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INTERNATIONAL NUCLEAR LAW: AN INTRODUCTION

VED P. NANDA AND JON M. VAN DYKE

I. INTRODUCTION

The papers in this Symposium were prepared for an important conference on "Updating International Nuclear Law" held in Salzburg, Austria in October 2005. The Austrians living in Salzburg and Upper Austria have long been distressed by the risks created by the Temelin Nuclear Power Plant, situated in the Czech Republic some 50 kilometers (31 miles) north of the Austrian-Czech border. That plant was started by the Soviet Union, but had been only partially completed when the Cold War ended. Under U.S. pressure, the Czech government agreed to contract with Westinghouse to complete the plant, creating a hybrid plant utilizing some Soviet and some Westinghouse technology. It is thus a unique plant, creating unknown risks.

The Austrians have felt particularly beleaguered by their new nuclear neighbor, because they had previously abandoned their own nuclear industry. In 1978, the Austrian population voted in a national referendum that its recently-completed nuclear power plant at Zwentendorf should not go into operation, and in that same year its legislature adopted the Atomic Energy Prohibition Act. Austrians worked closely with anti-nuclear Germans in 1989 to prevent a nuclear waste reprocessing plant from opening in Wackersdorf in Germany's southern region of Bavaria. In 1992, Salzburg hosted the World Uranium Hearing to document the health, environmental, social, and peace-destabilizing effects of nuclear energy, and the 2005 conference on Updating International Nuclear Law was a continuation of that effort. The Austrian people have pursued legal challenges to the Temelin plant in Austrian, Czech, and other European courts, and, although they have won procedural victories, these efforts have been unable to stop the completion and operation of the Temelin plant. Frustrated that the law seemed unresponsive to the genuine fears created by having to live next to an unproved nuclear plant, the Salzburg activists suggested convening international environmental law experts to address the inadequacies in the international law principles governing nuclear activities.

The papers in this Symposium have emerged from that effort, and they provide a clear explanation of the gaps in the treaty law and customary international law principles governing nuclear power. Earlier versions of these papers were published in a volume entitled UPDATING INTERNATIONAL NUCLEAR LAW, edited by Heinz Stockinger, Jon M. Van Dyke, Michael Geistlinger, Sarah K. Fussek, and Peter Machart. That volume also contains numerous other essays examining the scientific risks created by nuclear power and explaining the avenues

that the residents of Upper Austria have pursued in their efforts to block the operation of the Temelin plant. Selected for this Symposium are the central legal papers, which explain the inadequacies of the present legal regime and offer suggestions for new principles that could provide protections for the range of transboundary injuries that could occur.

II. SYMPOSIUM THEMES

In this symposium the authors address four general themes: 1) international environmental norms applicable to nuclear activities; 2) liability and compensation for harm caused by nuclear activities, with special reference to the nuclear liability conventions; 3) human rights and the environment and the peaceful use of nuclear energy; and 4) specific case studies—the Austrian law on third-party liability for nuclear damage, the regulatory and institutional framework for nuclear activities in the Slovak Republic, and the claims of the Enewetak People related to US nuclear testing in the Marshall Islands between 1946 and 1958.

Professors Jon Van Dyke and Ved Nanda and the late Professor Alexandre Kiss address the first topic. Van Dyke provides a comprehensive survey of international environmental norms related to transboundary environmental disputes in "Liability and Compensation for Harm Caused by Nuclear Activities." He begins his review with the *Trail Smelter Arbitration*, which enunciated the no harm rule—*sic utere tuo ut alienum non laedas*—and the polluter pays principle, and then discusses the principles of international responsibility found in the 2001 Draft Articles on Responsibility of States for Internationally Wrongful Acts and earlier in the International Court of Justice (ICJ) decision in the 1949 *Corfu Channel Case*. Next, he notes Principle 21 of the 1972 Stockholm Declaration and Principle 2 of the 1992 Rio Declaration, both of which reaffirmed the *Trail Smelter* holding, and have developed, in the words of Professor Philippe Sands, into "the cornerstone of international environmental law." In the language of the Stockholm Declaration, this principle reads:

> States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

Van Dyke then discusses the 1982 UN Law of the Sea Convention and the International Court of Justice's 1996 Advisory Opinion on "Legality of the Threat or Use of Nuclear Weapons," which embodied the no-harm rule. As to the polluter pays principle, he cites several international decisions that have reaffirmed the rule.

Next, Van Dyke studies several other relevant international law principles applicable to transboundary environmental conflicts—the precautionary principle, the duty to cooperate, and principles of equity. Following this, he examines, in a historical context, the strict liability regime for activities that cause harm to other countries. He starts with *Rylands v. Fletcher,* the 1868 House of Lords case that enunciated the strict liability rule for hazardous activities. He then refers to the

International Law Commission's work on the subject and discusses several cases pertinent to nuclear activities, including the 1986 Chernobyl accident and the 1978 Cosmos 954 incident. This analysis is followed by a thorough discussion of the existing international nuclear liability treaty regime and its inadequacies.

Finally, Van Dyke studies the issue of damages for anticipated health hazards and fear of environmental harm from nuclear activities. Possible bases for damage claims include emotional distress, claims for enhanced risk of disease, and medical monitoring claims. He concludes by emphasizing the need for further work to develop a comprehensive and authoritative regime to govern harm from nuclear activities. In his words,

> Although the underlying customary international law principles (the no-harm principle and the polluter-pays principle) are clear, the actual treaties that have been drafted are inadequate and they have not been widely ratified.... The failure to develop a proper regime that would ensure full restitution and compensation for harm resulting from nuclear facilities constitutes a continuing subsidy to the nuclear industry and distorts decisions regarding energy choices. The effort to update international nuclear law must, therefore, continue until a proper liability and compensation regime is established.

In his paper, "International Environmental Norms Applicable to Nuclear Activities, With Particular Focus on Decisions of International Tribunals and International Settlements," Professor Ved Nanda reviews the pertinent treaties and customary international law principles, as well as newly emerging sources of international law, that have made valuable contributions to international environmental law by establishing "a core of fundamental legal principles that are pertinent to nuclear activities." These new sources, sometimes termed "soft law," include declarations and resolutions adopted by the United Nations General Assembly and other intergovernmental organizations, and the principles, guidelines, and recommendations produced by intergovernmental organizations or multilateral conferences.

The paper reviews the major weaknesses of the prevailing legal regime governing liability and compensation for harm caused by nuclear activities. Nanda especially highlights the limits on liability; the imposition of liability primarily on the operator, exempting others; the short statute-of-limitation periods; and sparse state participation as parties in these instruments. Examining both substantive and procedural norms, he especially notes that, upon its ratification, the 2005 International Convention for the Suppression of Acts of Nuclear Terrorism will fill a huge gap, because the pertinent treaties do not provide coverage for terrorist attacks.

Among the decisions of international tribunals and international settlements, Nanda studies *the Trail Smelter Arbitration*, the 1973, 1974, and 1995 *Nuclear Tests Cases* decided by the International Court of Justice, the Court's 1997 judgment on the *Gabcekovo-Nagymaros Dam* dispute, and the 1996 ICJ Advisory Opinion on the *Legality of the Threat or Use of Nuclear Weapons,* which explicitly stated: "The 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 part of the corpus of international law relating to the environment." Next, he examines the decisions of the International Tribunal for the Law of the Sea regarding the *MOX Plant* Case and the Case *Concerning Land Reclamation by Singapore In and Around the Straits of Johar.* This is followed by a discussion of the pertinent work of the International Criminal Court on this topic.

Among international settlements, the *1978 Cosmos 954 Satellite* settlement, compensation by the United States for harm caused by in 1954 to the Japanese fishing vessel *Fukuryu Maru (Lucky Dragon)*, the Marshall Islanders' claims for damages from U.S. atmospheric nuclear testing, and the payment regarding the 1966 B-52 accident at Palomares, Spain, are studied. Nanda suggests that those involved in updating nuclear law should study the creation of ecocide or genocide as a possible new norm.

The focus of Alexandre Kiss's paper, "State Responsibility and Liability for Nuclear Damage," is the rules adopted by the U.N. International Law Commission (ILC) on state responsibility insofar as they are applicable to violations of customary law and treaty-based norms related to nuclear activities and damages caused by such activities.

In addition to the customary international law principle of state responsibility for transboundary harm, Kiss discusses the provisions of several treaties, including the 1959 Antarctic Treaty, the Outer Space Treaty, the Moon Treaty, the 1996 Comprehensive Nuclear Test-Ban Treaty, the 1994 Vienna Convention on Nuclear Safety, the 1991 Convention on Environmental Impact Assessment in a Transboundary Context, the 1998 Aarhaus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, and several other conventions related to notification of nuclear accidents, nuclear liability, and nuclear waste. He also notes the 1996 ICJ Advisory Opinion on the Threat or Use of Nuclear Weapons and the 1991 IAEA Code of Practice on the International Movement of Radioactive Waste. Kiss concludes that several of the International Law Commission's articles on state responsibility are in sync with the principles of general international law gleaned from international custom or the pertinent conventions as they apply to nuclear activities.

Kiss finds that much more needs to be done at the interstate level to ensure that there are adequate and effective norms to provide reparations for damages caused by a nuclear activity. Because the International Atomic Energy Agency (IAEA) was initially created to help countries develop nuclear energy, and not to provide for adequate surveillance and control of nuclear activities, this international organization needs a new mandate to develop compulsory rules on the responsibility and liability of states in the field of nuclear safety. Also, the IAEA must accept the responsibility to ensure compliance with existing nuclear safety regulations. Professor Kiss also concludes that: "States are responsible under international law for any failure to exercise due diligence over the siting and operation of nuclear facilities and the transport and disposal of nuclear wastes;" there should be obligations *erga omnes*; even in the absence of injury, breach of a treaty obligation regarding nuclear activities should allow another state party to

invoke state responsibility; and strict liability should apply to operators of nuclear facilities and shippers for any harm caused by their activities.

Duncan Currie, Esq., Barrister of the High Court of New Zealand, addresses the second theme—liability and compensation for harm caused by nuclear activities—with special reference to the nuclear liability conventions. In his paper, "The Problems and Gaps in the Nuclear Liability Conventions and an Analysis of How an Actual Claim Would be Brought under the Current Existing Treaty Regime in the Event of a Nuclear Accident," Currie provides a comprehensive analysis of the existing conventions and an equally thorough examination of the mechanisms involved in bringing a claim in the event of a nuclear accident. He aptly summarizes the current state of the international nuclear liability regime, which he finds to be

> ...extremely patchy, complicated and featur[ing] sparse participation. While the recent amendments to the Vienna and Paris Conventions are much heralded, they are heavily hedged with exceptions and the amended Protocols enjoy even more sparse participation than the original Conventions. Others, such as the Convention on Supplementary Convention, are not in force; and for those that are in force, many major nuclear countries are not party to them. So discussion of Conventions must take into account their membership.

Regarding the mechanisms involved in bringing a claim for damages resulting from a nuclear accident, Currie finds the inadequacies of the system to include the lack of a neutral tribunal, the general requirement that claimants are to file claims in the courts where the nuclear installation is located, and concerns about the neutrality of the applicable law and limitations on recoverable damages. He further notes that the definition of damages is narrow and the existing treaties have sparse participation.

Currie studies in detail the provisions of the International Atomic Energy Association's Vienna Convention of 1963 and the Organization of Economic Cooperation and Development's Paris Convention on Third Party Liability in the Field of Nuclear Energy of 1960, which was strengthened by the Brussels Supplementary Convention in 1963; the 1988 Joint Protocol Relating to the Vienna and Paris Conventions; the 1997 Vienna Protocol amending the 1963 Vienna Convention; the 1997 Convention on Supplementary Compensation for Nuclear Damage; and the 2004 Paris Protocol. He also discusses the 1971 International Maritime Organization (IMO) Brussels Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material.

In a separate section, Currie examines in extensive detail the 1963 Vienna Convention and its 1997 Protocol and the 1960 Paris Convention and its 2004 Protocol. Another separate section compares the 1997 Vienna Protocol with the 1963 Convention, discussing specifically the definitions of nuclear accident and nuclear damage and individual categories of damage—economic loss, environmental impairment, and preventive measures. Similarly, he compares the revised Paris and Vienna Conventions related to several issues, such as jurisdiction, limitation in time, standing, and exceptions.

Currie suggests the following essential elements for an effective and comprehensive liability regime: absolute liability should govern; limitations should be unlimited in amount; there should be a fair (and adequately long) time limit for liability; all responsible parties should bear liability; there should be a backup fund; claimants should be able to bring claims in a neutral tribunal; the applicable law should be that of the claimant; there should be a broad definition of recoverable damage; there should be broad provisions on standing and access to justice; and there should be just rules on the burden of proof and causation. He considers the membership of the conventions to be a critical issue to the international liability system. To illustrate, many nuclear countries, including Canada, the United States, China, India, and Japan, are not parties to any of the liability conventions; other major nuclear states, such as the United Kingdom and France are party only to the Paris Convention and Russia only to the Vienna Convention. Furthermore, many of these are not party to the Joint Protocol. Equally important, none of the countries in Asia, particularly China, India, Japan, and South Korea where nuclear power generation is expected to increase, is a party to any liability convention. This patchy participation, combined with differing national legislation, means that it is impossible to ascertain precise liability for the different kinds of nuclear incidents that might occur.

Currie also discusses selected national legislation on nuclear liability. The countries included are the United States, Canada, Japan, Russia, Ukraine, China, Austria, and Chile. He addresses current developments regarding international liability aimed at developing a common understanding of the legal issues and thus promoting adherence to the liability conventions and protocols. Finally, he presents selected scenarios to provide examples of how the liability system may work in practice. He recommends to states considering joining the Paris or Vienna Conventions that they should take into account the criteria he had suggested earlier for an effective and comprehensive liability regime.

On the third topic, human rights and the environment and the peaceful use of nuclear energy, Professors Dinah Shelton and Luis Rodriguez-Rivera are the contributors. Dinah Shelton begins her paper with the 1968 UN Tehran Conference on Human Rights, which marked the 20th anniversary of the adoption of the Universal Declaration of Human Rights. When the Tehran Conference proclaimed the interdependence and indivisibility of all human rights, she suggests, it "open[ed] the door for consideration of complex issues like environmental rights." She explains that "a substantial practical reason for emphasizing international human rights law," is that that law "currently provides the only set of international legal procedures that can be invoked to seek redress for harm [due to environmental degradation] that is the consequence of an act or omission attributable to a state."

Shelton notes that it is at the regional level that most recent advances in developing environmental rights have occurred. She finds four "principal and complementary approaches" that characterize the relationship between human rights and the environment: (1) international environmental laws use selected human rights aimed at ensuring effective environmental protection, such as the emphasis on procedural rights (freedom of association and the right of access to

information related to potential threats to the environment); (2) human rights laws interpret human rights to include environmental protection when environmental degradation prevents the full enjoyment of human rights including the right to life, to health, to culture, and to a family and a private life; (3) a new substantive human right to a safe and healthy environment is now emerging; and (4) environmental protection is being addressed as a matter of human responsibilities rather than rights.

Shelton discusses procedural environmental rights at length, including the right to environmental information; the right to public participation in environmental decision making; the right to a remedy for environmental harm; the rights to life and to health; the right to an adequate standard of living and the fulfillment of basic needs; the right to privacy, home, and family life; freedom of association; the right to property; and cultural, minority, and indigenous rights. Her review is thorough and comprehensive, with reference not only to customary international law and conventional law but also to judicial decisions in national courts as well as in regional tribunals, including the European Court of Human Rights and the Inter-American Court of Human Rights. She also refers to the General Comments of the Human Rights Committees established under the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights.

Shelton discusses the concept of a substantive right to a healthy and safe environment, which was initially acknowledged by the U.N. General Assembly in a resolution adopted in 1968. Although the topic has generated controversy and debate, she suggests that

> ...the recognition that human survival depends upon a safe and healthy environment places the claim of a right to environment fully on the human rights agenda. Moreover, recognizing a right to environment could encompass elements of nature protection and ecological balance, substantive areas not generally protected under human rights law because of its anthropocentric focus.

It is noteworthy that more than 100 national constitutions guarantee a right to a clean and healthy environment, obligating the government to prevent environmental harm, or specifying the protection of the environment or natural resources. And, within federal systems, state or provincial constitutions also protect environmental rights even when federal constitutions may lack any mention of the environment. She also refers to the many national tribunals that have considered the right to environment to be justiciable. Shelton explains that while no global human rights treaty currently proclaims a general right to environment, several regional instruments contain an explicit guarantee of environmental quality, notably the African Charter on Human and Peoples' Rights.

Shelton concludes that:

> The interrelationship between human rights and environmental protection is undeniable. Human rights depend upon environmental protection, and environmental protection depends upon the exercise of

> existing human right such as the right to information and the right to political participation.

She considers it important to balance the right to environment with other human rights. She finds the most significant bridge between human rights and environmental protection to be human health, which remains "a primary objective of both areas of regulation." She offers several strategies for promoting consideration of this topic by states and international organizations, such as lobbying the U.N. Human Rights Council to adopt a Draft Declaration on Human Rights and the Environment and continued litigation before national, regional, and international human rights bodies whenever substantive or procedural environmental rights are threatened because of resource use or pollution.

In his paper, "The Human Right to Environment and the Peaceful Use of Nuclear Energy," Professor Rodriguez-Rivera recalls the 1959 Inter-American Symposium on Atomic Energy and Law, which was hosted by the University of Puerto Rico School of Law and the Puerto Rico nuclear reactor experience that followed. He notes the divergent views expressed by speakers at that symposium, some of whom minimized the risks related to the atomic energy industry and others who provided a candid assessment that all the precautions that could be taken may not suffice to eliminate totally and permanently the harm that could be caused by disposal of hazardous waste.

Two months after the symposium, Puerto Rico and the U.S. Atomic Energy Commission signed a contract "to construct a reactor of an advanced type, using superheated steam." Operation of the reactor was eventually terminated in June 1968 "because of technical difficulties and the ensuing need for high-cost modifications." Subsequently, it was reported that a radiation leak had forced the shutdown and that Puerto Ricans had not been told of the health and environmental risks related to the reactor facilities. The U.S. Department of Energy eventually decided to decontaminate and decommission the Puerto Rico reactor facility site because the site "contains an entombed reactor that requires long-term surveillance and monitoring activities similar to the entombed reactors at Piqua and Hallam, and the same DOE guidance for long-term surveillance and monitoring activities apply." Rodriguez-Rivera notes that, although almost 50 years have passed since the Inter-American Symposium, what constitutes acceptable and unacceptable exposure risks remains debatable. In his words:

> In essence, the same question that was pervasive at the 1959 Puerto Rico Symposium remains salient today: Acceptable risk to whom? We must ask ourselves, has anyone bothered to ask those whose lives and dignity have been put at risk whether the risks are acceptable to them?

Next, Rodriguez-Rivera discusses the peaceful use of nuclear energy and how it is related to the right to a safe and healthy environment. He suggests that the nuclear energy industry has refused to pay attention to its capacity to impose "untold human suffering" upon present and future generations and the environment because of their potential exposure to significant radiation. He counts among the new threats emanating from the peaceful use of nuclear energy the discovery of radioactive pollution in the Arctic Ocean, the use of low-frequency active sonar to

locate submarines by naval forces, and the shipment of ultrahazardous radioactive materials between Europe and Japan.

Rodriguez-Rivera notes three broad categories of rights encompassed in the expansive human right to environment: the right to environment, which means "a human right to live in an environment of minimum quality that still allows for the realization of a life of dignity and well-being;" the right of environment, which "articulates the philosophical theory that the environment is entitled to rights based on its own intrinsic value, separate and distinct from those attributed to it through human use;" and procedural environmental rights, which are a prerequisite for implementing the substantive components of the expansive right to environment.

This is followed by Rodriguez-Rivera's study of the sources of the human right to environment. Here he refers to the Universal Declaration of Human Rights, the 1972 Stockholm Declaration, the 1981 African Charter on Human and Peoples' Rights, and the 1988 San Salvador Protocol. He then refers to several General Assembly resolutions linking environmental protection and human rights, the work of the U.N. Commission on Human Rights, the 2002 joint UNEP-OHCHR Experts Seminar on Human Rights and Environment held in Geneva, and the 1997 *Gabcikovo-Nagymaros Project* case. He especially notes the 1999 International Seminar of Experts, jointly sponsored by UNESCO and the UN High Commissioner for Human Rights, which adopted the Bizkaia Declaration on the Right to the Environment. This declaration has been supported by the Spanish Lower House, the Basque Parliament, and the Congress of Legislative Assembly of the Regions of Europe.

In conclusion, Rodriguez-Rivera asserts that currently it is not simply state consent that should provide the source of human rights, but that "the source of human rights must be the will of humanity." That will, he argues, must be determined by taking into account the actions taken by civil society, because it is only such actions that constitute evidence of the will of humanity. He considers the application of the human right to environment to the peaceful use of nuclear energy as "a natural and effective approach." And he finds that "both radiation exposure and the risk of such exposure to humans would constitute a violation of the human right to environment."

In the final section, offering case studies, Professor Monika Hinteregger's paper entitled "The New Austrian Act on Third Party Liability for Nuclear Damage," analyzes the 1998 Austrian federal law on civil liability for damages caused by radioactivity. This law, which replaced the earlier 1964 Law on Civil Liability for Nuclear Damage, governs the operation of nuclear plants, the carriage of radioactive material, and the handling of radionuclide. It was after the Chernobyl disaster that the inadequacies of the earlier law, which applied only to nuclear installations situated in Austrian territory, became the subject of legal and political debate in Austria and was eventually replaced. The irony was that under a 1978 referendum, Austrians had already prohibited the operation of nuclear power plants for production of electrical energy, and in Austria there were only three small research facilities in operation. Under the earlier law, only fault-based liability and nuisance law applied to the hazards of foreign nuclear power plants.

Also, under the old Austrian law, liability for nuclear damage was exclusively on the operator of the nuclear plant, and thus every other person, especially the supplier of services or products, was protected from liability. The new Nuclear Liability Law is a complete departure from the approach toward nuclear liability law under the Paris and Vienna Conventions. Under the new law, Austrian courts have jurisdiction and Austrian law is applicable if nuclear damage occurs in Austria, no matter where it was caused. Furthermore, the new law provides a substantial expansion of the definition of nuclear damage in order to facilitate the proof of causality.

Although Austria is not a party to either the Paris or the Vienna Convention, the Austrian Parliament has shown a keen interest in the further development of the international nuclear liability regime, as is evident by its resolutions to that effect.

Hinteregger details in her paper the scope of liability under the new Austrian Act, which subjects the operator of a nuclear plant and the carrier of nuclear material to unlimited liability, irrespective of fault, and this liability does not depend on the occurrence of a nuclear incident. The law allows for the possibility of piercing the corporate veil, to prevent the practice of trying to exempt the controlling company from liability by shifting the liability to an operating company that is under-insured.

The Vienna and Paris Conventions exempt operators from liability from acts of armed conflict, hostilities, civil war, or insurrection, but these exemptions are not found in the new Austrian Act. The presumption is that even under such circumstances adequate precautions need to be taken by the operator or carrier. The Austrian Act also requires operators of nuclear power plants on Austrian territory to carry sufficient insurance to cover all potential liability for nuclear damage. The Act contains a presumption that the holder of radionuclides is liable for any damage resulting from the radionuclides, and also contains provisions for concurrent liability and multiple tortfeasors. The new law ensures that if nuclear damage occurs in Austrian territory, even though it was caused in a foreign state, the Austrian court will have jurisdiction and Austrian law will apply.

A study prepared with the cooperation of the Slovak authorities and entitled "Regulatory and Institutional Framework for Nuclear Activities in the Slovak Republic," discusses the 1998 Act on the Peaceful Use of Nuclear Energy passed by the Slovak National Council. The law provides a comprehensive framework for the regulation of nuclear activities in the Slovak Republic. The highlights of this enactment include the requirement of a permit for the procurement and use of nuclear materials; regulations for the construction of nuclear installations and their commission and operation; state supervision of nuclear safety at such installations; management of radioactive waste and spent nuclear fuel; physical protection of nuclear installations, nuclear materials, and radioactive wastes from nuclear installations; and emergency planning. It also provides for emergency responses, decommissioning of nuclear installations, and detailed provisions on nuclear safety. The Act expressly includes a foreign importer of nuclear installations and selected equipment or services to receive an authorization from the Nuclear Regulatory Authority of the Slovak Republic. Transportation of nuclear materials

also requires a transportation permit issued by the Authority. Nuclear third party liability provisions under the Act largely reflect those of the 1963 Vienna Convention, as the Slovak Republic acceded to the Vienna Convention and to the 1988 Joint Protocol; under the Act, liability for nuclear damage caused by a nuclear incident is channeled to the operator.

In the final study, Davor Pevec, Esq., who serves as Legal Counsel to the Enewetak People, presents the paper entitled "The Marshall Islands Nuclear Claims Tribunal: The Claims of the Enewetak People." Pevec narrates the story of nuclear testing by the United States in the Marshall Islands between 1946 and 1958. Forty-three of the 67 nuclear tests the US conducted during that period occurred on Enewetak Atoll and 24 on Bikini Atoll. The Marshall Islands was then a U.N. trust territory administered by the United States, under the U.S. pledge to the United Nations to "protect the inhabitants against the loss of their land and resources." The Enewetak People were removed to the smaller and resource-poor Ujelang Atoll in December 1947, purportedly for a short time, but in fact they remained exiled for a period of over 33 years. In one of the U.S. atmospheric tests, in 1954, radioactive fallout drifted in the wrong direction and irradiated the inhabitants of Rongelap and Utirik Atolls. In another, in 1952, which was the first test of a thermonuclear device, a crater one mile in diameter and 200 feet deep was left in Enewetak. As Pevec states, "The devastation [in Enewetak] is so severe that to this day... over half the land and all of the lagoon remain contaminated by radiation. The damage is so pervasive that the Enewetak People cannot live on their land without importation of food."

In the 1980s, the United States faced lawsuits by the peoples of Marshall Islands in U.S. courts for property and other damages for more than $5 billion. During the litigation, the government of the Republic of Marshall Islands signed the Compact of Free Association with the United States. The Compact included a subsidiary Section 177 Agreement, which established a $150 million Nuclear Fund, income from which was earmarked for those who had brought the suit "as a means to address past present and future consequences of the Nuclear Testing Program." A Nuclear Claims Tribunal was also to be funded by the income, to be established with "jurisdiction to render final determination upon all claims past, present and future, of the Government, citizens, and nationals of the Marshall Islands which are based on, arise out of, or are in any way related to the Nuclear Testing Program." Based upon these provisions, the U.S. courts dismissed the claims after the Compact went into effect, and the Enewetak People were instructed to bring their claims to the Marshall Islands Nuclear Claims Tribunal, which did issue an award of $386 million to the Enewetak People, but which remains unpaid. Pevec notes that the Enewetak People are trying to use the political process by petitioning the Congress to compensate them for the hardships they have endured, and they have also filed a claim in the U.S. Claims Court, which is now on appeal before the U.S. Court of Appeals for the Federal Circuit.

III. CONCLUSION

The effort to address the risks created by transboundary nuclear radiation remains as an unfinished agenda. The treaties that have been drafted are inadequate and have not been widely ratified. The failure to establish an adequate

liability and compensation regime operates as a subsidy for the nuclear industry, and thus interferes with efforts to evaluate energy options on a level playing field.

Austria, which was among the countries most affected by the radioactive cloud that moved westward after the 1986 reactor catastrophe at Chernobyl, enacted its own Nuclear Liability Law in 1998, as the paper of Professor Monika Hinteregger explains. This comprehensive Austrian statute could serve as a model for other national laws and international treaties. It is hoped that the essays in this Symposium will encourage further debate on how nuclear power should be regulated and how transboundary nuclear injuries and the risks created by nuclear power plants should be compensated.