compensation. Article 15 of the Convention reads:

> "Actions brought under this Convention may only be instituted in the competent court of the State on whose territory the accident to the passenger occurred, unless otherwise provided in agreements between States, or in any licence or other document authorizing the operation of the railway concerned."

645. Under article 19 of the Lugano Convention, actions for compensation may be brought only within a state Party at the court of the place: "(a) where the damage was suffered; or (b) where the dangerous activity was conducted; or (c) where the defendant has his habitual residence". In accordance with its article 21, when proceedings involving the same course of action and between the same parties are brought in the courts of different States parties, any court other than the court first seized shall, of its own motion, stay its proceedings until the jurisdiction of the court first seized is established, and when such jurisdiction is established, other courts shall decline jurisdiction. In addition to providing for the bases of jurisdiction, the Lugano Convention contemplates access to information held by bodies with public responsibilities for the environment,[784] access to specific

[782] Ibid., para. 4.
[783] Article 13.
[784] Article 15.

information held by operators[785] and requests by associations or foundations which aim to protect the environment.[786] In accordance with article 19:

"…

"2. Requests for access to specific information held by operators under article 16, paragraphs 1 and 2, may only be submitted within a Party at the court of the place:

(a) Where the dangerous activity is conducted; or

(b) Where the operator who may be required to provide the information has his habitual residence.

"3. Requests by organizations under article 18, paragraph 1, subparagraph (a), may only be submitted within a Party at the court or, if internal law so provides, at a competent administrative authority of the place where the dangerous activity is or will be conducted.

"4. Requests by organizations under article 18, paragraph 1, subparagraphs (b), (c) and (d), may only be submitted within a Party at the court or, if internal law so provides, at a competent administrative authority:

(a) Of the place where the dangerous activity is or will be conducted;

(b) Of the place where the measures are to be taken."

646. The 2004 EU Directive on Environmental Liability contemplates that member States would designate an authority with responsibility to fulfil the duty under the Directive, and natural or legal persons, including non-governmental organizations shall have standing to submit requests for action to that authority. Decisions made by such authority are subject to review.[787]

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[785] Article 16.

[786] Article 18.

[787] See articles 11, 12 and 13.

Article 11 reads:

"*Competent authority*

"1. Member States shall designate the competent authority(ies) responsible for fulfilling the duties provided for in this Directive.

"2. The duty to establish which operator has caused the damage or the imminent threat of damage, to assess the significance of the damage and to determine which remedial measures should be taken with reference to Annex II shall rest with the competent authority. To that effect, the competent authority shall be entitled to require the relevant operator to carry out his own assessment and to supply any information and data necessary.

"3. Member States shall ensure that the competent authority may empower or require third parties to carry out the necessary preventive or remedial measures."

Article 12 reads:

"*Request for action*

"1. Natural or legal persons:

(a) Affected or likely to be affected by environmental damage, or

(b) Having a sufficient interest in environmental decision-making relating to the damage or, alternatively,

(c) Alleging the impairment of a right, where administrative procedural law of a Member State requires this as a precondition,

647. Under the 1974 Convention on the Protection of the Environment between Denmark, Finland, Norway and Sweden, the nuisance which an activity entails or may entail in the territory of another Contracting State is equated with a nuisance in the State where the activity is carried out. Thus any person who is or may be affected by such a nuisance may bring a claim before the court or administrative authority of that State for compensation. The rules on compensation must not be less favourable to the injured party than those in the State where the activity is carried out. Indeed, the Convention provides for *equal access* to the competent authorities and for *equal treatment* of the injured parties, whether local or foreign.[788]

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shall be entitled to submit to the competent authority any observations relating to instances of environmental damage or an imminent threat of such damage of which they are aware and shall be entitled to request the competent authority to take action under this Directive.

What constitutes a 'sufficient interest' and 'impairment of a right' shall be determined by the member States.

To this end, the interest of any non-governmental organization promoting environmental protection and meeting any requirements under national law shall be deemed sufficient for the purpose of subparagraph (b). Such organizations shall also be deemed to have rights capable of being impaired for the purpose of subparagraph (c).

"2. The request for action shall be accompanied by the relevant information and data supporting the observations submitted in relation to the environmental damage in question.

"3. Where the request for action and the accompanying observations show in a plausible manner that environmental damage exists, the competent authority shall consider any such observations and requests for action. In such circumstances the competent authority shall give the relevant operator an opportunity to make his views known with respect to the request for action and the accompanying observations.

"4. The competent authority shall, as soon as possible and in any case in accordance with the relevant provisions of national law, inform the persons referred to in paragraph 1, which submitted observations to the authority, of its decision to accede to or refuse the request for action and shall provide the reasons for it.

"5. Member States may decide not to apply paragraphs 1 and 4 to cases of imminent threat of damage".

Article 13 reads:

"*Review procedures*

"1. The persons referred to in article 12(1) shall have access to a court or other independent and impartial public body competent to review the procedural and substantive legality of the decisions, acts or failure to act of the competent authority under this Directive.

"2. This Directive shall be without prejudice to any provisions of national law which regulate access to justice and those which require that administrative review procedures be exhausted prior to recourse to judicial proceedings.

[788] The relevant articles of the Convention read:

"Article 2

"In considering the permissibility of environmentally harmful activities, the nuisance which such activities entail or may entail in another Contracting State shall be equated with a nuisance in the State where the activities are carried out.

"Article 3

"Any person who is affected or may be affected by a nuisance caused by environmentally harmful activities in another Contracting State shall have the right to bring before the appropriate court or administrative authority of that State the question of the permissibility of such activities, including the question of measures to prevent damage, and to appeal against the decision of the court or the administrative authority to the same extent and on the same terms as a legal entity of the State in which the activities are being carried out.

648. In accordance with article 232 of the 1982 United Nations Convention on the Law of the Sea, States are liable for damage or loss attributable to them arising from measures taken in accordance with section 6 of part XII, relating to the protection and preservation of the marine environment, when such measures are unlawful or exceed those reasonably required. Accordingly, States are required to endow their courts with appropriate jurisdiction to deal with actions brought in respect of such loss or damage.

(b) Judicial decisions and State practice outside treaties

649. The existing judicial decisions and official correspondence contain no indication concerning the competence of local courts and authorities to rule on questions of liability and compensation, except possibly on the distribution of lump sum payments. However, in the *Amoco Cadiz* litigation, although the suits were rooted in the failure of due diligence obligations, the court in the United States found that it had competence. This was despite the fact that the damage had occurred on the territorial waters of France. In the *Patmos* litigation and the *Haven* case, the Italian courts proceeded to adjudicate on matters that had a bearing on the application of the 1969 CLC/1971 Fund Convention regime.

2. International courts, arbitral tribunals and joint commissions

(a) Treaty practice

650. In the case of activities not exclusively of a commercial nature, in which the acting entities are primarily States, the competent organs for deciding on questions of liability and compensation are generally arbitral tribunals. The 1972 Convention on International Liability for Damage Caused by Space Objects provides that, if the parties fail to reach agreement through diplomatic negotiations, the question of compensation shall be submitted to arbitration. Accordingly a claims commission composed of three members, one appointed by the claimant State, one appointed by the launching State and a chairman, is to be established upon the request of either party.[789]

"The provisions of the first paragraph of this article shall be equally applicable in the case of proceedings concerning compensation for damage caused by environmentally harmful activities. The question of compensation shall not be judged by rules which are less favourable to the injured party than the rules of compensation of the State in which the activities are being carried out.

"Protocol

"…

"The right established in article 3 for anyone who suffers injury as a result of environmentally harmful activities in a neighbouring State to institute proceedings for compensation before a court or administrative authority of that State shall, in principle, be regarded as including the right to demand the purchase of his real property."

[789] The relevant articles of the Convention read:

"*Article VIII*

"1. A State which suffers damage, or whose natural or juridical persons suffer damage, may present to a launching State a claim for compensation for such damage.

"2. If the State of nationality has not presented a claim, another State may, in respect of damage sustained in its territory by any natural or juridical person, present a claim to a launching State.

651. In Part XV of the 1982 United Nations Convention on the Law of the Sea, the parties are encouraged and requested to settle their disputes by peaceful means. The Convention provides for a wide range of possible modes of settlement of disputes, as well as for an elaborate system according to which the competent organs for deciding a dispute, depending upon the nature of the dispute, are the International Tribunal for the Law of the Sea, the International Court of Justice, or an arbitral

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"3. If neither the State of nationality nor the State in whose territory the damage was sustained has presented a claim or notified its intention of presenting a claim, another State may, in respect of damage sustained by its permanent residents, present a claim to a launching State.

"*Article IX*

"A claim for compensation for damage shall be presented to a launching State through diplomatic channels. If a State does not maintain diplomatic relations with the launching State concerned, it may request another State to present its claim to that launching State or otherwise represent its interests under this Convention. It may also present its claim through the Secretary-General of the United Nations, provided the claimant State and the launching State are both Members of the United Nations.

"*Article XI*

"1. Presentation of a claim to a launching State for compensation for damage under this Convention shall not require the prior exhaustion of any local remedies which may be available to a claimant State or to natural or juridical persons it represents.

"2. Nothing in this Convention shall prevent a State, or natural or juridical persons it might represent, from pursuing a claim in the courts or administrative tribunals or agencies of a launching State. A State shall not, however, be entitled to present a claim under this Convention in respect of the same damage for which a claim is being pursued in the courts or administrative tribunals or agencies of a launching State or under another international agreement which is binding on the States concerned."

"*Article XIV*

"If no settlement of a claim is arrived at through diplomatic negotiations as provided for in article IX, within one year from the date on which the claimant State notifies the launching State that is has submitted the documentation of its claim, the parties concerned shall establish a Claims Commission at the request of either party.

"*Article XV*

"1. The Claims Commission shall be composed of three members: one appointed by the claimant State, one appointed by the launching State and the third member, the chairman, to be chosen by both parties jointly. Each party shall make its appointment within two months of the request for the establishment of the Claims Commission.

"2. If no agreement is reached on the choice of the chairman within four months of the request for the establishment of the Commission, either party may request the Secretary-General of the United Nations to appoint the chairman within a further period of two months.

"*Article XVI*

"1. If one of the parties does not make its appointment within the stipulated period, the chairman shall, at the request of the other party, constitute a single-member Claims Commission.

"2. Any vacancy which may arise in the Commission for whatever reason shall be filled by the same procedure adopted for the original appointment.

"3. The Commission shall determine its own procedure.

"4. The Commission shall determine the place or places where it shall sit and all other administrative matters.

"5. Except in the case of decisions and awards by a single-member Commission, all decisions and awards of the Commission shall be by majority vote."

"*Article XVIII*

"The Claims Commission shall decide the merits of the claim for compensation and determine the amount of compensation payable, if any."

tribunal. Articles 279 to 285 set out the modes of settlement compatible with Article 33 of the Charter of the United Nations.

652. The possibility of referring a dispute between persons claiming for damages to arbitration is not entirely restricted to State actors. The Kiev Protocol envisages claims for damages being submitted for a binding arbitration. Article 14 provides:

> "In the event of a dispute between persons claiming for damage pursuant to the Protocol and persons liable under the Protocol, and where agreed by both or all parties, the dispute may be submitted to final and binding arbitration in accordance with the Permanent Court of Arbitration Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment."

(b) Judicial decisions and State practice outside treaties

653. Most judicial decisions in this matter have been rendered by the Permanent Court of International Justice, by the International Court of Justice or by arbitral tribunals on the basis of an agreement between the parties or of a prior treaty obligation. At least one arbitral tribunal, that called upon to adjudicate in the *Trail Smelter* case, provided in its award for an arbitration mechanism in the event that the States parties were unable to agree on the modification or amendment of the regime proposed by one side.

3. Applicable law

(a) Treaty practice

654. The 1962 Convention on the Liability of Operators of Nuclear Ships provides in article VI for the application of *national laws* in respect of rights of beneficiaries in cases where insurance and related social security schemes include compensation for nuclear damage.[790]

655. Article VIII of the 1963 Vienna Convention stipulates that, subject to the provisions of the Convention, the nature, form and extent of the compensation, as well as the equitable distribution thereof, shall be governed by the law of the competent court. The 1997 Vienna Convention has a similar provision.[791] However, under the 1997 Convention priority in the distribution of compensation is afforded

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[790] Article VI of the Convention reads:

> "Where provisions of national health insurance, social insurance, social security, workmen's compensation or occupational disease compensation systems include compensation for nuclear damage, rights of beneficiaries under such systems and rights of subrogation or of recourse against the operator, by virtue of such systems, shall be determined by the law of the Contracting State having established such systems. However, if the law of such Contracting State allows claims of beneficiaries of such systems and such rights of subrogation and recourse to be brought against the operator in conformity with the terms of this Convention, this shall not result in the liability of the operator exceeding the amount specified in paragraph 1 of article III."

[791] Article VIII, para. 1, provides:

> "1. Subject to the provisions of this Convention, the nature, form and extent of the compensation, as well as the equitable distribution thereof, shall be governed by the law of the competent court."

to claims in respect of loss of life or personal injury.[792] The 1997 Supplementary Compensation Convention envisages the application of its annex, the Vienna Convention or the Paris Convention as well as the law of the competent court. Article XIV of the 1997 Supplementary Compensation Convention provides:

> "1. Either the Vienna Convention or the Paris Convention or the annex to this Convention,[793] as appropriate, shall apply to a nuclear incident to the exclusion of the others.
>
> "2. Subject to the provisions of this Convention, the Vienna Convention or the Paris Convention, as appropriate, the applicable law shall be the law of the competent court."

656. Under article I, paragraph (k), the law of the competent court means the law of the court having jurisdiction under the Convention, and includes any rules of such law relating to conflict of laws.

657. The 1960 and 2004 Paris Conventions also provide, in their article 11, that the nature, form and extent of the compensation, within the limits of the Convention, as well as the equitable distribution thereof, shall be governed by national law. Article 14, paragraph (b), of both Conventions define national law and national legislation. Article 14 paragraph (b), of the 2004 Paris Convention reads:

> "(*b*) "National law" and "national legislation" mean the law or the national legislation of the court having jurisdiction under this Convention over claims arising out of a nuclear incident, excluding the rules on conflict of laws relating to such claims. That law or legislation shall apply to all matters both substantive and procedural not specifically governed by this Convention."

658. The 1960 Paris Convention defines national law narrowly as national law and does not exclude expressly the application of conflict of laws rules:

> "(*b*) "National law" and "national legislation" mean the national law or the national legislation of the court having jurisdiction under this Convention over claims arising out of a nuclear incident, and that law or legislation shall apply to all matters both substantive and procedural not specifically governed by this Convention."

659. Article 19 of the Basel Protocol states that all matters of substance or procedure regarding claims brought before a competent court, which are not

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[792] See article 10 of the 1997 Protocol. Article VIII, para. 2, reads:

> "2. Subject to application of the rule of subparagraph (c) of paragraph 1 of article VI, where in respect of claims brought against the operator the damage to be compensated under this Convention exceeds, or is likely to exceed, the maximum amount made available pursuant to paragraph 1 of article V, priority in the distribution of the compensation shall be given to claims in respect of loss of life or personal injury."

[793] The annex is an integral part of the Convention. A Contracting Party which is not party to the Vienna Convention or the Paris Convention shall ensure that its national legislation is consistent with the provisions of the annex insofar as those provisions are not directly applicable within that Contracting Party. A Contracting Party having no nuclear installation on its territory is required to have only that legislation which is necessary to enable such Party to give effect to its obligations under the Convention.

specifically regulated in the Protocol shall be governed by the law of that court including any rules of such law regarding conflict of jurisdiction.[794]

660. The 2003 Kiev Protocol has a similar import.[795] However, the injured party may request that the law where the accident occurred should apply. Paragraph 2 of article 16 provides:

> "At the request of the person who has suffered the damage, all matters of substance regarding claims before the competent court shall be governed by the law of the Party where the industrial accident has occurred, as if the damage had been suffered in that Party."

661. The 1972 Convention on International Liability for Damage Caused by Space Objects regulates space activities controlled by States. It provides that international law and the principles of justice and equity are the applicable law in accordance

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[794] With respect to other conventions, the Additional Convention to CIV, which regulates an essentially commercial activity, provides in article 6, paragraph 2, for the application of *national law*.

Under article 5, paragraph 5, of the 1957 International Convention relating to the Limitation of the Liability of Owners of Seagoing Ships, claims for liability and compensation are to be brought before the appropriate national courts of the Contracting Parties. In addition the time limit within which such claims may be brought or prosecuted shall be decided in accordance with the *national law* of the Contracting State in which the claim is brought. The Convention further provides, in article 1, paragraph 6 that the *national law* shall determine the question upon whom lies the burden of proving whether or not the accident causing the injury resulted from a fault.

The Convention on the Law Applicable to Products Liability of 2 October 1973, which is intended to resolve the issue of jurisdiction and applicable law regarding litigations on products liability, provides in its article 4 for the application of the internal law of the State of the place of injury, if that State is also:

> "(a) The place of the habitual residence of the person directly suffering damage, or
>
> (b) The principal place of business of the person claimed to be liable, or
>
> (c) The place where the product was acquired by the person directly suffering damage."

Article 5 of the same Convention provides that, notwithstanding the provisions of article 4, the applicable law shall be the internal law of the State of the habitual residence of the person directly suffering damage, if that State is also:

> "(a) The principle place of business of the person claimed to be liable, or
>
> (b) The place where the product was acquired by the person directly suffering damage."

Under article 6 of the same Convention, where neither of the laws designated in articles 4 and 5 applies, the applicable law shall be the internal law of the State of the principal place of business of the person claimed to be liable, unless the claimant bases his claim upon the internal law of the State of the place of injury.

Under the 1976 Convention on Limitation of Liability of Maritime Claims, the law of the State Party in which the fund is constituted governs the rules relating to the constitution and distribution of a limitation fund, and all rules of procedure in connection with the fund.

[795] Article 16.

> "1. Subject to paragraph 2, all matters of substance or procedure regarding claims before the competent court which are not specifically regulated in the Protocol shall be governed by the law of that court, including any rules of such law relating to conflict of laws."

with which compensation and such reparation in respect of the damage as will restore the person, natural or juridical, shall be determined.[796]

662. Similarly, article 293 of the 1982 United Nations Convention on the Law of the Sea provides that a court (that is, the International Court of Justice or the International Tribunal for the Law of the Sea) or a tribunal having jurisdiction, in accordance with section 2 of part XV of the Convention, to rule in a dispute concerning the application or interpretation of the Convention shall apply the provisions of the Convention and other rules of international law not incompatible with the Convention. However, if the parties to a dispute so agree, the court or tribunal can adjudicate *ex aequo et bono*.

(b) Judicial decisions and State practice outside treaties

663. Under Article 38 of the Statute of the Permanent Court of International Justice as well as of the International Court of Justice, the function of the Court is to decide such disputes as are submitted to it in accordance with international law, the sources of which are:

"(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;

(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."

664. Under this Article, if the parties agree, the Court has the competence to decide their case *ex aequo et bono*. It is within this legal framework that international courts have adjudicated on issues of extraterritorial injuries and liability.

665. The decisions of arbitral tribunals have also been based on the treaty obligations of the contracting parties, on international law and occasionally on the domestic law of States. In the *Trail Smelter* case, the tribunal examined the decisions of the United States Supreme Court as well as other sources of law and reached the conclusion that "under the principles of international law, as well as the law 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".[797]

666. In their official correspondence, States have invoked international law and the general principles of law, as well as treaty obligations. Canada's claim for damages for the crash of the Soviet satellite Cosmos 954 was based on treaty obligations as well as the "general principles of law recognized by civilized nations". Regional

[796] Article XII of the Convention reads:

"The compensation which the launching State shall be liable to pay for damage under this Convention shall be determined in accordance with international law and the principles of justice and equity, in order to provide such reparation in respect of the damage as will restore the person, natural or juridical, State or international organization on whose behalf the claim is presented to the condition which would have existed if the damage had not occurred."

[797] United Nations, *Reports of the International Arbitral Awards*, vol. 3, p. 1965.

principles or standards of behaviour have also been considered relevant in relations between States. The principles accepted in Europe concerning the obligation of States whose activities may be injurious to their neighbours to negotiate with them were invoked by the Government of the Netherlands in 1973 when the Government of Belgium announced its intention to build a refinery near its frontier with the Netherlands. Similarly, in an official letter to Mexico concerning the protective measures taken by that country to prevent flooding, the Government of the United States referred to the "principle of international law" which obligates every State to respect the full sovereignty of other States.

667. In their decisions, domestic courts, in addition to citing domestic law, have referred to the applicability of international law, the principles of international comity, etc. For example, the German Constitutional Court, in rendering a provisional decision concerning the flow of the waters of the Danube in the *Donauversinkung* case (1927), raised the question of accountability, under international law, of acts of interference with the flow of the waters. It stated that "only considerable interference with the natural flow of international rivers can form the basis for claims under international law".[798] Again, in the *Roya* case (1939), the Italian Court of Cassation referred to international obligations. It stated that a State "cannot disregard the international duty ... not to impede or to destroy ... the opportunity of the other States to avail themselves of the flow of water for their own national needs".[799] Finally, in its judgement in the *United States v. Arjona* case (1887), the United States Supreme Court invoked the *law of nations,* which "requires every national Government to use 'due diligence' to prevent a wrong being done within its own dominion to another nation".[800]

V. Statute of limitations

668. In certain circumstances, the liability of the operator or of the State may be precluded. Some multilateral conventions provide for exoneration. The typical exoneration is that which results from prescription.

669. The 1962 Convention on the Liability of Operators of Nuclear Ships provides for a 10-year period of prescription from the date of the nuclear incident. The domestic law of the licensing State may provide for a longer period.[801]

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[798] *Württemberg and Prussia v. Baden* (The *Donauversinkung* case), German Staatsgerichtshof, 18 June 1927, reprinted in *Annual Digest and Reports of Public International Law Cases* (1927-28), p. 128.

[799] *Société Énergie Électrique du Littoral Méditerranéen v. Compagnia Impresse Elettriche Liguri*, Italy Court of Casation (United Sections), 13 February 1939, reprinted in *Annual Digest and Reports of International Law Cases* (1938-40), p. 1201.

[800] *US v. Arjona*, 120US 47, at p. 485 (1887).

[801] Article V of the Convention reads:

> "1. Rights of compensation under this Convention shall be extinguished if an action is not brought within 10 years from the date of the nuclear incident. If, however, under the law of the licensing State the liability of the operator is covered by insurance or other financial security or State indemnification for a period longer than 10 years, the applicable national law may provide that rights of compensation against the operator shall only be extinguished after a period which may be longer than 10 years but shall not be longer than the period for which his liability is so covered under the law of the licensing State. However, such extension of the extinction period shall in no case affect the right of

670. A 10-year period of prescription, which was provided for in the 1963 Vienna Convention on Civil Liability for Nuclear Damage,[802] was amended by the 1997

compensation under this Convention of any person who has brought an action for loss of life or personal injury against the operator before the expiry of the aforesaid period of 10 years.

"2. Where nuclear damage is caused by nuclear fuel, radioactive products or waste which were stolen, lost, jettisoned, or abandoned, the period established under paragraph 1 of this article shall be computed from the date of the nuclear incident causing the nuclear damage, but the period shall in no case exceed a period of 20 years from the date of the theft, loss, jettison or abandonment.

"3. The applicable national law may establish a period of extinction or prescription of not less than three years from the date on which the person who claims to have suffered nuclear damage had knowledge or ought reasonably to have had knowledge of the damage and of the person responsible for the damage, provided that the period established under paragraphs 1 and 2 of this article shall not be exceeded.

"4. Any person who claims to have suffered nuclear damage and who has brought an action for compensation within the period applicable under this article may amend his claim to take into account any aggravation of the damage, even after the expiry of that period, provided that final judgement has not been entered."

[802] Article VI of the Convention reads:

"1. Rights of compensation under this Convention shall be extinguished if an action is not brought within 10 years from the date of the nuclear incident. If, however, under the law of the Installation State, the liability of the operator is covered by insurance or other financial security or by State funds for a period longer than 10 years, the law of the competent court may provide that rights of compensation against the operator shall only be extinguished after a period which may be longer than 10 years, but shall not be longer than the period for which his liability is so covered under the law of the Installation State. Such extension of the extinction period shall in no case affect rights of compensation under this Convention of any person who has brought an action for loss of life or personal injury against the operator before the expiry of the aforesaid period of 10 years.

"2. Where nuclear damage is caused by a nuclear incident involving nuclear material which at the time of the nuclear incident was stolen, lost, jettisoned or abandoned, the period established pursuant to paragraph 1 of this article shall be computed from the date of that nuclear incident, but the period shall in no case exceed a period of 20 years from the date of the theft, loss, jettison or abandonment.

"3. The law of the competent court may establish a period of extinction or prescription of not less than three years from the date on which the person suffering nuclear damage had knowledge or should have had knowledge of the damage and of the operator liable for the damage, provided that the period established pursuant to paragraphs 1 and 2 of this article shall not be exceeded."

The same period of prescription is provided for in the 1960 Convention on Third Party Liability in the Field of Nuclear Energy. Articles 8 and 9 of the Convention read:

"*Article 8*

"(a) The right of compensation under this Convention shall be extinguished if an action is not brought within 10 years from the date of the nuclear incident. National legislation may, however, establish a period longer than 10 years if measures have been taken by the Contracting Party in whose territory the nuclear installation of the operator liable is situated to cover the liability of that operator in respect of any actions for compensation begun after the expiry of the period of 10 years and during such longer period: provided that such extension of the extinction period shall in no case affect the right of compensation under this Convention of any person who has brought an action in respect of loss of life or personal injury against the operator after the expiry of the period of 10 years.

"(b) In the case of damage caused by a nuclear incident involving nuclear fuel or radioactive products or waste which at the time of the incident have been stolen, lost, jettisoned or abandoned and have not yet been recovered, the period established pursuant

Protocol (1997 Vienna Convention), which introduced different periods for the different types of nuclear damage. Thus the 1997 Vienna Convention, in article VI, paragraph 1, provides:

"(a) Rights of compensation under this Convention shall be extinguished if an action is not brought within:

(i) With respect to loss of life and personal injury, thirty years from the date of the nuclear incident;

(ii) With respect to other damage, ten years from the date of the nuclear incident.

(b) If, however, under the law of the Installation State, the liability of the operator is covered by insurance or other financial security including State funds for a longer period, the law of the competent court may provide that rights of compensation against the operator shall only be extinguished after such a longer period which shall not exceed the period for which his liability is so covered under the law of the Installation State.

(c) Actions for compensation with respect to loss of life and personal injury or, pursuant to an extension under subparagraph (b) of this paragraph with respect to other damage, which are brought after a period of ten years from the date of the nuclear incident shall in no case affect the rights of

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to paragraph (a) of this article shall be computed from the date of that nuclear incident, but the period shall in no case exceed 20 years from the date of the theft, loss, jettison or abandonment.

"(c) National legislation may establish a period of not less than two years from the extinction of the right or as a period of limitation either from the date at which the person suffering damage has knowledge or from the date at which he ought reasonably to have known of both the damage and the operator liable: provided that the period established pursuant to paragraphs (a) and (b) of this article shall not be exceeded.

"(d) Where the provisions of article 13 (c) (ii) are applicable, the right of compensation shall not, however, be extinguished if, within the time provided for in paragraph (a) of this article:

(i) Prior to the determination by the Tribunal referred to in article 17, an action has been brought before any of the courts from which the Tribunal can choose; if the Tribunal determines that the competent court is a court other than that before which such action has already been brought, it may fix a date by which such action has to be brought before the competent court so determined; or

(ii) A request has been made to a Contracting Party concerned to initiate a determination by the Tribunal of the competent court pursuant to article 13 (c) (ii) and an action is brought subsequent to such determination within such time as may be fixed by the Tribunal.

"(e) Unless national law provides to the contrary, any person suffering damage caused by a nuclear incident who has brought an action for compensation within the period provided for in this article may amend his claim in respect of any aggravation of the damage after the expiry of such period provided that final judgement has not been entered by the competent court.

"*Article 9*

"The operator shall not be liable for damage caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war, insurrection or, except in so far as the legislation of the Contracting Party in whose territory his nuclear installation is situated may provide to the contrary, a grave natural disaster of an exceptional character."

compensation under this Convention of any person who has brought an action against the operator before the expiry of that period."

671. Rights of compensation under the Convention shall be subject to prescription or extinction, as provided by the law of the competent court, if an action is not brought within three years from the date on which the person suffering damage had knowledge or ought reasonably to have had knowledge of the damage and of the operator liable for the damage.[803]

672. The 2004 Paris Convention largely follows the provisions of the 1997 Vienna Convention. A 10-year period after which an action would be extinguished, as provided for in the 1960 Paris Convention, is now replaced by a 30-year period for loss of life and personal injury and 10 years for other nuclear damage. National law may establish longer periods without prejudice to the rights of third parties.[804]

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[803] Article VI, para. 1, reads:

"3. Rights of compensation under the Convention shall be subject to prescription or extinction, as provided by the law of the competent court, if an action is not brought within three years from the date on which the person suffering damage had knowledge or ought reasonably to have had knowledge of the damage and of the operator liable for the damage, provided that the periods established pursuant to subparagraphs (a) and (b) of paragraph 1 of this Article shall not be exceeded".

See also paragraphs 4 and 5, which provide other forms of relief:

"4. Unless the law of the competent court otherwise provides, any person who claims to have suffered nuclear damage and who has brought an action for compensation within the period applicable pursuant to this Article may amend his claim to take into account any aggravation of the damage, even after the expiry of that period, provided that final judgement has not been entered.

"5. Where jurisdiction is to be determined pursuant to subparagraph (b) of paragraph 3 of Article XI and a request has been made within the period applicable pursuant to this Article to any one of the Contracting Parties empowered so to determine, but the time remaining after such determination is less than six months, the period within which an action may be brought shall be six months, reckoned from the date of such determination."

[804] Article 8 of the 2004 Paris Convention reads:

"(a) The right of compensation under this Convention shall be subject to prescription or extinction if an action is not brought:

(i) With respect to loss of life and personal injury, within thirty years from the date of the nuclear incident;

(ii) With respect to other nuclear damage, within ten years from the date of the nuclear incident.

(b) National legislation may, however, establish a period longer than that set out in subparagraph (i) or (ii) of paragraph (a) of this article, if measures have been taken by the Contracting Party within whose territory the nuclear installation of the operator liable is situated to cover the liability of that operator in respect of any actions for compensation begun after the expiry of the period set out in subparagraph (i) or (ii) of paragraph (a) of this article and during such longer period.

(c) If, however, a longer period is established in accordance with paragraph (b) of this article, an action for compensation brought within such period shall in no case affect the right of compensation under this Convention of any person who has brought an action against the operator:

(i) Within a thirty-year period in respect of personal injury or loss of life;

(ii) Within a ten-year period in respect of all other nuclear damage.

(d) National legislation may establish a period of not less than three years for the prescription or extinction of rights of compensation under the Convention, determined from the date at which the person suffering nuclear damage had knowledge, or from the

673. Pursuant to article VIII of the 1992 CLC, rights of compensation shall be extinguished unless an action is brought thereunder within three years from the date when the damage occurred. However, in no case shall an action be brought after six years from the date of the incident which caused the damage. Where this incident consists of a series of occurrences, the six-year period shall run from the date of the first such occurrence. Under article 6 of the 1992 Fund Convention similar periods are provided.

674. Article 8 of the 2001 Bunker Oil Convention contains a provision similar to that of article VIII of the 1992 CLC.[805]

675. Under article 37 of the 1996 HNS Convention, the rights to compensation under chapter II concerning liability of the owner shall be extinguished unless an action is brought thereunder within three years from the date when the person suffering the damage knew or ought reasonably to have known of the damage and of the identity of the owner. A similar period applies in respect of rights to compensation under chapter III concerning the HNS Fund. In no case, however, shall an action be brought later than 10 years from the date of the incident which caused the damage. Where the incident consists of a series of occurrences, the ten-year period begins to run from the date of the last of such occurrences.

676. Under article 18 of the CRTD, the claimant must bring a claim against the carrier or its guarantor within three years from the date at which the person suffering the damage knew or ought reasonably to have known of the damage and of the identity of the carrier. This period may be extended, if the parties so agree, after the incident. However, in no case shall an action be brought after 10 years from the date of the incident which caused the damage. Where the incident consists of a

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date at which that person ought reasonably to have known of both the nuclear damage and the operator liable, provided that the periods established pursuant to paragraphs (a) and (b) of this article shall not be exceeded.

(e) Where the provisions of article 13 (f) (ii) are applicable, the right of compensation shall not, however, be subject to prescription or extinction if, within the time provided for in paragraphs (a), (b) and (d) of this article,

(i) Prior to the determination by the Tribunal referred to in article 17, an action has been brought before any of the courts from which the Tribunal can choose; if the Tribunal determines that the competent court is a court other than that before which such action has already been brought, it may fix a date by which such action has to be brought before the competent court so determined; or

(ii) A request has been made to a Contracting Party concerned to initiate a determination by the Tribunal of the competent court pursuant to article 13 (f) (ii) and an action is brought subsequent to such determination within such time as may be fixed by the Tribunal.

(f) Unless national law provides to the contrary, any person suffering nuclear damage caused by a nuclear incident who has brought an action for compensation within the period provided for in this article may amend his claim in respect of any aggravation of the nuclear damage after the expiry of such period, provided that final judgement has not been entered by the competent court."

[805] Article 8 reads:

"Rights to compensation under this Convention shall be extinguished unless an action is brought thereunder within three years from the date when the damage occurred. However, in no case shall an action be brought more than six years from the date of the incident which caused the damage. Where the incident consists of a series of occurrences, the six-years' period shall run from the date of the first such occurrence."

series of occurrences, the periods begin to run from the date of the last of such occurrences.

677. Article 17 of the Lugano Convention provides a limitation of three years from the date on which the claimant knew or ought reasonably to have known of the damage and of the identity of the operator. However, in no case shall actions be brought after 30 years from the date of the incident which caused the damage. Where the incident consists of a series of occurrences, the 30 years shall run from the date of the last of such occurrences. In respect of a site for the permanent deposit of waste, the 30 years shall, at the latest, run from the date on which the site was closed in accordance with the internal law.

678. The 2004 EU Directive does not apply to damage if more than 30 years have passed since the emission, event or incident resulting in the damage occurred. Cost recovery proceedings shall be initiated against the operator, or a third party as appropriate, within five years from the date on which such measures have been completed or the liable operator, or third party, has been identified, whichever is the later.[806]

679. Articles 16 and 17 of the Additional Convention to CIV provide for a period of time after which a right of action will be extinguished. [807]

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[806] Article 17 and Article 10. See also Article 19.

Article 10 reads:

"*Limitation period for recovery of costs*

The competent authority shall be entitled to initiate cost recovery proceedings against the operator, or if appropriate, a third party who has caused the damage or the imminent threat of damage in relation to any measures taken in pursuance of this Directive within five years from the date on which those measures have been completed or the liable operator, or third party, has been identified, whichever is the later."

Article 17 reads:

"*Temporal application*

This Directive shall not apply to:

– Damage caused by an emission, event or incident that took place before the date referred to in article 19 (1),
– Damage caused by an emission, event or incident which takes place subsequent to the date referred to in article 19 (1) when it derives from a specific activity that took place and finished before the said date,
– Damage, if more than 30 years have passed since the emission, event or incident, resulting in the damage occurred."

Article 19 reads:

"Implementation

"1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 30 April 2007. They shall forthwith inform the Commission thereof.

"When member States adopt those measures, they shall contain a reference to this Directive or shall be accompanied by such a reference on the occasion of their official publication. The methods of making such reference shall be laid down by member States.

"2. Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive together with a table showing how the provisions of this Directive correspond to the national provisions adopted."

[807] Articles 16 and 17 read:

"*Article 16. Extinction of rights of action*

"1. A claimant shall lose right of action if he does not give notice of the accident to a passenger to one of the railways to which a claim may be presented in accordance with article 13 within three months of his becoming aware of the damage.

680. Article 21 of the 1952 Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface provides that actions under the Convention are limited to two years from the date of the incident. Any suspension or interruption of these two years is determined by the law of the court where the action is brought. Nevertheless, the maximum time for bringing an action may not extend beyond three years from the date of the accident.[808]

681. Other instruments couch limitations in the language of admissibility. Pursuant to article 13 of the Basel Protocol, claims for compensation under the Protocol shall not be admissible unless they are brought within 10 years from the date of the incident. Such claims should be brought within five years from the date the claimant knew or ought reasonably to have known of the damage provided that the 10-year time limit is not exceeded. Where the incident consists of a series of occurrences having the same origin, time limits established pursuant to the article shall run from

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"When notice of the accident is given orally by the claimant, confirmation of this oral notice must be delivered to the claimant by the railway to which the accident has been notified.

"2. Nevertheless the right of action shall not be extinguished:

(a) If, within the period of time provided for in paragraph 1, the claimant has made a claim to one of the railways designated in article 13 (1);

(b) If the claimant proves that the accident was caused by the wrongful act or neglect of the railway;

(c) If notice of the accident has not been given, or has been given late, as a result of circumstances for which the claimant is not responsible;

(d) If during the period of time specified in paragraph (1), the railway responsible — or one of the two railways if in accordance with article 2 (6) two railways are responsible — knows of the accident to the passenger through other means.

"*Article 17. Limitation of actions*

"1. The limitation of actions for damages brought under this Convention shall be:

(a) In the case of the passenger who has sustained an accident, three years from the day after the accident;

(b) In the case of other claimants, three years from the day after the death of the passenger, or five years from the day after the accident, whichever is the earlier.

"2. When a claim is made to the railway in accordance with article 13, the three periods of limitation provided for in paragraph 1 shall be suspended until such date as the railway rejects the claim by notification in writing, and returns the document attached thereto. If part of the claim is admitted, the period of limitation shall start to run again only in respect of that part of the claim still in dispute. The burden of proof of the receipt of the claim or of the reply and of the return of the documents shall rest with the party relying upon these facts.

"The running of the period of limitation shall not be suspended by further claims having the same object.

"3. A right of action which has become barred by lapse of time may not be exercised even by way of counterclaim or set-off.

"4. Subject to the foregoing provisions, the limitation of actions shall be governed by national law."

[808] The article reads:

"1. Actions under this Convention shall be subject to a period of limitation of two years from the date of the incident which caused the damage.

"2. The grounds for suspension or interruption of the period referred to in paragraph 2 of this article shall be determined by the law of the court trying the action; but in any case the right to institute an action shall be extinguished on the expiration of three years from the date of the incident which caused the damage."

the date of the last of such occurrences. Where the incident consists of a continuous occurrence, such time limits shall run from the end of that continuous occurrence.

682. Similarly, under article 10 of the 2003 Kiev Protocol, for claims for compensation to be admissible, they shall be brought within 15 years from the date of the industrial accident. Such claims have to be brought within three years from the date that the claimant knew or ought reasonably to have known of the damage and of the person liable, provided that the 15-year time limit is not exceeded. Where the industrial accident consists of a series of occurrences having the same origin, the time limits shall run from the date of the last of such occurrences. Where the industrial accident consists of a continuous occurrence, such time limits shall run from the end of that continuous occurrence.

683. The 1972 Convention on International Liability for Damage Caused by Space Objects provides for a one-year limit for bringing actions for damages. The one year runs from the occurrence of the damage or from the identification of the launching State which is liable. This latter period, however, shall not exceed one year following the date by which the State could reasonably be expected to have learned of the facts.[809]

VI. Insurance and other anticipatory financial schemes to guarantee compensation

684. When it is decided to permit the performance of certain activities, with the knowledge that they may cause injuries, it has generally been considered necessary to provide, in advance, for guarantees of payment of damages. This means that the operator of certain activities must either take out an insurance policy or provide financial security. Such requirements are similar to those stipulated in the domestic laws of a number of States in connection with the operation of complex industries, as well as with more routine activities such as driving a car.

685. For example, section 2716 (a) of the OPA of the United States provides that owners and operators of vessels and oil production facilities must provide evidence of financial responsibility to meet the maximum amount of liability to which the responsible party could be subjected. Under section 2716 (b), if such evidence of financial responsibility is not provided, the vessel's clearance will be revoked, or the vessel will not be given an entry permit in the United States. Any vessel subject to this requirement which is found in navigable waters without the necessary evidence

[809] Article X of the Convention reads:

> "1. A claim for compensation for damage may be presented to a launching State not later than one year following the date of the occurrence of the damage or the identification of the launching State which is liable.
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> "2. If, however, a State does not know of the occurrence of the damage or has not been able to identify the launching State which is liable, it may present a claim within one year following the date on which it learned of the aforementioned facts; however, this period shall in no event exceed one year following the date on which the State could reasonably be expected to have learned of the facts through the exercise of due diligence.
>
> "3. The time limits specified in paragraphs 1 and 2 of this article shall apply even if the full extent of the damage may not be known. In this event, however, the claimant State shall be entitled to revise the claim and submit additional documentation after the expiration of such time limits until one year after the full extent of the damage is known."

of financial responsibility for the vessel shall be subject to seizure by and forfeiture to the United States. Under section 2716 (e), the financial responsibility requirement may be satisfied by evidence of insurance, surety bond, guarantee, letter of credit, qualification as a self-insurer or other evidence of financial responsibility. The requirement of section 2716 of OPA applies also in relation to FWPCA.

686. Under section 2716 (f) of OPA any claim for removal costs or damages authorized under the Act may be brought *directly against the guarantor* of the responsible party. The guarantor may assert against the claimant all rights and defences which would be available to a responsible party, including the defence that the incident was caused by the wilful misconduct of the responsible party. The guarantor, however, may not defend against the claim even if the responsible party has obtained insurance through fraud or misrepresentation.

687. Similarly, CERCLA, in its section 9608, requires proof of financial responsibility, which may be established by insurance, guarantee, surety bond or qualification as a self-insured. If the owner or the operator fails to provide the required guarantee, the clearance requirement will be withheld or revoked, and entry to any port or place or navigable waters in the United States will be denied or the vessel will be detained.

688. Section 9608 (c) authorizes direct action against the guarantor. As in OPA, the guarantor may invoke the defence that the incident was caused by the wilful misconduct of the owner or operator. Under section 9608 (d), a guarantor's liability is limited to the amount of the insurance policy, etc. However, this statute does not bar additional recovery under any other state or federal statute, contractual or common law liability of a guarantor, including liability for bad faith in negotiating or failing to negotiate the settlement of a claim.[810]

689. The ELA of Germany lists, in appendix 2, three types of facilities which should provide evidence of financial capacity to provide compensation in case of liability under the Act. The requirements of such evidence of financial capacity will be satisfied under article 19 of the Act by one of following: (1) purchasing insurance; (2) obtaining a hold — harmless or indemnity guarantee from the State or the federal Government; or (3) obtaining such a guarantee from specific credit institutions.[811]

A. Treaty practice

690. Some multilateral treaties include provisions to ensure the payment of compensation in case of harm and liability. Most multilateral agreements concerning nuclear activities are in this category. Thus, they require the maintenance of insurance or other financial security for the payment of damages in case of liability. The 1962 Convention on the Liability of Operators of Nuclear Ships requires the maintenance of such security. The terms and the amount of the insurance carried by the operators of nuclear ships are determined by the licensing State. Although the licensing State is not required to carry insurance or to provide other financial

[810] See Robert Force, op. cit., p. 43.
[811] See Hoffman, op. cit., p. 39.

security, it must "ensure" the payment of claims for compensation for nuclear damage if the operator's insurance or security proves to be inadequate.[812]

691. Similar requirements are stipulated in article VII of the 1997 Vienna Convention on Civil Liability for Nuclear Damage, which are largely similar with the earlier 1963 Vienna Convention The operator is required to maintain an insurance or other financial security required by the installation State. While the installation State is not required to carry insurance or to provide other financial security to cover its liability as operator, it must ensure the payment of claims for compensation established against the operator by providing the necessary funds if the insurance is inadequate.[813]

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[812] The relevant paragraphs of article III of the Convention read:

"1. The liability of the operator as regards one nuclear ship shall be limited to 1,500 million francs in respect of any one nuclear incident, notwithstanding that the nuclear incident may have resulted from any fault or privity of that operator; such limit shall include neither any interest nor costs awarded by a court in actions for compensation under this Convention.

"2. The operator shall be required to maintain insurance, or other financial security covering his liability for nuclear damage, in such amount, of such type and in such terms as the licensing State shall specify. The licensing State shall ensure the payment of claims for compensation for nuclear damage established against the operator by providing the necessary funds up to the limit laid down in paragraph 1 of this article to the extent that the yield of the insurance of the financial security is inadequate to satisfy such claims.

"3. However, nothing in paragraph 2 of this article shall require any Contracting State or any of its constituent subdivisions, such as States, Republics or Cantons, to maintain insurance or other financial security to cover their liability as operators of nuclear ships."

[813] Article VII of the Convention reads:

"1. (a) The operator shall be required to maintain insurance or other financial security covering his liability for nuclear damage in such amount, of such type and in such terms as the Installation State shall specify. The Installation State shall ensure the payment of claims for compensation for nuclear damage which have been established against the operator by providing the necessary funds to the extent that the yield of insurance or other financial security is inadequate to satisfy such claims, but not in excess of the limit, if any, established pursuant to article V. Where the liability of the operator is unlimited, the Installation State may establish a limit of the financial security of the operator liable, provided that such limit is not lower than 300 million SDRs. The Installation State shall ensure the payment of claims for compensation for nuclear damage which have been established against the operator to the extent that the yield of the financial security is inadequate to satisfy such claims, but not in excess of the amount of the financial security to be provided under this paragraph.

(b) Notwithstanding subparagraph (a) of this paragraph, where the liability of the operator is unlimited, the Installation State, having regard to the nature of the nuclear installation or the nuclear substances involved and to the likely consequences of an incident originating therefrom, may establish a lower amount of financial security of the operator, provided that in no event shall any amount so established be less than 5 million SDRs, and provided that the Installation State ensures the payment of claims for compensation for nuclear damage which have been established against the operator by providing necessary funds to the extent that the yield of insurance or other financial security is inadequate to satisfy such claims, and up to the limit provided pursuant to subparagraph (a) of this paragraph.

"2. Nothing in paragraph 1 of this article shall require a Contracting Party or any of its constituent subdivisions, such as States or Republics, to maintain insurance or other financial security to cover their liability as operators.

692. The system of compensation under national law is supplemented by a fund mechanism under the 1997 Convention for Supplementary Nuclear Damage.[814]

693. The 1960 Convention on Third Party Liability in the Field of Nuclear Energy, in its article 10, also requires the operator of nuclear plants to maintain insurance or provide other financial security in accordance with the Convention.[815] The 2004

"3. The funds provided by insurance, by other financial security or by the Installation State pursuant to paragraph 1 of this article or subparagraphs (b) and (c) of paragraph 1 of article V shall be exclusively available for compensation due under this Convention.

"4. No insurer or other financial guarantor shall suspend or cancel the insurance or other financial security provided pursuant to paragraph 1 of this article without giving notice in writing of at least two months to the competent public authority or, in so far as such insurance or other financial security relates to the carriage of nuclear material, during the period of the carriage in question."

Article VII of the 1963 Vienna Convention reads:

"1. The operator shall be required to maintain insurance or other financial security covering his liability for nuclear damage in such amount, of such type and in such terms as the Installation State shall specify. The Installation State shall ensure the payment of claims for compensation for nuclear damage which have been established against the operator by providing the necessary funds to the extent that the yield of insurance or other financial security is inadequate to satisfy such claims but not in excess of the limit, if any, established pursuant to article V.

"2. Nothing in paragraph 1 of this article shall require a Contracting Party or any of its constituent subdivisions, such as States or Republics, to maintain insurance or other financial security to cover their liability as operators.

"3. The funds provided by insurance, by other financial security or by the Installation State pursuant to paragraph I of this article shall be exclusively available for compensation due under this Convention.

"4. No insurer or other financial guarantor shall suspend or cancel the insurance or other financial security provided pursuant to paragraph 1 of this article without giving notice in writing of at least two months to the competent pubic authority or, in so far as such insurance or other financial security relates to the carriage of nuclear material, during the period of the carriage in question."

[814] Article III, paragraph 1, of the Supplementary Convention reads:

"1. Compensation in respect of nuclear damage per nuclear incident shall be ensured by the following means:

(a) (i) The Installation State shall ensure the availability of 300 million SDRs or a greater amount that it may have specified to the Depositary at any time prior to the nuclear incident, or a transitional amount pursuant to subparagraph (ii);

(ii) The Contracting Party may establish for the maximum of 10 years from the date of the opening for signature of this Convention, a transitional amount of at least 150 million SDRs in respect of a nuclear incident occurring within that period.

(b) Beyond the amount made available under subparagraph (a), the Contracting Parties shall make available public funds according to the formula specified in article IV ..."

[815] Article 10 of the Convention reads:

"(a) To cover the liability under this Convention, the operator shall be required to have and maintain insurance or other financial security of the amount established pursuant to article 7 and of such type and terms as the competent public authority shall specify.

"(b) No insurer or other financial guarantor shall suspend or cancel the insurance or other financial security provided for in paragraph (a) of this article without giving notice in writing of at least two months to the competent public authority or, in so far as such insurance or other financial security relates to the carriage of nuclear substances, during the period of the carriage in question.

Paris Convention has a similar provision. It requires the operator to have and maintain insurance or other financial security. It also imposes an obligation on the Contracting State to ensure availability of resources.[816] The 2004 Brussels Convention establishes a supplementary funding mechanism.

694. In addition to conventions dealing with nuclear materials, conventions regulating other activities with a risk of substantial injury also require guarantees for payment of compensation in case of injury.

695. The 1992 CLC, in its article V, requires that the owner of a ship registered in a Contracting State maintain insurance or some other financial security in respect of a ship concerning any one incident to an aggregate amount calculated on the basis of tonnage, commencing with 3 million units of account for a ship not exceeding 5,000 units of tonnage. Under paragraph 3 of the same article, the owner shall constitute a fund for the total sum representing the limit of his liability with the Court or other competent authority of any one of the Contracting States in which action is brought under article IX or, if no action is brought, with any court or other competent authority in any one of the Contracting States in which an action can be brought under article IX. The fund can be constituted either by depositing the sum or by producing a bank guarantee or other guarantee, acceptable under the legislation of the Contracting State where the fund is constituted, and considered to be adequate by the court or other competent authority.

696. Under article VII, a certificate attesting that insurance or other financial security is in force in accordance with the provisions of the Convention shall be issued to each ship and such certificate shall be carried on board the ship.

697. The 1992 Fund Convention and the 2003 Protocol to the Fund Convention provide supplementary compensation mechanisms. Pursuant to article 4 of the 2003 Protocol, the Supplementary Fund established by the Protocol shall pay

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"(c) The sums provided as insurance, reinsurance or other financial security may be drawn upon only for compensation for damage caused by a nuclear incident."

[816] Article 10 reads:

"(*a*) To cover the liability under this Convention, the operator shall be required to have and maintain insurance or other financial security of the amount established pursuant to article 7(*a*) or 7(*b*) or article 21(*c*) and of such type and terms as the competent public authority shall specify.

"(*b*) Where the liability of the operator is not limited in amount, the Contracting Party within whose territory the nuclear installation of the liable operator is situated shall establish a limit upon the financial security of the operator liable, provided that any limit so established shall not be less than the amount referred to in article 7(*a*) or 7(*b*).

"(*c*) The Contracting Party within whose territory the nuclear installation of the liable operator is situated shall ensure the payment of claims for compensation for nuclear damage which have been established against the operator by providing the necessary funds to the extent that the insurance or other financial security is not available or sufficient to satisfy such claims, up to an amount not less than the amount referred to in article 7(*a*) or article 21(*c*).

"(*d*) No insurer or other financial guarantor shall suspend or cancel the insurance or other financial security provided for in paragraph (*a*) or (*b*) of this article without giving notice in writing of at least two months to the competent public authority or, in so far as such insurance or other financial security relates to the carriage of nuclear substances, during the period of the carriage in question.

"(*e*) The sums provided as insurance, reinsurance or other financial security may be drawn upon only for compensation for nuclear damage caused by a nuclear incident."

compensation to any person suffering pollution damage if such person has been unable to obtain full and adequate compensation for an established claim for such damage under the terms of the 1992 Fund Convention, because the total damage exceeds, or there is a risk that it will exceed, the applicable limit of compensation laid down under 1992 Fund Convention in respect of any one incident.

698. Under article 12 of the HNS, the owner of a ship registered in a State party and actually carrying hazardous and noxious substances shall be required to maintain insurance or other financial security, such as the guarantee of a bank or similar financial institution to cover liability for damage under the Convention. A compulsory insurance certificate attesting to that fact shall be issued and carried on board the ship.

699. The Bunker Oil Convention has similar provisions. Pursuant to article 7, the registered owner of a ship having a gross tonnage greater than 1,000 registered in a State party shall be required to maintain insurance or other financial security, such as the guarantee of a bank or similar financial institution, to cover the liability for pollution damage in an amount equal to the limits of liability under the applicable national or international limitation regime. Such amount, however, shall not exceed an amount calculated in accordance with the Convention on Limitation of Liability for Maritime Claims, 1976, as amended. A certificate attesting that insurance or other financial security is in force shall be issued and be carried on board the ship.

700. The Basel Protocol also provides for insurance coverage. Pursuant to article 14, paragraph 1, the persons liable under the strict liability regime shall establish and maintain during the period of the time limit of liability, insurance, bonds or other financial guarantees covering their liability for amounts not less than the minimum limits specified by the Protocol. States may fulfil their obligation under the paragraph by a declaration of self-insurance. It is envisaged under article 15 that additional and supplementary measures aimed at ensuring adequate and prompt compensation may be taken using existing mechanisms.

701. Article 11 of the 2003 Kiev Protocol also requires the operator to ensure coverage by financial security in the form of insurance, bonds or other financial guarantees including financial mechanisms providing compensation in the event of insolvency as well as by declaration of self-insurance in respect of State-owned operators.

702. Article 12 of the Lugano Convention requires parties to the Convention, where appropriate, to ensure under internal law that operators have financial security to cover the liability under the Convention and to determine its scope, conditions and form. Such financial security may be subject to a certain limit. Under the article, the parties, in determining which activities should be subject to the requirement of financial security, should take account of the risks of the activity.

703. The EU Directive does not establish any fund or a system of harmonized mandatory financial security. Instead, it requires member States to take measures to encourage the development of financial security instruments and markets by the appropriate economic and financial operators, including financial mechanisms in case of insolvency, with the aim of enabling operators to use financial guarantees to

cover their responsibilities under the Directive.[817] It envisages the preparation of a report by the Commission on the effectiveness of the Directive. In the light of that report, and of an extended impact assessment, including a cost-benefit analysis, the Commission shall, if appropriate, submit proposals for a system of mandatory financial security.

704. Under article 15 of the 1952 Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface, the operators of aircraft registered in another Contracting State are required to maintain insurance or provide other security for possible damage that they may cause on the surface. Paragraph 4 (c) of that article provides that a Contracting State may accept, instead of insurance, the guarantee of the Contracting State in which the aircraft is registered, provided that State undertakes to waive immunity from suit in respect of that guarantee.

705. Article 235 of the 1982 United Nations Convention on the Law of the Sea also provides, in paragraph 3, that States shall cooperate in developing procedures for the payment of adequate compensation funds.

706. Some of these instruments make provision for subrogation. Any claim under the Basel Protocol may be asserted directly against any person providing insurance, bonds or other financial guarantees. The insurer or the person providing the financial guarantee shall have the right to require the person liable pursuant to the strict liability regime under article 4 to be joined in the proceedings. Insurers and persons providing financial guarantees may invoke the defences which the person liable under article 4 would be entitled to invoke. A Contracting Party may nevertheless notify the depositary that it does not provide for a right to bring a direct action.

707. Similarly, under the 2003 Kiev Protocol, any claim under the Protocol may be asserted directly against any person providing financial cover. In such a situation, the insurer or the person providing the financial cover shall have the right to require the person liable to be joined in the proceedings as well as invoke the defences that the person liable would be entitled to invoke.

708. The Bunker Oil Convention is more detailed. Under paragraph 10 of article 7, any claim for compensation for damage may be brought directly against the insurer or other person providing financial security for the owner's liability for damage. In such case the defendant may, even if the owner is not entitled to limitation of liability, benefit from the limit of liability. The defendant may further invoke the

[817] Article 14 reads:

"*Financial security*

"1. Member States shall take measures to encourage the development of financial security instruments and markets by the appropriate economic and financial operators, including financial mechanisms in case of insolvency, with the aim of enabling operators to use financial guarantees to cover their responsibilities under this Directive.

"2. The Commission, before 30 April 2010, shall present a report on the effectiveness of the Directive in terms of actual remediation of environmental damages, on the availability at reasonable costs and on conditions of insurance and other types of financial security for the activities covered by annex III. The report shall also consider in relation to financial security the following aspects: a gradual approach, a ceiling for the financial guarantee and the exclusion of low-risk activities. In the light of that report, and of an extended impact assessment, including a cost-benefit analysis, the Commission shall, if appropriate, submit proposals for a system of harmonized mandatory financial security."

defences (other than the bankruptcy or winding up of the owner) which the owner would have been entitled to invoke as well as the defence that the damage resulted from the wilful misconduct of the owner. However, the defendant shall not invoke any other defence which the defendant might have been entitled to invoke in proceedings brought by the owner against the defendant. The defendant shall in any event have the right to require the owner to be joined in the proceedings. The earlier HNS has similar provisions.[818]

B. Judicial decisions and State practice outside treaties

709. In a few cases, a State engaged in activities entailing risks of damage to other States has unilaterally guaranteed reparation of possible damage. The United States has adopted legislation guaranteeing reparation for damage caused by certain nuclear incidents. On 6 December 1974, by Public Law 93-513, adopted in the form of a joint resolution of Congress, the United States assured compensation for damage that might be caused by nuclear incidents involving the nuclear reactor of a United States warship.[819]

710. Public Law 93-513 was subsequently supplemented by Executive Order 11918, of 1 June 1976, which provided for prompt, adequate and effective compensation in the case of certain nuclear incidents.[820]

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[818] Article 12.

[819] The relevant paragraphs of the Public Law 93-513 read:

> "Whereas it is vital to the national security to facilitate the ready acceptability of United States nuclear-powered warships into friendly foreign ports and harbours; and
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> "Whereas the advent of nuclear reactors has led to various efforts throughout the world to develop an appropriate legal regime for compensating those who sustain damages in the event there should be an incident involving the operation of nuclear reactors; and
>
> "Whereas the United States has been exercising leadership in developing legislative measures designed to assure prompt and equitable compensation in the event a nuclear incident should arise out of the operation of a nuclear reactor by the United States as is evident in particular by section 170 of the Atomic Energy Act of 1954, as amended; and
>
> "Whereas some form of assurance as to the prompt availability of compensation for damage in the unlikely event of a nuclear incident involving the nuclear reactor of a United States warship would, in conjunction with the unparalleled safety record that has been achieved by United States nuclear-powered warships in their operation throughout the world, further the effectiveness of such warships:
>
> "Now, therefore, be it
>
> "*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled*, that it is the policy of the United States that it will pay claims or judgements for bodily injury, death or damage to or loss of real or personal property proven to have resulted from a nuclear incident involving the nuclear reactor of a United States warship: Provided, that the injury, death, damage or loss was not caused by the act of an armed force engaged in combat or as a result of civil insurrection. The President may authorize, under such terms and conditions as he may direct, the payments of such claims or judgements from any contingency funds available to the Government or may certify such claims or judgements to the Congress for appropriation of the necessary funds."

Public Law 95-513, *United States Statutes at Large*, 1974, vol. 88, part 2, 1610-1611.

[820] The Executive Order reads:

> "By virtue of the authority vested in me by the joint resolution approved 6 December, 1994 [Public Law 93-513.88 Stat. 1601.42 U.S.C.2211] and by section 301

711. In an Exchange of Notes between the United States and Spain in connection with the Treaty of Friendship and Cooperation concluded between the two Governments in 1976, the United States gave the assurance that "it will endeavour, should the need arise, to seek legislative authority to settle in a similar manner claims for bodily injury, death or damage to or loss of real or personal property proven to have resulted from a nuclear incident involving any other United States nuclear component giving rise to such claims within Spanish territory".[821]

712. In other words, the United States unilaterally expanded its liability and volunteered, if necessary, to enact legislation expressing such obligation towards Spain.

713. Similarly, a statement made by the United States Department of State in connection with weather modification activities also speaks of advance agreements with potential victims' States. In connection with the 1966 hearings before the United States Senate on pending legislation concerning a programme to increase usable precipitation in the United States, the State Department made the following statement:

> "The Department of State's only concern would be in case the experimental areas selected would be close to national boundaries, which might create problems with the adjoining countries of Canada and Mexico. In the event of such possibilities the Department would like to ensure that provision is made for advance agreements with any affected countries before such experimentation took place."[822]

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of Title 3 of the United States Code, and as President of the United States of America, in order that prompt, adequate and effective compensation will be provided in the unlikely event of injury or damage resulting from a nuclear incident involving the nuclear reactor of a United States warship, it is hereby ordered as follows:

"*Section 1*. (a) With respect to the administrative settlement of claims or judgements for bodily injury, death or damage to or loss of real or personal property proven to have resulted from a nuclear incident involving the nuclear reactor of a United States warship, the Secretary of Defense is designated and empowered to authorize, in accord with Public Law 93-513, the payment, under such terms and conditions as he may direct, of such claims and judgements from contingency funds available to the Department of Defense.

(b) The Secretary of Defense shall, when he considers such action appropriate, certify claims or judgements described in subsection (a) and transmit to the Director of the Office of Management and Budget his recommendation with respect to appropriation by the Congress of such additional sums as may be necessary.

"*Section 2*. The provision of section 1 shall not be deemed to replace, alter or diminish the statutory and other functions vested in the Attorney-General, or the head of any other agency, with respect to litigation against the United States and judgements and compromise settlements arising therefrom.

"*Section 3*. The functions herein delegated shall be exercised in consultation with the Secretary of State in the case of any incident giving rise to a claim of a foreign country or national thereof, and international negotiations relating to Public Law 93-513 shall be performed by or under the authority of the Secretary of State."

Federal Register, vol. 41, No. 108, 3 June 1976, p. 22,329.

[821] *Digest of United States Practice in International Law* 1976 (Washington, D.C.), p. 441.

[822] Letter addressed by the Department of State to Senator Magnuson, Chairman of the Senate Committee on Commerce, "Weather Modification", Hearings before the Committee on Commerce, United States Senate, 89th Congress, second session, part 2, 1966, p. 321.

714. In one case, a State undertook to guarantee compensation for injuries that might be caused in a neighbouring State by a private company operating in its territory. Thus Canada and the United States conducted negotiations concerning a project for petroleum prospecting that a private Canadian company planned to undertake in the Beaufort Sea, off the Mackenzie delta. The project aroused grave concern in the neighbouring territory of Alaska, in particular in respect of the safety measures envisaged and the funds available for compensating potential victims in the United States. As a result of negotiations, the Canadian company was required to constitute a fund that would ensure payment of the required compensation. The Government of Canada, in turn, undertook to guarantee the payment of compensation.[823]

VII. Enforcement of judgements

715. If the rights of injured parties are to be protected effectively, it is essential that decisions and judgements awarding compensation should be enforceable. State practice has established the principle that States must not impede or claim immunity from judicial procedures dealing with disputes arising from extraterritorial injuries resulting from activities undertaken within their jurisdiction. States have thus agreed to enforce the judgements or awards rendered by the competent organs concerning disputes arising from such injuries.

A. Treaty practice

716. Multilateral agreements generally contain provisions relating to this last step in the protection of the rights of injured parties. They provide that, once a final judgement on compensation has been rendered, it shall be enforced in the territories of the contracting parties and that parties may not invoke jurisdictional immunity. For example, the 1960 Convention on Third Party Liability in the Field of Nuclear Energy provides, in article 13, paragraphs (d) and (e), that final judgements rendered by a court competent under the Convention are enforceable in the territory of any of the contracting parties, and that, if an action for damages is brought against a contracting party as an operator liable under the Convention, such party may not invoke jurisdictional immunity.[824] Similarly, the 2004 Paris Convention provides in article 13:

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[823] *International Canada*, Toronto, vol. 7, 1976, pp. 84-85.

[824] Article 13 of the Convention, as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982, reads:

> "…
>
> "(d) Judgements entered by the competent court under this article after trial or by default shall, when they have become enforceable under the law applied by that court, become enforceable in the territory of any of the other Contracting Parties as soon as the formalities required by the Contracting Party concerned have been complied with. The merits of the case shall not be the subject of further proceedings. The foregoing provisions shall not apply to interim judgements.
>
> "(e) If an action is brought against a Contracting Party under this Convention, such Contracting Party may not, except in respect of measures of execution, invoke any jurisdictional immunities before the court competent in accordance with this article."

Similar provisions are contained in the 1952 Convention on Damage caused by Foreign Aircraft

"(i) Judgements entered by the competent court under this article after trial, or by default, shall, when they have become enforceable under the law applied by that court, become enforceable in the territory of any of the other Contracting Parties as soon as the formalities required by the Contracting Party concerned have been complied with. The merits of the case shall not be the subject of further proceedings. The foregoing provisions shall not apply to interim judgements.

(j) If an action is brought against a Contracting Party under this Convention, such Contracting Party may not, except in respect of measures of execution, invoke any jurisdictional immunities before the court competent in accordance with this article."

717. Article XII of the 1997 Vienna Convention on Civil Liability for Nuclear Damage, incorporating the amendments of the 1997 Protocol, contains substantially similar language to article XII of the 1963 Vienna Convention.[825] It provides:

"1. A judgement that is no longer subject to ordinary forms of review entered by a court of a Contracting Party having jurisdiction shall be recognized, except:

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to Third Parties on the Surface, article 20 of which reads in part:

"4. Where any final judgement, including a judgement by default, is pronounced by a court competent in conformity with this Convention, on which execution can be issued according to the procedural law of that court, the judgement shall be enforceable upon compliance with the formalities prescribed by the laws of the Contracting State, or of any territory, State or province thereof".

Under the Additional Convention to the CIV, the final judgements rendered by competent courts are enforceable in any other Contracting State. Article 20 of the Convention provides:

"1. Judgements entered by the competent court under the provisions of this Convention after trial, or by default, shall, when they have become enforceable under the law applied by that court, become enforceable in any of the other Contracting States as soon as the formalities required in the State concerned have been complied with. The merits of the case shall not be the subject of further proceedings.

The foregoing provisions shall not apply to interim judgements nor to awards of damages in addition to costs, against a plaintiff who fails in his action.

Settlements concluded between the parties before the competent court with a view to putting an end to a dispute, and which have been entered on the record of that court, shall have the force of a judgement of that court.

"2. Security for costs shall not be required in proceedings arising out of the provisions of this Convention."

[825] Article XII reads:

"1. A final judgement entered by a court having jurisdiction under article XI shall be recognized within the territory of any other Contracting Party, except:

(a) Where the judgement was obtained by fraud;

(b) Where the party against whom the judgement was pronounced was not given a fair opportunity to present his case; or

(c) Where the judgement is contrary to the public policy of the Contracting Party within the territory of which recognition is sought, or is not in accord with fundamental standards of justice.

"2. A final judgement which is recognized shall, upon being presented for enforcement in accordance with the formalities required by the law of the Contracting Party where enforcement is sought, be enforceable as if it were a judgement of a court of that Contracting Party.

"3. The merits of a claim on which the judgement has been given shall not be subject of further proceedings."

(a) Where the judgement was obtained by fraud;

(b) Where the party against whom the judgement was pronounced was not given a fair opportunity to present his case; or

(c) Where the judgement is contrary to the public policy of the Contracting Party within the territory of which recognition is sought, or is not in accord with fundamental standards of justice.

"2. A judgement which is recognized under paragraph 1 of this article shall, upon being presented for enforcement in accordance with the formalities required by the law of the Contracting Party where enforcement is sought, be enforceable as if it were a judgment of a court of that Contracting Party. The merits of a claim on which the judgment has been given shall not be subject to further proceedings."

718. Paragraphs 5 and 6 of article XIII of the 1997 Supplementary Compensation Convention are analogous.[826] It further provides in paragraph 7 that settlements effected in respect of the payments of compensation out of public funds in accordance with the conditions established by national legislation shall be recognized by the other Contracting Parties.[827]

719. In addition to conventions dealing with nuclear materials, conventions regulating other activities with a risk of substantial injury also contain rules on enforcement and recognition of judgements. The 1992 CLC, like the earlier 1969 CLC, provides that final judgements rendered in a Contracting State are enforceable in any other Contracting State.[828] The Convention provides further, in paragraph 2

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[826] Article XIII reads in part:

"5. A judgement that is no longer subject to ordinary forms of review entered by a court of a Contracting Party having jurisdiction shall be recognized except:

(a) Where the judgement was obtained by fraud;

(b) Where the party against whom the judgement was pronounced was not given a fair opportunity to present his case; or

(c) Where the judgement is contrary to the public policy of the Contracting Party within the territory of which recognition is sought, or is not in accord with fundamental standards of justice.

"6. A judgement which is recognized under paragraph 5 shall, upon being presented for enforcement in accordance with the formalities required by the law of the Contracting Party where enforcement is sought, be enforceable as if it were a judgement of a court of that Contracting Party. The merits of a claim on which the judgement has been given shall not be subject to further proceedings.

"7. Settlements effected in respect of the payment of compensation out of the public funds referred to in article III.1(b) in accordance with the conditions established by national legislation shall be recognized by the other Contracting Parties."

[827] Article 10(d) of the 1963 Brussels Supplementary Convention reads:

"Settlements effected in respect of the payment of compensation out of the public funds referred to in article 3(b)(ii) and (iii) in accordance with the conditions established by national legislation shall be recognized by the other Contracting Parties, and judgements entered by the competent courts in respect of such compensation shall become enforceable in the territory of the other Contracting Parties in accordance with the provisions of article 13(d) of the Paris Convention."

[828] Article X reads:

"1. Any judgement given by a Court with jurisdiction in accordance with article IX which is enforceable in the State of origin where it is no longer subject to ordinary forms of review shall be recognized in any Contracting State except:

of article XI, that States shall waive all defences based on their status as sovereign States.[829]

720. Under article 12 of the Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources, a judgement given by a competent court, which is enforceable in the State of origin where it is not subject to ordinary forms of review, shall be recognized in the territory of any other State party. If, however, the judgement is obtained by fraud, or if the defendant was not given reasonable notice and a fair opportunity to present his case, the judgement is not enforceable. The article provides further that a judgement recognized as valid shall be enforceable in the territory of any State party once the "formalities" required by that State have been complied with, but that those formalities may neither reopen the case nor raise the question of applicable law.[830]

721. Article 13 of the same Convention provides that, if the operator is a State party, it will still be subject to the national court of the controlling State or the State in whose territory the damage has occurred, and must waive all defences based on its status as a sovereign State.[831]

722. The provisions of article 40 of the 1996 HNS and article 20 of the 2001 Bunker Oil Convention also provide for recognition of judgements by the other Contracting Party.[832] The same is true of the CRTD and the Basel Protocol. Article

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(a) Where the judgement was obtained by fraud; or

(b) Where the defendant was not given reasonable notice and a fair opportunity to present his case.

"2. A judgement recognized under paragraph 1 of this article shall be enforceable in each Contracting State as soon as the formalities required in that State have been complied with. The formalities shall not permit the merits of the case to be reopened."

[829] Article XI reads:

"…

"2. With respect to ships owned by a Contracting State and used for commercial purposes, each State shall be subject to suit in the jurisdictions set forth in article IX and shall waive all defences based on its status as a sovereign State."

[830] Article 12 reads:

"1. Any judgement given by a court with jurisdiction in accordance with article 11, which is enforceable in the State of origin where it is no longer subject to ordinary forms of review, shall be recognized in any State Party, except:

(a) Where the judgement was obtained by fraud, or

(b) Where the defendant was not given reasonable notice and a fair opportunity to present his case.

"2. A judgement recognized under paragraph 1 of this article shall be enforceable in each State Party as soon as the formalities required in that State have been complied with. The formalities shall not permit the merits of the case to be reopened, nor a reconsideration of the applicable law."

[831] Article 13 reads:

"Where a State Party is the operator, such State shall be subject to suit in the jurisdiction set forth in article 11 and shall waive all defences based on its status as a sovereign State."

[832] Article 40 of the HNS reads:

"1. Any judgement given by a court with jurisdiction in accordance with article 38, which is enforceable in the State of origin where it is no longer subject to ordinary forms of review, shall be recognized in any State Party, except:

(a) Where the judgement was obtained by fraud; or

(b) Where the defendant was not given reasonable notice and a fair opportunity to present the case.

20 of the CRTD[833] and article 21 of the Basel Protocol provide further that non-recognition may exist where the judgement is irreconcilable with an earlier judgement validly pronounced in another Contracting Party with regard to the same cause of action and the same parties. Moreover, under the Basel Protocol, where there is an agreement or arrangement in force between the Contracting Parties on mutual recognition and enforcement of judgements under which the judgement would be recognizable and enforceable, the Protocol provisions do not apply.[834]

"2. A judgement recognized under paragraph 1 shall be enforceable in each State Party as soon as the formalities required in that State have been complied with. The formalities shall not permit the merits of the case to be reopened".

Article 20 of the Bunker Oil Convention reads:

"*Recognition and enforcement*

"1. Any judgement given by a Court with jurisdiction in accordance with article 9 which is enforceable in the State of origin where it is no longer subject to ordinary forms of review shall be recognized in any State Party, except:

(a) Where the judgement was obtained by fraud; or

(b) Where the defendant was not given reasonable notice and a fair opportunity to present his or her case.

"2. A judgement recognized under paragraph 1 shall be enforceable in each State Party as soon as the formalities required in that State have been complied with. The formalities shall not permit the merits of the case to be reopened."

[833] Article 20(1) reads:

"Any judgement given by a court with jurisdiction in accordance with the Convention, which is enforceable in the State of origin where it is no longer subject to ordinary forms of review, shall be recognized in any State Party, except:

(a) Where the judgment was obtained by fraud;

(b) Where the defendant was not given reasonable notice and a fair opportunity to present his case;

(c) Where the judgement is irreconcilable with an earlier judgement given in the State where the recognition is sought, or given in another State Party with jurisdiction in accordance with article 19 and already recognized in the State where the recognition is sought, involving the same cause of action and between the same parties."

Paragraph 2 of the article provides that any judgement recognized under paragraph 1 shall be enforceable in each State party as soon as the formalities required (which shall not reopen the merits of the case) in that State have been complied with.

[834] Article 21 of the Basel Protocol reads:

"*Mutual recognition and enforcement of judgements*

"1. Any judgement of a court having jurisdiction in accordance with article 17 of the Protocol, which is enforceable in the State of origin and is no longer subject to ordinary forms of review, shall be recognized in any Contracting Party as soon as the formalities required in that Party have been completed, except:

(a) Where the judgement was obtained by fraud;

(b) Where the defendant was not given reasonable notice and a fair opportunity to present his case;

(c) Where the judgement is irreconcilable with an earlier judgement validly pronounced in another Contracting Party with regard to the same cause of action and the same parties; or

(d) Where the judgement is contrary to the public policy of the Contracting Party in which its recognition is sought.

"2. A judgement recognized under paragraph 1 of this article shall be enforceable in each Contracting Party as soon as the formalities required in that Party have been completed. The formalities shall not permit the merits of the case to be reopened.

"3. The provisions of paragraphs 1 and 2 of this article shall not apply between Contracting Parties that are parties to an agreement or arrangement in force on mutual

723. Article 18 of the 2003 Kiev Protocol is at four walls with article 21 of the Basel Protocol.[835] The Protocol also recognizes the application of community law in respect of States parties which are members of the European Community. Article 20 states:

> "1. The courts of Parties which are members of the European Community shall apply the relevant Community rules instead of article 13 [concerning competent courts], whenever the defendant is domiciled in a member State of the European Community, or the parties have attributed jurisdiction to a court of a member State of the European Community and one or more of the parties is domiciled in a member State of the European Community.
>
> "2. In their mutual relations, Parties which are members of the European Community shall apply the relevant Community rules instead of articles 15 and 18."

724. It also contemplates the possibility of a Contracting Party applying other rules for the recognition and enforcement of judgements. The effect of such rules, however, would be to ensure that judgements are recognized and enforced at least to the same extent as provided by the Protocol.

725. The earlier Lugano Convention has provisions that are analogous to those of the Basel and Kiev Protocols. Under paragraph 1 of article 23, any decision given by a court with jurisdiction under the Convention, where it is no longer subject to ordinary forms of review, shall be recognized in any Party, unless:

> "(a) Such recognition is contrary to public policy in the State in which recognition is sought;
>
> (b) It was given in default of appearance and the defendant was not duly served with the document which instituted the proceedings or with an equivalent document in sufficient time to enable him to arrange for his defence;

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recognition and enforcement of judgements under which the judgement would be recognizable and enforceable."

[835] Article 18 of the 2003 Kiev Protocol reads:

"1. Any judgement of a court having jurisdiction in accordance with article 13 or any arbitral award which is enforceable in the State of origin of the judgement and is no longer subject to ordinary forms of review shall be recognized in any Party as soon as the formalities required in that Party have been completed, except:

(a) Where the judgement or arbitral award was obtained by fraud;

(b) Where the defendant was not given reasonable notice and a fair opportunity to present his or her case;

(c) Where the judgement or arbitral award is irreconcilable with an earlier judgement or arbitral award validly pronounced in another Party with regard to the same cause of action and the same parties; or

(d) Where the judgement or arbitral award is contrary to the public policy of the Party in which its recognition is sought.

"2. A judgement or arbitral award recognized under paragraph 1 shall be enforceable in each Party as soon as the formalities required in that Party have been completed. The formalities shall not permit the merits of the case to be reopened.

"3. The provisions of paragraphs 1 and 2 shall not apply between parties to an agreement or arrangement in force on the mutual recognition and enforcement of judgements or arbitral awards under which the judgement or arbitral award would be recognizable and enforceable."

(c) The decision is irreconcilable with a decision given in a dispute between the same parties in the State in which recognition is sought;

(d) The decision is irreconcilable with an earlier decision given in another State involving the same cause of action and between the same parties, provided that this latter decision fulfils the conditions necessary for its recognition in the State addressed."

726. Under paragraph 2 of article 23, a decision recognized under paragraph 1 which is enforceable in the State of origin shall be enforceable in each State party as soon as the formalities required (which shall not permit the merits of the case to be reopened) by the laws of that party have been completed.

727. The rules of that article are based on the European Convention on Jurisdiction and Enforcement of Judgements in Civil and Commercial Matters of 27 September 1968[836] and the Convention on Jurisdiction and the Enforcement of Judgements in Civil and Commercial Matters of 16 September 1988.[837]

728. As regards the relationship between the Lugano Convention and other treaties dealing with the enforcement of judgements, article 24 of that Convention provides that "[w]henever two or more States Parties are bound by a treaty establishing rules of jurisdiction or providing for recognition and enforcement in a State of decisions given in another State, the provisions of that treaty shall replace the corresponding provisions of [the relevant articles of the Convention]."

729. As far as the relations between the Convention and the domestic law of States parties are concerned, article 25 states that the Convention is without prejudice to the domestic laws of States parties or any other agreements which they may have. As regards parties members of the European Community, the Community rules will be the governing rules among them and the provisions of the Convention apply only to the extent that there is no Community rule governing a particular issue.[838]

730. Provisions are also provided in respect of recognition of judgements concerning the funds established in various instruments. Under the 1992 Fund Convention, as in the 1971 Fund Convention, a judgement rendered by a court in proceedings in which the Fund has effectively intervened is enforceable in the State where the judgement is rendered and shall also be recognized and enforceable in each contracting party.[839] Under paragraph 3 of article 40 of the HNS, any

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[836] For the text of the Convention, see *8 ILM* (1969) 299.

[837] For the text of the Convention, see *Official Journal of the European Communities*, L 229, vol. 31, 1988, No. L 319/9.

[838] Article 25 of the Convention reads:

"1. Nothing in this Convention shall be construed as limiting or derogating from any of the rights of the persons who have suffered the damage or as limiting the provisions concerning the protection or reinstatement of the environment which may be provided under the laws of any Party or under any other agreement to which it is a Party.

"2. In their mutual relations, Parties which are members of the European Economic Community shall apply Community rules and shall therefore not apply the rules arising from this Convention except in so far as there is no Community rule governing the particular subject concerned."

[839] Article 7 of the Fund Convention reads:

"…

"5. Except as otherwise provided in paragraph 6, the Fund shall not be bound by any judgement or decision in proceedings to which it has not been a party or by any settlement

judgement given against the HNS Fund by a court with jurisdiction, when it has become enforceable in the State of origin and is in that State no longer subject to ordinary forms of review, shall be recognized and enforceable in each State party.

731. The 2003 Supplementary Fund Protocol has a provision of similar import. Article 8 provides:

> "1. Subject to any decision concerning the distribution referred to in article 4, paragraph 3, of this Protocol, any judgement given against the Supplementary Fund by a court having jurisdiction in accordance with article 7 of this Protocol shall, when it has become enforceable in the State of origin and is in that State no longer subject to ordinary forms of review, be recognized and enforceable in each Contracting State on the same conditions as are prescribed in article X of the 1992 Liability Convention."

732. The 2004 Brussels Convention also provides in paragraph (d) of article 10 that settlements effected from public funds shall be recognized by the other Contracting Parties, and judgements entered by the competent courts in respect of such compensation shall become enforceable in the territory of the other Contracting Parties.

733. In the 1972 Convention on International Liability for Damage caused by Space Objects, the language on enforceability of awards is different. Under article XIX, a decision of the Claims Commission shall be final and binding if the parties have so agreed; otherwise, the Commission shall render a recommendatory award, which the parties shall consider in good faith. The enforceability of awards thus depends entirely upon the agreement of the parties.[840]

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to which it is not a party.

"6. Without prejudice to the provisions of paragraph 4, where an action under the 1992 Liability Convention for compensation for pollution damage has been brought against an owner or his guarantor before a competent court in a Contracting State, each party to the proceedings shall be entitled under the national law of the State to notify the Fund of the proceedings. Where such notification has been made in accordance with the formalities required by the law of the court seized and in such time and in such a manner that the Fund has in fact been in a position effectively to intervene as a party to the proceedings, any judgement rendered by the court in such proceedings shall, after it has become final and enforceable in the State where the judgement was given, become binding upon the Fund in the sense that the facts and findings in that judgement may not be disputed by the Fund even if the Fund has not actually intervened in the proceedings."

And article 8 reads:

"Subject to any decision concerning the distribution referred to in article 4, paragraph 5, any judgement given against the Fund by a court having jurisdiction in accordance with article 7, paragraphs 1 and 3, shall, when it has become enforceable in the State of origin and is in that State no longer subject to ordinary forms of review, be recognized and enforceable in each Contracting State on the same conditions as are prescribed in article X of the 1992 Liability Convention."

The 1971 Fund Convention has similar provisions in respect of the 1969 CLC.

[840] Article XIX of the Convention reads in part:

"1. The Claims Commission shall act in accordance with the provisions of article XII.

"2. The decision of the Commission shall be final and binding if the parties have so agreed; otherwise the Commission shall render a final and recommendatory award, which the parties shall consider in good faith. The Commission shall state the reasons for its decision or award."

B. Judicial decisions and State practice outside treaties

734. The issue of enforcement of awards and judgements by arbitral tribunals and courts has not been raised in judicial decisions. In their official correspondence, States have usually arrived at compromises and in most cases have complied with the solutions agreed upon. The content of such correspondence has been examined in the preceding chapters.